Reviews of National Policies for Education

Education in Chile



OECD

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Foreword

The Organisation for Economic Co-operation and Development (OECD) is an international organisation that promotes policies to improve the economic and social well-being of people around the world. It provides a forum in which governments can work together to share experiences and seek solutions to common challenges.

At the request of the government of Chile, the OECD has conducted this review to identify key changes in the Chilean education system mainly from 2004 to 2016, and to evaluate where education in Chile stands today. Specifically, the review looks at how the Chilean education system is promoting equity and quality in early childhood education, schools, vocational education and training (VET) and higher education. To carry out this study, the OECD reviewed national and international data and findings, and collected views and evidence through interviews with stakeholders across the Chilean education system.

Three review visits were carried out for the preparation of this report. They are as follows: one fact-finding "pre-visit" by two OECD officials (9-11 December 2015); one main visit by the OECD review team focusing on early childhood education, schools and higher education (30 March to 7 April 2016); and one separate main visit by an OECD official, focusing on the topic of vocational education and training (VET) (9-11 May 2016). During these visits, a wide array of actors provided the OECD review team with their views about the evolving strengths and challenges of the Chilean education system.

The OECD conducted this analysis also with the purpose of providing the Chilean government with a reference point against which the current educational reforms can be assessed in the future. As such, the report aimed to:

- **Analyse** the Chilean education system's context and challenges by reviewing the progress and main changes experienced between 2004 and2016.
- **Advise** on how the Chilean education system can improve by adopting a comparative perspective in the analysis of education policy in Chile. This was accomplished by integrating OECD and other international evidence from relevant education systems, as well as highlighting areas where further developments could add value to the Chilean government's ongoing educational improvement efforts.

The report therefore highlights the main strengths of Chile's education system, identifies the main challenges ahead and provides recommendations for improvement.

It is organised into four parts:

- Part 1, "Overview of the education system in Chile", aims to provide an overview of the country, its education system and reforms in process at the moment of drafting this report (Chapter 1).

- Part 2, "Better foundations for student learning in Chile", analyses how to provide better foundations for student learning in Chile (Chapter 2), as well as how to strengthen the quality of teaching and school leadership in Chile (Chapter 3).
- Part 3, "Building the skills that Chile needs: Vocational, technical and higher education", discusses improving higher education and research in Chile (Chapter 4), and improving the quality of technical and vocational education in Chile (Chapter 5).
- Part 4, "Final reflections about working towards Chile's future education system", concludes with some final reflections on education policy implementation in the current Chilean context (Chapter 6).

I hope this report will support Chile in its reform efforts to enhance the quality and equity of its education system and strengthen the contribution of education and skills to economic and social growth of the country. The OECD is ready to help Chile in this effort.



Andreas Schleicher

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The OECD review team would also like to convey our sincere appreciation to the many participants in the review visits who shared their views, experience and knowledge with us. These actors included stakeholders from educational institutions from early childhood education to higher education, including students, teaching and school leadership staff, parents, union representatives and university rectors. The OECD review team is also grateful for the insights it received during these visits from Chilean researchers, members of the Congress, representatives of the private sector and representatives from other organisations for international co-operation. For the preparation of this report in Spanish, we extend our gratitude as well to the OECD-Mexico Centre for Latin America (particularly to Roberto Martínez and Alejandro Camacho), and to the Fundación SM in Chile (Rafael Gómez and Guadalupe Álvarez).

An OECD review team comprised of OECD Secretariat officials and international experts collaborated in the preparation of this report. The members of the OECD review team are: Diana Toledo Figueroa (review team leader, OECD Secretariat), Lauritz B. Holm-Nielsen (Executive Director of the Sino-Danish Centre), Pauline Musset (OECD Secretariat), Santiago Rincón-Gallardo (Chief Research Officer at Michael Fullan Enterprises), Shelagh Whittleston (European Representative, QUT and Education Consultant), Jonathan Williams (external consultant), Richard Yelland (OECD Secretariat) and Juliana Zapata (OECD Secretariat). The biographies of the members of the review team are provided in Annex A. Additionally, the following colleagues from the OECD Secretariat provided useful comments and support during the preparation, revision and finalisation of this report: Andreas Schleicher, Montserrat Gomendio, Paulo Santiago, Cassandra Davis, Gillian Golden, Manon Giovinazzo, Michaela Horvathova, Rachel Linden, Tijana Prokic-Breuer and Marie Ullmann. Marissa Colón-Margolies edited this report and Célia Braga-Schich provided administrative support and contributed to the final steps of preparation for the publication.

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Acronyms and abbreviations

AAUT	Australian Awards for University Teaching
ACCESS	Access to Higher Education with Quality Acceso a la Educación Superior con Calidad
AEP	Pedagogical Excellence Allotment Asignación de Excelencia Pedagógica
AFD	Direct Fiscal Contribution Aporte Fiscal Directo
AFI	Indirect Fiscal Contribution Aporte Fiscal Indirecto
AITSL	Australian Institute for Teaching and School Leadership
ANID	National Research and Development Agency Agencia Nacional de Investigación y Desarrollo
ARWU	Academic Ranking of World Universities
ATE	External Technical Assistance Asistencia Técnica Externa
BHERT	Business Higher Education Round Table
BJGM	Juan Gómez Millas Scholarship Beca Juan Gómez Millas
BNM	New Millennium Scholarship Beca Nuevo Milenio
CABA	Autonomous City of Buenos Aires Ciudad Autónoma de Buenos Aires
CAE	State Guaranteed Loan System Crédito con Aval del Estado
CASEN	National Socio-economic Characterisation Survey Encuesta de Caracterización Socioeconómica Nacional
CFTs	Technical Training Centres Centros de Formación Técnica
CIPI	Inter-sectorial Commission for the Comprehensive Care of Early Childhood Comisión Intersectorial de Primera Infancia
CMEC	Council of Ministers of Education Consejo de Ministros de Educación
CLE	Education Leadership Centres Centros de Liderazgo Educativo
CNA	National Accreditation Commission Comisión Nacional de Acreditación
CNAP	National Commission for Undergraduate Accreditation Comisión Nacional de Acreditación de Pregrado
CNED	National Council of Education Consejo Nacional de Educación

CNID	National Council on Innovation for Development Consejo Nacional de Innovación para el Desarrollo
CONICYT	National Commission for Scientific and Technological Research Comisión Nacional de Investigación Científica y Tecnológica
CORFO	Chilean Economic Development Agency Corporación de Fomento de la Producción
CPEIP	Centre for Improvement, Experimentation and Pedagogical Research Centro de Perfeccionamiento, Experimentación e Investigaciones Pedagógicas
CPI	Consumer Price Index
CRUCH	Council of Rectors of Chilean Universities Consejo de Rectores de las Universidades Chilenas
DAI	Danish Accreditation Institution
DEPROV	Provincial Education Department Departamento Provincial de Educación
DIBAM	Libraries, Archives and Museums Directorate Dirección de Bibliotecas, Archivos y Museos
DIVESUP	Higher Education Division of the Ministry of Education División de Educación Superior del Ministerio de Educación
ECEC	Early Childhood Education and Care
EDI	Early Development Instrument
EIMLE	Integral Strategy for the Improvement of Educational Achievement / Learning Community Project Estrategia Integral para la Mejora del Logro Educativo / Redes de Tutoría
EMHC	Humanistic-Scientific Mid-level Education Educación Media Humanista-Científica
EMTP	Technical-Professional Mid-level Education Educación Media Técnico-Profesional
EQF	European Qualifications Framework
ESCS	Economic, Social and Cultural Status
FDI	Institutional Development Fund Fondo de Desarrollo Institucional
FONDAP	Fund for the Financing of Research Centres in Areas of Priority Fondo de Financiamiento de Centros de Investigación en Áreas Prioritarias
FONDECYT	National Fund for Scientific and Technological Development Fondo Nacional de Desarrollo Científico y Tecnológico
FONDEF	Fund for the Promotion of Scientific and Technological Development Fondo de Fomento al Desarrollo Científico y Tecnológico
FSCU	University Credit Solidarity Fund Fondo Solidario de Crédito Universitario
HBO	Universities of Applied Sciences Hoger Beroeps Onderwijs
HE	Higher Education
HEA	Higher Education Authority
HEFCE	Higher Education Funding Council for England
HERD	Higher Education Research and Development
HS	Humanistic-Scientific Humanista Científica
IALS	International Adult Literacy Survey
ICCS	International Civic and Citizenship Education Study
ICILS	International Computer and Information Literacy Study
ICM	Millennium Science Initiative Iniciativa Científica Milenio

ICT	Information and Communication Technologies
IP	Professional Institutes Institutos Profesionales
ISCED	International Standard Classification of Education
JUNAEB	National Board of School Assistance and Scholarships Junta Nacional de Auxilio Escolar y Becas
JUNJI	National Board of Preschool Institutions Junta Nacional de Jardines Infantiles
LCEE	Quality and Equality of Education Law Ley de Calidad y Equidad de la Educación
LGE	General Education Law Ley General de Educación
LLECE	UNESCO's Latin American Laboratory for Evaluation of Education Quality Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación
LOCE	Constitutional Organic Law of Teaching Ley Orgánica Constitucional de Enseñanza
MECESUP	Programme to Improve the Quality of Higher Education Programa de Mejoramiento de la Calidad de la Educación Superior
MINEDUC	Ministry of Education Ministerio de Educación
MNC	National Qualifications Framework Marco Nacional de Cualificaciones
NEM	Average grade for Upper Secondary Education Notas de Educación Media
NQAI	National Qualifications Authority of Ireland
NQF	National Qualifications Framework
NVAO	Accreditation Organisation of the Netherlands and Flanders
OECD	Organisation for Economic Co-Operation and Development
OFFA	Office for Fair Access
OFIP	Ontario Focused Intervention Program
OIC	Other Indicators on Education Quality Otros Indicadores de Calidad Educativa
PACE	Programme for Support and Effective Access to Higher Education Programa de Acompañamiento y Acceso a la Educación Superior
PCT	Patent Cooperation Treaty
PELTHE	Promotion of Excellence in Learning and Teaching in Higher Education
PFID	Programme to Promote the Quality of Initial Teacher Training Programa de Fomento de la Calidad de la Formacion Inicial Docente
PIA	Programme of Associative Research Programa de Investigación Asociativa
PIAAC	Programme for the International Assessment of Adult Competencies
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PM	Programme Improvement Plans Planes de Mejoramiento de Programas
PMI	Institutional Improvement Plans Planes de Mejoramiento Institucionales
PSU	University Selection Exam Prueba de Selección Universitaria
R&D	Research and Development

SAC	National System for Quality Assurance of Early Childhood, Basic and Upper Secondary Education Sistema Nacional de Aseguramiento de la Calidad de la Educación Parvularia, Básica y Media
SAP	Student Assistance Programme
SCAIES	Common System of Access to Higher Education Institutions Sistema Común de Acceso a las Instituciones de Educación Superior
SEG	Socio-economic Group
SEP	Preferential School Subsidy Subvención Escolar Preferencial
SeQF	Swedish National Qualifications Framework
SEREMI	Regional Ministerial Secretariat Secretaría Regional Ministerial de Educación
SFC	Scottish Funding Council
SIES	Higher Education Information Service Servicio de Información de Educación Superior
SIMCE	Education Quality Measurement System Sistema de Medición de la Calidad de la Educación
SINAC-ES	National System for Quality Assurance in Higher Education Sistema Nacional de Aseguramiento de la Calidad de la Educación Superior
SME	Small and Medium enterprises
SNED	National System for Performance Evaluation Sistema Nacional de Evaluación del Desempeño
SNIES	National System of Information on Tertiary Education Sistema Nacional de Información de Educación Superior
SSCs	Sector Skills Council
STEM	Science, Technology, Engineering and Mathematics
SUA	Unified Admissions System Sistema Único de Admisión
TALIS	Teaching and Learning International Survey
TERCE	Third Regional Comparative and Explanatory Study Tercer Estudio Regional Comparativo y Explicativo
THEWUR	Times Higher Education World University Ranking
TIMSS	Trends in Mathematics and Science Study
TP	Technical-Professional Técnico-Profesional
TSTC	Texas State Technical College System
UNESCO	United Nations Educational Scientific and Cultural Organisation
UTP	Technical-Pedagogical Unit Unidad Técnico Pedagógica
VET	Vocational Education and Training
WCI	World Competitiveness Index
WEF	World Economic Forum

Executive summary

The OECD conducted this review of national policies for education at the request of the Chilean government. This review aims to identify key changes in the Chilean education system from 2004 to 2016, analyse where education in Chile stands today and offer recommendations to the government regarding how it can provide better education opportunities for all Chileans. The review examines different areas of education policy in Chile, from early childhood education to higher education.

Better-quality education that is accessible to all needs to remain a national imperative

Chile has been undertaking important efforts to improve the quality and equity of its education system, from early childhood education to higher education. Among OECD countries, Chile had the third lowest performance in science on the Programme for International Student Assessment (PISA) 2015. Furthermore, a higher share of students in Chile, compared to the OECD average, did not reach the baseline level of proficiency that is required to engage with science according to PISA test measures. Chile was also one of the countries participating in PISA 2015 where the socio-economic background of students most influenced performance. Socio-economic status explained 17% of the variance of Chilean students' science performance on PISA 2015, which was higher than the OECD average of 13%. At the same time, equity in science performance has increased significantly in Chile since PISA 2006.

Providing opportunities for Chileans of all socio-economic and cultural backgrounds to excel regardless of the school or early childhood education and care (ECEC) institution in which they are enrolled is paramount. As set out in the recommendations provided in this report, Chile could strengthen education quality and inclusiveness for all students from the earliest age by:

- Developing coherent and evolving strategies for learning for the future.
- Strengthening an environment of inclusiveness across the system, addressing processes and structures.
- Supporting successful outcomes for all girls and boys from all ethnic origins.
- Ensuring good education and care opportunities from the youngest age.
- Unifying and strengthening the public education system as a learning organisation.

In the same way, teachers are the most important factor influencing student achievement, while school leaders are critical actors to shape the teaching and learning environments. This report recommends that Chile could strengthen the quality of its teaching and school leadership in schools by:

- Promoting the role of the teacher and the profession of teaching and engaging teachers in the ongoing process of education reform.

- Completing the review of the Good Teaching Framework and developing aligned professional standards that take teachers' career structure into account.
- Reviewing how initial teacher education and in-service training is delivered.
- Promoting high-quality professional development opportunities for all teachers and school leaders.
- Developing a strong professional cadre of school leaders and principals.

Enabling Chileans to develop skills as they age is also key for the country's future prosperity

This report also analyses how Chile can help its citizens to further develop the skills the country needs for sustained national prosperity. On the 2016 results of the Survey of Adult Skills (a product of the OECD Programme for the International Assessment of Adult Competencies, or PIAAC), Chilean adults obtained the lowest average literacy and numeracy results among participating OECD countries across all levels of educational attainment. Chile also had the strongest association between low performance in literacy or numeracy and low education levels compared to all other OECD countries participating in this survey.

Chile needs to provide the people in the country with education opportunities to develop the skills they will need to succeed in further education or the labour market. As recommended in this report by the OECD, efforts to achieve this could focus on:

- Developing a system-level vision and strategy for higher education.
- Establishing an effective steering infrastructure to support the accomplishment of the system vision.
- Strengthening equity in access to higher education of the best quality.
- Strengthening the quality and relevance of higher education.

This report also analyses vocational education and training (VET) in Chile, and makes recommendations regarding how to strengthen it. VET, or professional-technical education as is known in Chile, is crucial to the development of a highly skilled labour force. The OECD recommendations to help Chile improve the quality of its VET system focus on:

- Ensuring that the country's VET programmes meet both the needs of students and employers.
- Ensuring that all post-secondary VET programmes and institutions do not fall under a certain quality level.
- Implementing a national qualifications framework to better meet labour market needs and the aspirations of students.
- Developing good-quality career guidance and information, and making it available to students both before and during VET studies.

Chile has made great progress and can go even further

Chile has demonstrated a remarkable commitment to democratic and educational reform since the democratic government came to power in 1990. The education reforms being implemented during the drafting of this report cover: early childhood education and care (*educación parvularia*); general education, including initiatives to boost the quality and inclusiveness of general education, as well as the professional development of

teachers and the establishment of *new public education*; higher education; and professional-technical education (VET).

For the coming years, Chile can and must achieve a strategic vision of what it envisages its education system to look like. Such a vision should be constructed with the knowledge that considerable work remains to be done to attain excellence and equity throughout Chile's education system. The Chilean government should continue to challenge outdated practices and structures that circumscribe the potential of its people, and should continue its endeavour to foster life-changing learning opportunities for all.

This report ends by offering general policy principles that the Chilean government can consider as it continues to implement education policy reforms. These policy principles relate to:

- Ensuring that student learning is kept as the true centre of the education system.
- Supporting key actors across the education system to deliver the policies being promoted.
- Aligning policies for coherence while adapting them as needed to ensure that structures, resources and processes effectively converge into a national vision of education.

Assessment and recommendations

Chile's education system can foster stronger economic, democratic and social development in the country. There are significant macro-economic benefits to education, such as increased productivity. That said, individuals tend to benefit the most from high-quality, equitable education systems. There are many reasons for this. Better-educated people are less dependent on public aid, and are less vulnerable to economic downturns. Greater literacy proficiency among adults in OECD countries is also associated with higher levels of interpersonal and generalised trust. High levels of institutional and interpersonal trust strongly predict economic prosperity and individual well-being. Increased trust also predicts higher levels of political efficacy, greater participation in volunteer activities and better health.

In 2004, the OECD performed a review of national policies for education and an analysis of the Chilean education system. As a follow-up to that report, this review was undertaken at Chile's request to assess the progress Chile's education system has made in recent years. The report aims to provide an analysis of how the Chilean government can provide better education opportunities for its population. The report also aims to serve as a benchmark for evaluating Chile's education reforms moving forward. Produced by the OECD, the review analyses the context and challenges of Chile's education system at present. It then identifies progress and changes made mainly between 2004 and 2016, as well as medium-term goals. Finally, the report offers tailored advice for further improvement.

Strengthening the quality and equity of Chilean early childhood education and care and schools

Background

Good education is about ensuring that all students reach their full potentials as people, professionals and citizens. Evidence shows that the earlier a government invests in education, the higher the payoff will be for individuals and society. Therefore, in order to fulfil its promise to substantially improve pre-school, primary education and secondary education, the country needs to adopt a broader educational vision that can guide all levels of schooling. The Chilean government must go beyond structural change to change mindsets.

Providing opportunities for Chileans of all socio-economic and cultural backgrounds to excel regardless of the school or ECEC institution in which they are enrolled is paramount. Ensuring equal opportunity for students in both private and public education can make Chile a more equal society – one that can seize upon the unique talents of all its citizens.

Considering these key ideas, Chapter 2 of this report identifies strengths, challenges and policy recommendations to enhance the quality and equity of educational opportunities for all students in Chile at ECEC and schools.

Strengths and challenges

The main strengths and challenges identified for improving the quality and equity of ECEC and schools for all students in Chile can be summarised as follows:

Strengths	Challenges
• Access to education is better in Chile than in other Latin American countries.	• The quality and coverage of ECEC has been highly uneven in Chile.
• Chilean students remain in the education system for longer, and follow a common curriculum for a longer time.	• Student dropout could be reduced further.
• Chile has made achievement gains in terms of quality and equity.	• Chile could provide better education opportunities. • The system is not delivering quality education sufficiently across the social spectrum.
• Efforts to address inequities due to other factors have been increasing.	• Access to quality education opportunities is highly stratified. • In addition to socio-economic segregation, other inequities prevail.
• Chile is also working to unify and strengthen the public education system across regions.	• Capacities, roles and the development of a new dynamic of interaction between the government and schools still need to be developed.

Policy recommendations

The main policy recommendations identified can be summarised as follows:

Strengthening quality in the system through coherent and evolving strategies for learning for the future.

The most direct route to improving educational quality and equity is developing a coherent and evolving system-wide strategy aimed at enhancing pedagogical practice in classrooms, with greater support tailored at schools serving high proportions of students in conditions of vulnerability. Seven distinctive yet interdependent features should orient this strategy:

1. Ensure a shared vision across the system concerning what students should learn and why.
2. Make effective instructional and school management practices visible across the entire school system.
3. Stimulate and support the development of collaborative cultures focused on examining and improving instructional practices within and among schools.
4. Develop new and more comprehensive measures of school quality, making them easy to understand and use.
5. Intensify school- and classroom-level support for public municipal schools and government-dependent private schools serving large proportions of students under conditions of vulnerability.
6. Prioritise implementation and develop system coherence.

7. Gradually shift the relationship between the Ministry of Education (MINEDUC) and schools from one of hierarchical separation, compliance and external accountability to one of partnership, support and learning alongside teachers, school leaders and communities.

Strengthening an environment of inclusiveness across the system by addressing processes and structures.

In order to enhance equity and quality of learning opportunities and outcomes, the Chilean government should develop a system-wide strategy to improve instructional practices and school management in low-performing schools serving large proportions of students in conditions of vulnerability. Simultaneously, the government should continue to eliminate or weaken system and school-level practices that hinder equality.

This means, in the short term:

- Developing a strategy among teachers and principals to set high expectations for all students in order to ensure that the principles guiding the new Inclusion Law translate into everyday classroom and school management practices.
- Monitoring school choice, grade repetition and school transfers, and replacing these with classroom and school practices focused on high-quality learning opportunities for all.

In the medium term this means:

- Maintaining and strengthening the Preferential School Subsidy (Subvención Escolar Preferencial, SEP), ensuring that the resources reach schools, monitoring SEP's impact, and creating incentives to invest the majority of SEP funds in capacity-building for continuous instructional improvement.

Supporting successful outcomes for all girls and boys from all ethnic origins.

The Chilean government should bring attention to and enhance educational opportunities for all students, regardless of gender, ethnicity or immigrant background. The following steps should be taken to accomplish these goals, raise expectations and improve learning opportunities for all:

- The country should continue to promote equity in opportunities for girls and boys in all school- and system-level policies aimed at enhancing learning opportunities for students. Special attention should be paid to encouraging girls' entry into fields of study traditionally dominated by men, such as mathematics and science. Policies should also address lower reading performance by underachieving boys. Furthermore, the government should adopt system-level gender equality frameworks. Potential sources of gender inequality should be considered when drafting curriculum frameworks and choosing learning materials made available to schools.
- An effort of similar magnitude should be made to monitor and address gaps in educational opportunity for students of indigenous and immigrant backgrounds. This involves collecting, analysing and publicly reporting educational opportunities and outcomes for indigenous and immigrant students. More importantly, actions should be taken to substantially improve the educational opportunities and outcomes of students in these groups.

Ensuring good education and care opportunities from the youngest age.

Chile should continue its trajectory of expanded access to ECEC with priority given to children in the lowest quintiles of income or living in rural areas. This expansion of access should occur at a pace that ensures that the youngest Chileans gain access to high-quality learning opportunities as soon as possible. Crucial to producing the educational and societal benefits of ECEC for Chile is the integration of existing ECEC programmes and practices into an intentional, system-wide strategy. This strategy should identify and disseminate effective pedagogical and professional practices for early childhood education and beyond. Selected pedagogy and practices should be proven to be the most effective at nurturing student learning and well-being. As a fundamental aspect of this strategy, the government should ensure that its promise to promote opportunities for young Chileans of all cultural backgrounds becomes ingrained in the everyday activities of ECEC centres.

Unifying and strengthening the public education system as a learning organisation.

A lack of resources, co-ordination and oversight of public schools in Chile has led to differences in education quality and administration. To bridge the gap and cultivate leadership from the middle, the Chilean government is in the process of creating local education services (Servicios Locales de Educación). These local education services represent an important step in developing the basic infrastructure of capacity-building and support for school improvement. The Chilean government can work to ensure that schools have adequate support through a progressive strategy:

- In the short term, the Chilean government should focus on defining with as much clarity as possible the envisioned role of the new intermediate structure of the education system, the local education services (Servicios Locales de Educación). By doing this the government can ensure that the best available candidates are selected to lead these services. It can also establish basic structures and routines of support and capacity-building for this new intermediate structure.
- In the middle to long term, attention should be placed on establishing routines for organisational learning and improvement at the local education services and at the ministry level, as well as on simplifying the provision of support services to schools.

Strengthening the quality of teaching and school leadership in Chile

Background

Teachers are the most important factor influencing student achievement. They have more direct impact on student learning than budgets, curricula, inspection and accountability systems, and governance. School leadership is also critical for improving student outcomes. Through formal and informal contributions, school leaders influence the motivations and capacities of teaching staff, as well as the school climate and environment. Therefore, attracting, developing and retaining high-quality teacher and leadership workforces is critical for the future of schooling.

This report also provides comments and proposals in relation to the improvement of the quality of the teaching profession as a whole in Chile. The OECD recognises that Chile's teacher workforce, as in other countries, is highly differentiated. This means that

teachers have different roles and different pay according to where they teach and the demands placed on them. Therefore, the OECD strongly supports efforts to build and further develop a core national system of teacher professional development. The OECD also encourages the Ministry of Education to stay true to this framework while developing additional and more specialised approaches for different teaching experiences.

Considering these key ideas, Chapter 3 of this report identifies strengths, challenges and policy recommendations to improve the quality and equity of teaching and school leadership in Chile.

Strengths and challenges

The main strengths and challenges identified for improving teaching and school leadership in Chile can be summarised as follows:

Strengths	Challenges
• Chile's vision aims to combine continuity and improvement of policies.	• Chile has an ageing teaching force, which can be an opportunity.
• A larger share of Chilean teachers reported that they are satisfied with their jobs, compared to the TALIS average.	• From the perspective of society, the status of the teaching profession appears currently low.
• A majority of teachers reported in TALIS that they followed initial teacher preparation programmes.	• There is a perception of a lack of qualified teachers to deliver instruction. • Chilean teachers also participate less in continuous professional development activities, according to self-reports.
• School leadership in Chile has been the object of reforms to improve its quality.	• School leadership in Chile has been seen as an "end of career" position. • Schools operate at different levels of autonomy and capacities.

Policy recommendations

The main policy recommendations identified can be summarised as follows:

Promoting the role of the teacher and the profession of teaching and engaging teachers in the ongoing process of education reform.

Urgent action must be taken to improve the status of teachers in Chile in schools and in the community more broadly. Teachers play an important role in the lives of young people around the globe. Teachers are vital to student skills development, student preparation for future employment and active participation in the community. Chile needs good teachers. The government must make stronger efforts to support and develop the profession of teaching, as well as to promote teaching as an attractive career path.

The new System of Teacher Education and Professional Development (Education Law 20.903, April 2016) (MINEDUC, 2016) provides an opportunity to reinvigorate and restate the national vision of education reform for Chile. During the implementation process, the Chilean government should foster sustained stakeholder engagement, and craft a communication strategy that articulates Chile's educational vision. This vision should be shared by all. It should bring together all education stakeholders, including teachers and school leaders, parents, students, owners, and administrators, in support of the common cause of a high-quality and relevant education system.

The Chilean government needs to promote, respect and value the role of teachers in the community, and make teaching an attractive career that draws the very best candidates. A centrally-driven communication campaign, as well as developing consultation mechanisms with teachers to promote the value of teaching and to encourage more young people to consider a teaching career, could go a long way to achieving this.

Completing the review of the Good Teaching Framework and developing aligned professional standards that take teachers' career structure into account.

While implementing the new System for Teacher Education and Professional Development, Chile's Centre for Improvement, Experimentation and Pedagogical Research (CPEIP) should ensure that reviews of the Good Teaching Framework are concerned with evaluating whether it remains relevant and current. CPEIP should assess whether the Good Teaching Framework can stand alone in supporting the development of a high-quality teacher workforce in Chile, or whether a coherent, aligned set of professional standards is required to better support the following needs: the new teacher career structure, the expectations of professional development, teacher evaluation, and the education standards expected of initial teacher education programmes and the teaching profession itself.

The Good Teaching Framework has provided a sound basis and frame of reference for teachers in Chile. Therefore the OECD welcomes efforts taken to review and refresh it to meet the following challenges: the changed and changing nature of teaching; the challenging demands of teachers, schools and communities; and the expectations of the new System of Teacher Education and Professional Development.

The new System of Teacher Education and Professional Development outlines a comprehensive view of the teaching career. While the new system offers increased clarity and goals, it would benefit from the addition of aligned professional standards. A coherent, aligned set of professional standards could better inform and support the quality of initial teacher education programmes. Such professional standards could better delineate teacher positions and progression through the new career structure. They could also mandate rigorous and developmental teacher evaluation procedures, relevant and high-quality professional development, public awareness, and measures to ensure the sustainability of the teaching profession.

Reviewing how initial teacher education and in-service training is delivered.

To help new teachers succeed in the profession, the Chilean government needs to review the provision of initial teacher education programmes through university education faculties and other providers. The government needs to ensure that these programmes closely align and are consistent with the Good Teaching Framework and any national professional teaching standards. It also needs to ensure that these programmes deliver a high-quality and well-prepared teacher workforce. Professors at institutions that grant teaching certificates should be required to have closer contact with schools, and to support and mentor their teacher trainees in their first year of schooling and teaching practice. Institutions that teach educators should also be asked to regularly revise their programmes to make them current and relevant to the schools their graduates work in, as well as to ensure their programmes to reflect national education priorities.

The OECD supports the Chilean government's efforts to require higher competitive scores for entry into initial teacher education programmes. However, attention also needs

to be paid to the quality of those teacher education programmes so the requirements of accreditation of universities and teaching programmes set by the new System of Teacher Education and Professional Development are enforced. At present, there is no national framework that guarantees the outcomes or quality of these courses. Teacher educators are not required to take responsibility for the preparation of their students either. Practice or in-service teaching, as well as induction programmes, are currently serendipitous rather than the norm. The proposed programmes for practice teaching and induction must be centred in pedagogy and strongly linked to high-quality teacher preparation in terms of knowledge, skills and professional practice.

Promoting high-quality professional development opportunities for all teachers and school leaders.

All teachers and school leaders should have access to recognised, high-quality professional development opportunities which support and enhance their professional knowledge and professional practices. Professional development needs to be based in pedagogy and evidence-based research. Professional development programmes have to be able to respond to individual teacher and school needs, and to support career advancement. These programmes should inform and support teacher evaluation, self-assessment and salary payment.

It is imperative that the range of courses offered by the System of Teacher Education and Professional Development is ample enough to respond to the needs of the individual teacher and school. High-quality professional development programmes linked to both career structure and national professional standards will support informed teacher evaluation and career advancement.

Developing a strong professional cadre of school leaders and principals.

There is an urgent need to develop a strong professional team of school leaders and principals to drive teacher quality and school improvement in Chile. This team of school leaders should be tasked with leading and implementing change at the school and regional levels.

The Chilean government therefore needs to develop a strong set of professional standards, a career structure and professional development opportunities for principals and school leaders that support them as reforms are implemented. The Good School Leadership Framework (Marco para la Buena Dirección), under revision as well by the Chilean government when the OECD review visit took place, needs to be used as a foundation to establish the leadership profession as related to, but still different from teaching. Efforts to change the school leadership profession should follow the Good School Leadership Framework in tandem with the new System of Teacher Education and Professional Development. The provision of training also needs to be more systematic, and needs to depend less on the individual capacity of school leaders to access training opportunities.

Improving higher education and research in Chile

Background

Higher education has a crucial role to play in Chile's national development. Universities and other higher education institutions are positioned at the nexus of knowledge creation, education, innovation and economic growth. These institutions are

therefore essential to building and maintaining the human and cultural capital that Chile needs to transform its economy by moving away from dependence on primary goods and towards a diversified system that fosters social inclusion (Boulton and Lucas, 2008).

The government of Chile must provide a legislative framework that will enable the country's higher education system to develop. In July 2016, the government presented a wide-ranging higher education reform package to Congress, interrupting a period of relative immobility in higher education legislation and strategy since the last significant changes in 2005.

Chapter 4 of this report reviews the evolution of Chilean education from 2004 to present, as well as the reform proposals under discussion in Congress at the moment of the preparation of this report. The chapter aims to look at major policy developments in higher education in Chile that took place before the modification to the reform bill (*indicación sustitutiva*) which was sent to Congress by the Ministry of Education in April 2017.

The Chilean government's current reforms represent important efforts to address many of the deficiencies. These reform efforts also demonstrate the government's dedication to bringing higher education institutions together in a unified system. To attain the high performance that it seeks, the Chilean government must pursue further steps to create a coherent, shared vision of the higher education system, with a special emphasis on equitable access and improved student learning. The government must also back this vision with an effective architecture for steering the higher education system.

Considering these key ideas, Chapter 4 of this report identifies strengths, challenges and policy recommendations to improve higher education and research in Chile.

Strengths and challenges

The main strengths and challenges identified for higher education and research in Chile can be summarised as follows:

Strengths	Challenges
• Higher education is highly regarded among the Chilean people.	• Skills among tertiary graduates remain low by international standards.
• There have been considerable increases in participation, including among disadvantaged sectors of society. • The higher education system is relatively inclusive of women. • Chile has a greatly expanded, need-based student financial aid.	• Inequities in access to higher education and study success persist. • Student attrition remains high.
• There are top-ranked universities by regional standards.	• Chile has experienced a proliferation of higher education offerings without strategic co-ordination. • Quality is very uneven across institutions and study programmes. • Chilean universities' research performance is modest by international standards.

Policy recommendations

The main policy recommendations identified can be summarised as follows:

Develop a system-level vision and strategy for higher education.

The Chilean government needs to ensure that the higher education system is strategically co-ordinated so that resources are used effectively, public goals are attained and individual learners and researchers are supported so that they can fulfil their potentials. The first step must be "to develop a comprehensive and coherent vision for the future of tertiary education to guide future policy development over the medium and long term" (OECD/The World Bank, 2009), as the OECD argued in its 2009 review. In the absence of this vision, policy reform initiatives, however well intentioned, are unlikely to fulfil their potentials.

The process of developing such a vision cannot occur simply within the offices of MINEDUC or another isolated agency, but must include actors from across the sector, and must take place through meaningful and evidence-driven dialogue. Such a discussion should also take into account the mix of institutions that Chile will require to be successful.

Establish an effective steering infrastructure to support the accomplishment of the system vision.

Once a clear national vision has been established to define the societal purposes of Chile's higher education system, the financing, governance and management practices required to accomplish this vision need to be put in place. This steering infrastructure in Chile's mixed system should seek to guide the operations of the market, but resist the temptation to over-regulate. Successful higher education reforms will require a mix of market-based and state-driven incentives, as well as regulations. Institutional leadership must be appropriately accountable externally (to society, funders and others), as well as internally (to faculty, staff and students).

The Chilean government should continue its efforts to establish the various structures and instruments required to accomplish the system vision and help institutions pursue continuous improvement. Important priorities should include strengthening leadership across the system, improving the licensing and accreditation of institutions, introducing more performance-based funding, and strengthening information collection and transparency. These efforts should always acknowledge institutions' diverse roles within both the university and technical-professional subsystems, and could be supported by performance agreements and institutional governance codes.

Strengthen equity in access to higher education of the best quality.

Similarly, the Chilean government should pursue reforms to expand equity in access to higher education of the highest quality, prioritising initiatives most likely to be effective in expanding participation among the most vulnerable qualified populations. These reforms therefore should include efforts to address financial barriers, as well as the considerable academic and social challenges that disadvantaged Chileans face in early childhood, during compulsory education, while transitioning into higher education, in completing degrees and in entering the labour market successfully.

In terms of expanding equity of and access to higher education, efforts should focus on evidence-based measures and should target support to students facing greater barriers. Steps should be taken to strengthen recruitment and admissions processes at higher education institutions, and to support students from disadvantaged backgrounds so that they can be successful during their studies. To continue strengthening access to and quality of higher education in the medium to long term, the OECD recommends that the government ensure that the free tuition Gratuidad programme: 1) complement investments to strengthen earlier levels of education without diverting resources; and 2) address cost control challenges without limiting the number of seats for students in participating higher education institutions or introducing crowding and new forms of student segregation. Additionally, the Chilean government should work to help students access financial aid more easily, strengthen need-based targeting and ensure more students receive sufficient resources to cover their costs.

Strengthen the quality and relevance of higher education.

Chile needs its higher education system to be of the highest possible quality, and it also needs higher education to be relevant to the wider society and economy. Throughout the system, from undergraduate teaching to applied research, policies and processes should support a process of continuous improvement.

In order to achieve this, the Chilean government must take steps to improve the quality and relevance of instruction in higher education. The system needs to be reoriented towards student learning through mechanisms like the National Qualifications Framework. The quality assurance system must be refocused on supporting continuous improvement and not only accountability. Higher education institutions should better engage with industry. The government and institutions should pursue efforts to strengthen the initial and continuous development of faculty, in terms of both teaching and research. Lastly, the Chilean government should prioritise greater internationalisation of faculty and students to deliver learning and research suitable to the globalised twenty-first century.

The challenges to Chile's education, skills and innovation needs cannot be resolved by the higher education sector alone. Full implementation of the recommendations in Chapter 4 would have only limited impact if the Chilean government does not address the challenges raised in the other parts of this review regarding ECEC, primary and secondary education, teaching and vocational education. Nevertheless, the actors in Chile's higher education system must do their part to create a more equitable learning environment in the country; the steps proposed in the higher education chapter of this review would help them to fulfil that responsibility.

Improving the quality of technical and vocational education in Chile

Background

VET (vocational education and training, or professional-technical education, as it is known in Chile) is increasingly crucial to countries wishing to develop a highly skilled labour force. Upper secondary VET programmes can provide a range of mid-level trade, technical, professional and management skills, while post-secondary VET programmes can provide students with high-level trade, technical-professional and management skills. While VET is not always perceived as a complement to more academic programmes administered by universities, it absolutely is one and should be treated as such.

By developing and sustaining a high-quality VET system, the Chilean government has the opportunity to improve the skills of its population and to begin developing a more innovative and knowledge-based economy. If these goals are to be fulfilled, however, the VET system must maintain strong links with the labour market in Chile. A positive factor is that the generally shorter length of VET programmes compared to more academic ones will make it easier for the government to implement these changes rapidly and effectively.

A good VET system is one that provides students with development opportunities that correspond to their needs and interests, as well as core academic skills. In such a system, outcomes are strong and equitable. Given the important role that VET can play in easing school-to-work transitions, particularly when VET contains a robust element of work-based learning, it is essential to get it right. Chile's VET sector has many of the characteristics that make a strong system. In particular, the size of the sector at both secondary and post-secondary levels is clearly one of the strengths the government can build on. Some of Chile's VET programmes are state-of-the-art, which is due in part to their strong links to the labour market. These programmes provide high-level skills to their graduates, ensuring good careers. However, quality issues remain, and the recommendations developed in the chapter on VET in this report aim at assisting Chile's VET system in achieving its full potential.

Considering these key ideas, Chapter 5 of this report identifies strengths, challenges and policy recommendations to enhance the quality of technical and vocational education in Chile.

Strengths and challenges

The main strengths and challenges identified for improving the quality of technical and vocational education in Chile can be summarised as follows:

Strengths	Challenges
• VET caters to a large share of the student population in Chile. • VET has a large array of programmes. • VET provides education alternatives aiming to offer flexible modes of study. • Students in vocational programmes can continue to higher education, and many do so.	• The quality and relevance of VET in Chile, especially at upper secondary level, could be improved.
	• Chile could have a vision to guide policy development in VET.

Policy recommendations

The main policy recommendations identified can be summarised as follows:

Ensuring that the country's VET programmes meet both the needs of students and employers.

The Chilean government needs to ensure that the country's VET programmes meet both the needs of students looking for fulfilling jobs and the needs of employers looking for employees with the right skills for the short and longer term. Some programmes fail to give students the skills they need, both in terms of technical skills and more fundamental

literacy and numeracy skills. Achieving the right balance of skills is key for students and employers, and for Chile's longer-term development vision. Achieving a good skills balance allows students to continue learning later on, either through further education or even in their jobs as they adapt to new labour market needs and contribute to the evolving economy.

The Chilean government can improve the quality and relevance of the programmes offered by engaging employers and ensuring quality, as well as by strengthening public upper secondary VET schools. It is also important to build employer engagement into the system and strengthen work-based learning in all programmes.

Furthermore, the Chilean government needs to allow more flexibility and opportunities for local customisation. This can be done by allowing schools to determine a part of the programmes, in co-ordination with local employers and other educational providers.

Funding for outcomes is another way of improving the relevance of the system. This can be accomplished by steering incentivising providers to develop programmes with desirable outcomes using outcomes-based funding, among other efforts. Similarly, strengthening and expanding data systems that 1) connect education and labour market outcomes; and 2) track student transitions within education and into employment is important to monitor that funding incentives are providing expected results.

Ensuring that all post-secondary VET programmes and institutions do not fall under a certain quality level.

The Chilean government needs to take steps to develop an effective and mandatory accreditation system for all post-secondary VET programmes and institutions in order to ensure that the quality of these programmes does not fall under a certain level, harming students and employers. While some programmes give students relevant technical skills, build core academic skills and facilitate student transitions into good jobs, many do not.

The accreditation system needs to be part of a broader set of accountability policies that aim to guide institutional behaviour. Only accredited institutions should be eligible to receive public funds. Given the cost and time associated with review processes, the accreditation requirement would need to be implemented in stages. But requiring accreditation is essential to making it an effective tool for ensuring quality. The accreditation process could have two different levels: a mandatory accreditation process with standards providers cannot fall below and an additional, voluntary accreditation process for institutions that wish to see how they can improve.

Implementing a national qualifications framework to better meet labour market needs and the aspirations of students.

Currently, Chile's upper secondary and post-secondary VET programmes are not well connected. Students can pass from one programme to another, but they often have to re-take coursework. The cost is high, not only for students' purses, but also for the perception of the system as a whole. The Chilean government should ensure that VET students can access higher-level programmes without facing barriers, or having to repeat coursework. Mobility across vocational and academic programmes is what students want and expect, and what the modern labour market demands. A qualifications framework could help to provide this structure.

In order to allow students to move seamlessly from one educational level to the next, the Chilean government should design articulated programmes of study that span different levels. A national qualifications network would help VET students to access higher-level programmes without facing barriers and having to repeat coursework they have already done. A national qualifications framework that differentiates and classifies distinct qualifications issued by different types of providers can help promote greater coherence, transparency and student mobility across VET schools, CFTs, IPs and also universities.

Developing good-quality career guidance and information, and making it available to students both before and during VET studies.

The Chilean government needs to develop good career guidance services that are accessible to all students before and during VET programmes. The government should also work to disseminate information about the costs of different VET options, and the kinds of labour market outcomes graduates can expect.

Students in Chile can choose between many different programmes and institutions, especially at the post-secondary level. The Chilean government should develop good-quality career guidance and information, and make it available to all students both before they enter vocational programmes and while they are enrolled. The Chilean government should invest in the professional development of school-based career counsellors who are trained in the use of labour market data. The government can build on existing online resources, such as the website "mifuturo.cl" and other user-friendly tools, to help build awareness about the costs of particular programmes, labour market prospects and information about further learning opportunities. Instructors can include information about career pathways in curricula and in the content of courses. Institutions can inform students about career pathways through arrangements for work experience, and by inviting industry practitioners involved in vocational teaching to give students advice.

Some final reflections on education policy implementation in Chile in the current context

Background

Since the movement commonly known as the Penguin Revolution in 2006, Chileans from all parts of society have paid close attention to efforts aimed at improving the quality and equity of the education system. This is certainly the first and most important strength of the Chilean context, as this broad attention has ensured that education remains a priority in the government's programme.

The scale and pace of Chile's education reforms to date have required action on a variety of fronts by actors and institutions with differing levels of responsibilities. These responsible actors and institutions are at different levels of readiness with regards to implementing the changes mandated by these reforms.

However, the country's capacity to continuously unify these reforms into a coherent vision will be key to the success and sustainability of the reforms from implementation onward. While the Chilean government may have initially created a central plan for the reforms, key stakeholders need to be included moving forward. The reforms should help forge a national vision of education in Chile that transforms it into a common cause in the coming years.

Drawing on international and national evidence and analysis, this report offers some principles of policy implementation that can aid the current and future government administrations in Chile. Based on these principles, this chapter organises some of the recommendations proposed in this report into a shorter-term landscape of actions.

Policy principles

The main policy principles that can be drawn from this report can be summarised as follows:

Ensuring that student learning is kept as the true centre of the education system.

The Chilean government needs to ensure that student learning remains the central mission driving all education reform efforts. The government can do this by: making learning relevant to students on a continuous basis; supporting them by teaching them how to manage their own learning and develop deeper understanding of the learning process itself; and strengthening a broader understanding of inclusiveness across the system.

Supporting key actors across the education system to deliver the policies being promoted.

The Chilean government is working hard to consolidate an education system that has been atomised at all education levels. This atomisation has made it difficult and costly to monitor policy implementation. It has also made it difficult for educational authorities to enforce changes, as the benefits of such changes have been less clear to the actors in atomised sectors who should implement them. Wide-ranging education reforms need to ensure that actors at all governance levels have the clarity, skills, competencies and tools they need to drive improvement. Responding to key actors' main capacity needs can also help to create ownership and trust in the system. The Chilean government can support key actors by effectively engaging stakeholders, and by being strategic in terms of the most urgent capacities the system needs developed.

Aligning policies for coherence while adapting them as needed to ensure that structures, resources and processes effectively converge into a national vision of education.

As the Chilean government begins to forge a long-term vision of the education system, it needs to be cognizant of some possible, systemic tensions. These include: continuity and change, innovation and risk avoidance, centralisation, and regional adaptations. The government needs to maintain a continuous focus on processes, rather than structures. Finding the best way to ameliorate these tensions often depends on the context and history of the education system, as well as the country's vision for the future. This can be done through policy mechanisms that align actions across sectors as current and new policies are implemented, modified or finalised.

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PART 1: OVERVIEW OF THE EDUCATION SYSTEM IN CHILE

Chapter 1

Overview and the OECD review process

This review, undertaken at Chile's request, forms part of the OECD efforts to strengthen the capacity for education reform across OECD member countries, partner countries and selected non-member countries and economies. This chapter provides the reader with a broad overview of the Chilean social and economic context, as well as the main features of the Chilean education system. The report also evaluates student learning outcomes in the country. A final section provides a snapshot of the context in which this report was prepared.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

The quality of Chile's education system today is central to shaping the country's inclusive economic and social growth tomorrow. High-quality and equitable education can help Chile build the skilled workforce it needs for a more productive, knowledge-based and innovative economy. Education reforms are also vital to reducing Chile's high levels of social inequality.

Since 2005, Chile has undertaken wide-ranging reforms to improve the quality and equity of its education system. The government has started reforms of early childhood education and care (ECEC), student selection and admission processes, public school governance and funding, teacher career pathways, vocational education and training (VET) and tertiary education. In order to reap the benefits of these initiatives and achieve sustained progress, however, Chile will need to continue pursuing ambitious reforms that ensure higher levels of learning and skills for all (OECD, 2015a and 2016a).

This review was undertaken at Chile's request. It is part of OECD efforts to strengthen the capacity of OECD member countries, partner countries and selected non-member countries and economies to make meaningful education reforms. The OECD has conducted several reviews of national policies for education of OECD member and non-member countries and economies. These reviews follow an OECD methodology that aims to promote effective policy analysis, design and implementation (Box 1.1). This review uses this methodology, and also builds on a long-standing collaboration between the OECD and Chile on education. This collaboration started years before Chile became a member of the OECD in 2010. OECD study of the Chilean education system has covered a wide variety of areas, from early childhood education to higher education. As a part of this work, in 2004, the OECD performed a review of national policies for education and an analysis of the Chilean education system.

Box 1.1. The OECD education policy review process

The OECD series Reviews of National Policies for Education provide independent and internationally tailored analyses of an education system or selected aspects of it (for example, teacher policy, evaluation and assessment practices, early childhood education, among others). The reviews deliver policy recommendations, which can be complemented with OECD advice on implementation. They cover a wide range of topics and sub-sectors focused on improving the quality and equity of an education system. The reviews use diverse sources of data such as policy documents, PISA and other internationally comparable statistics, national statistics and research. They draw on policy lessons from relevant countries and economies, and complete expert analyses of the key aspects of the education policies and practices being investigated.

A typical review of national policies for education consists of five phases: 1) definition of the scope of analysis; 2) desk review and preliminary visit to the country; 3) main review visit by a team of experts (consisting, in general, of one to two weeks); 4) drafting of the report; and 5) launch of the report. One or more "review visits" are made to the county by an OECD team of experts with specific expertise on the topic(s) being investigated. The team conducting these visits often includes one or more international or local experts.

The methodology aims to provide relevant analysis for effective policy design and implementation. It focuses on supporting specific reforms by tailoring comparative analysis and recommendations to the specific country context, and by engaging and developing the capacity of key stakeholders throughout the process.

Reviews of national policies for education are conducted in OECD member and non-member countries, usually upon request by the countries themselves. For more information: www.oecd.org/edu/OECD-Work-Education-Skills-Policy-Products-Services-for-Countries.pdf.

A follow-up to these earlier studies, this review assesses the progress Chile's education system has made in recent years. The report aims to serve a benchmark for evaluating the country's education reforms moving forward. Produced by the OECD, the review analyses the education system's context and challenges at present. It then identifies progress and changes made mainly between 2004 and 2016, as well as medium-term goals. Finally, the report offers tailored advice for further improvement. The review uses a comparative perspective, OECD data and other international evidence from relevant education systems in order to formulate these recommendations.

This first chapter provides an overview of Chile's economic and social environment, the education system's main features, and student learning outcomes. The chapter also details the context in which this report was prepared. Subsequent chapters further develop these topics.

The economic and social environment

Chile is on the cusp of becoming an advanced economy with a high standard of living. However, the country faces serious challenges to accomplishing this transition. Many of these challenges are due to the large proportion of low-skilled workers in the Chilean workforce, low workforce engagement and high levels of inequality. In essence, Chile must improve knowledge and skills acquisition and foster greater equality of opportunity if it hopes to give every Chilean the opportunity to prosper.

Chile is an economic success story in the making

Chile is, in many ways, an economic success story. Growth has been consistently high in recent years, averaging 4.6% from 2010-2014, as compared to just 1.9% for OECD countries during this period (OECD, 2015b, 2016b). The poverty rate has fallen faster in Chile than in almost any other OECD country, more than halving from 29.1% to 14.4% between 2006 and 2013 (World Bank, 2016a).[1]

Chile has been especially successful in terms of job creation. Chile outperforms the OECD average in terms of employment and unemployment across almost all levels of educational attainment (OECD, 2016c). In fact, the employment rate of male university graduates in Chile is the second highest in the OECD, at 92.3%. Chilean women who have graduated from university enjoy an 80.7% employment rate. This is just above the OECD average of 79.6% employment for women with university degrees (OECD, 2014a). Unemployment in Chile has been below the OECD average since 2010, with a rate just over 6% (OECD, 2016d) (Table 1.1).

Table 1.1. Employment and unemployment rates by age group in Chile compared to OECD average

Highest level of education attained	Employment rates of 25-64 year-olds by educational attainment (%)		Unemployment rates of 25-64 year-olds by educational attainment (%)	
	Chile (2013)	OECD (2015)	Chile (2013)	OECD (2015)
Less than primary	53	33	4.6	M
Primary	55	43	5.1	14.8
Lower secondary	66	60	5.4	12.5
Upper secondary	72	74	5.6	7.2
Short-cycle tertiary	81	80	5.7	4.8
Bachelor's or equivalent	85	82	4.9	5.3
Master's or equivalent	94	87	1.3	4.4

Note: "m"= missing value.

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Chile has benefitted significantly from low international interest rates and elevated commodity prices, most notably of copper, of which it is the world's largest producer. Growth in capital-intensive mining operations caused investment to grow from 2% of GDP in 2002 to almost 7% in 2012 (OECD, 2015b). Chile has also demonstrated greater resilience to the fall in commodity prices than many of its neighbours in Latin America, especially in terms of unemployment. This resilience is due largely to the country's strong macroeconomic framework (OECD, 2015b). Chile has run consistent surpluses outside recessions, and, at 15.1% of GDP, its gross financial debt is less than one-seventh of the OECD average (112.6%) (OECD, 2016b).

Nevertheless, Chile remains considerably less wealthy than most countries in the OECD. Chile's 2015 GDP per capita was just USD 22 286, 55% of the OECD average (OECD, 2016e). Chile's low labour productivity explains approximately 80% of this gap, as labour productivity in Chile stagnates at a level one-third below the OECD average (OECD, 2016a and 2016b). Of late, the wealth gap has widened, as growth in 2016 slowed to just 1.5% (projected). In comparison, growth slowed to 1.8% on average across OECD member states during this period. This difference shows Chile's vulnerability, relative to other OECD countries, to unstable commodity prices (OECD, 2016f).

Chile must invest in human capital to achieve its economic potential. The weakness of Chile's education system is holding its economy back. According to the World Economic Forum's (WEF) World Competitiveness Index (WCI), Chile is not prepared for the development of a knowledge-driven economy (WEF, 2015). Business executives identify the country's "inadequately educated workforce" and "insufficient capacity to innovate" as the second and fourth most problematic factors for doing business in Chile (WEF, 2015). Out of 140 countries, the WCI ranks Chile 108th in terms of quality of primary education, 107th in mathematics and science education, 86th in terms of quality of the education system, and 92nd in terms of company spending on research and development. Chile also ranks 98th in the WCI in terms of the ratio of women to men in the labour force.

Chile remains a highly unequal country

Chile is the most unequal country in the OECD. This fact could compromise Chile's future growth and prosperity, as inequality inhibits economic growth (OECD, 2014b). A key tool for measuring inequality is a measure called the Gini coefficient. It ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality (OECD, 2017). Accounting for disposable income after taxes and transfers, Chile's Gini coefficient is in excess of 0.5. The average Gini coefficient for OECD countries is 0.31 (Olaberría, 2016). High inequality before taxes and transfers results largely from the concentration of wealth among the top 10% in Chile. This group earns 26.5 times the average income of the bottom 10% in the country (on average, the proportion in OECD countries is 9.6 times) (OECD, 2015b). Taxes and transfers do less to reduce inequality in Chile than in almost any other OECD country.

Chile also has the lowest levels of public spending in the OECD. Chile's public spending was just 20.8% of GDP in 2014, less than half the level (41.9%) among OECD countries, though this figure has risen in recent years (OECD, 2015b; Fierro and Cáceres, 2016; Olaberría, 2016). More than one in five Chilean children live in poverty, and social mobility in Chile is limited. This means that children from poor households tend to stay poor, and children from advantaged backgrounds tend to stay rich (OECD, 2015b, 2016b).

Economic growth and prosperity differ greatly in Chile's regions. Inhabitants of the Santiago Metropolitan region are 50% richer than the median Chilean. Chile also had the second highest regional variation in GDP per capita in 2013 among OECD countries (OECD, 2016g). Comparing the maximum and minimal regional shares of the workforce can help demonstrate how work is concentrated in certain regions in a country. The difference between the highest workforce concentration in a region and the lowest was more than 20 percentage points in Chile. A 2014 study shows that Chile is one of only seven other OECD member countries with a difference this high (OECD, 2016g).

The Chilean economy is also characterised by considerable gender inequities. Chile ranked 66 out of 142 countries on the 2014 WEF Gender Gap Index (WEF, 2014). Women's participation in the labour market in Chile is among the lowest in the OECD. While Chilean men also participate at a below-average rate, the gender gap in labour market participation is larger than in all but two other OECD countries (OECD, 2015b). Gender also drives types of employment, with this factor contributing more to the gender pay gap in Chile (62%) than anywhere else in the OECD (Olaberría, 2016). The gender difference in workforce participation reduces income by 20% per capita. This share of lost income due to gender difference is the fourth highest in the OECD, and is a major contributor to overall inequality (OECD, 2015b; Olaberría, 2016).

Inequities also exist among groups of different ethnicities. About 1.57 million people (9.1% of the Chilean population) belong to indigenous communities. These communities are called *pueblos originarios*. Indigenous people are twice as likely to live in extreme poverty as non-indigenous people, or almost twice as likely to be poor. Furthermore, indigenous families are more likely than non-indigenous families to have school-age children, and are more likely to be unemployed. Indigenous families are also more likely to have a household head with low educational attainment, and a family member aged 15 or older who is illiterate (Ministry of Social Development, 2015; Santiago et al., 2017).

Income inequality is generally associated with lower educational attainment (OECD, 2014b). Chile has the greatest inequalities based on educational attainment in the OECD, as measured by returns on education (Table 1.2). Chilean tertiary graduates earn 160% more on average than upper secondary graduates; the corresponding figure for this difference among OECD countries is just 60%. The earnings premium, or economic benefit Chilean individuals with a master's, doctoral or equivalent degrees can expect to receive is 444% of upper secondary graduates' earnings. This difference is more than double the OECD average of 191% (OECD, 2016c). Furthermore, individuals who do not finish upper secondary school in Chile earn less than secondary graduates. The difference between these two groups is higher than the OECD average. Evidence from the OECD Survey of Adult Skills indicates that Chile has the second highest return to years of education among participating OECD countries. As such, one standard deviation in years of education is equal to 21.5% higher wages in Chile (the OECD average is 14.4%). Chile also has above average returns to literacy proficiency. One standard deviation in reading proficiency is equal to 7.36% higher wages; the OECD average is 6.1%. Returns to use of reading skills at work gives Chileans 13.2% higher wages as compared to the OECD average of 10.3% (OECD, 2016h). Advantages in terms of employment rates based on educational attainment are also significant, but modest by international standards.

Table 1.2. Earnings and educational attainment

Highest level of education attained	Earnings of 25-64 year-old workers by educational attainment compared with upper secondary education graduates (%)	
	Chile (2013)	OECD (2014)
Below upper secondary	-36	-19
Short-cycle tertiary	+32	+20
Bachelor's or equivalent	+182	+48
Master's, doctoral or equivalent	+344	+91
All tertiary education	+139	+55

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Education offers a path to inclusive growth

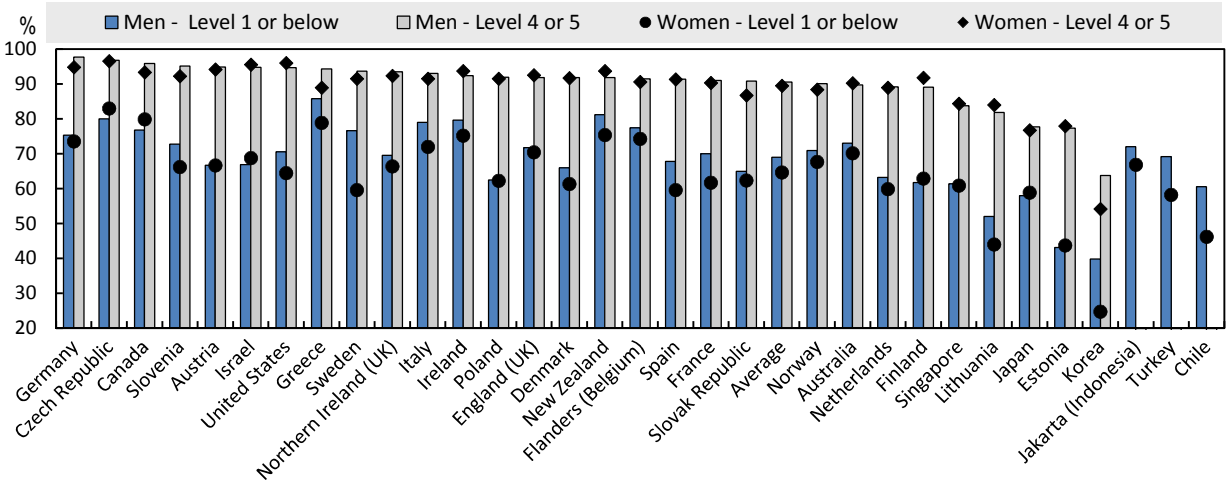
Education opens the door to stronger economic, democratic and social development of a country. In addition, education quality strongly relates to human development. Education fosters cognitive, moral, emotional and creative development. It also enhances social engagement. Therefore, education is not only related to economic development in terms of learning and skills for work, but also to personal growth and social bonds (CAPCE, 2006).

Indeed, human and cultural capital represents the main resource for a country's endogenous growth (Romer, 1990). Building a world-class education system is key to the development of a knowledge-based economy. Improving the education system could raise Chile's productivity and create more diversified jobs in higher value-added sectors, while reducing dependence on commodities (OECD, 2015a, 2015b). The OECD estimates that the combination of universal schooling and full attainment of universal skills would permit Chile to increase annual economic growth by approximately 0.57 percentage points (OECD, 2015b).

However, while there are strong macroeconomic benefits to education, people benefit the most from a high-quality, equitable education system. Better-educated people are less dependent on public aid, and are less vulnerable to economic downturns (OECD, 2012). Greater literacy proficiency among adults is also associated among OECD countries with higher levels of interpersonal and generalised trust. High levels of institutional and interpersonal trust strongly predict economic prosperity and individual well-being. Increased trust also predicts higher levels of political efficacy, greater participation in volunteer activities and better health (OECD, 2016h).

On average among OECD countries and subnational entities that participated in the two rounds of the OECD Survey of Adult Skills (2012 or 2015), the share of tertiary-educated adults reporting good health was 92% among those with the highest literacy proficiency level. Similarly, 92% of those with the highest numeracy proficiency level reported good health (OECD, 2016c) (Figure 1.1).

Figure 1.1. Percentage of adults reporting that they are in good health, by literacy proficiency level and gender (2012 or 2015)



Note: Chile, Greece, Israel, Jakarta (Indonesia), Lithuania, New Zealand, Singapore, Slovenia and Turkey: Year of reference 2015. All other countries: Year of reference 2012.

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Fundamentally, an education system that delivers quality and equity is crucial to ensuring all Chileans have the opportunity to realise their individual and collective potential.

Chile's education system

The Political Constitution of the Republic of Chile of 1980 and the General Education Law (LGE) of 2009 envisage Chilean education as a permanent learning process across education levels. The education system seeks to transmit and cultivate values, competencies and skills to create responsible, tolerant, caring and democratic Chilean citizens (MINEDUC, 2009). Several guiding principles seek to ensure a high-quality and equitable education system (Box 1.2).

Box 1.2. Principles of the Chilean education system

The General Education Law (2009) identifies the following guiding principles for Chile's education system:

- Universal and lifelong learning: Education should be within reach of all Chileans throughout their lives.
- Quality of education: Education should help ensure that all students, independent of their conditions or circumstances, achieve the general objectives and learning standards defined by law.
- An equitable education system: The education system should ensure that all students have the same opportunities to receive a high-quality education, with special attention to persons and groups that require special support.
- Autonomy: The education system respects and fosters the autonomy of educational institutions, in terms of defining and developing their own educational missions within the parameters of the law.

Box 1.2. Principles of the Chilean education system *(continued)*

- Diversity: The education system should promote and respect diversity in educational institutions' processes and missions, as well as the cultural, religious and social diversity of the populations that the system serves.
- Responsibility: All actors in the education process must fulfil their responsibilities and be accountable to the public.
- Participation: Members of the education community have the right to be informed and participate in the education process, in conformity with relevant norms.
- Flexibility: The education system should permit adaptation of education processes to the diversity of educational institutions' situations and mandates.
- Transparency: Disaggregated information on the education system, including revenues, expenditures and academic results at each level of the education system, including educational institution, communes, provinces, regions and the country, should be available to citizens.
- Integration: The education system should promote the inclusion of students from diverse social, ethnic, religious, economic and cultural backgrounds.
- Sustainability: The education system should promote respect for the environment and the responsible use of natural resources, as an expression of solidarity with future generations.
- Inter-culturalism: The education system must recognise and value the individual in terms of their unique origins and cultural background, respecting their language, worldview and history.

Source: MINEDUC (2009), "Ley 20.370: Ley General de Educación" [Education Law 20.370: General Law of Education], Ministerio de Educación Pública, Santiago, http://bcn.cl/1m0i2 (accessed 02 February 2016).

Demographics and educational attainment

Fertility rates in Chile have fallen considerably from 3.95 children per woman in 1970 to just under 1.8 in 2013. This rate is just above the OECD average of 1.68 (OECD, 2016i). A key transformation from this change is population ageing. As a result, there has been an overall net decline in Chile's youth population from close to 4.3 million in 1996 to less than 3.7 million in 2012 (OECD, 2016j, 2016k). The proportion of Chile's population under the age of 14 was cut almost in half between 1970 and 2014, falling from 39.7% to 20.6% (OECD, 2016j). This was a faster decline than the OECD average. Chile's population under the age of 14 fell 0.56 percentage points per year as compared to the OECD average of 0.32 for years with available data. Still, Chile's population growth in 2012 exceeded the OECD average of 18.4% by 2.7 percentage points (OECD, 2016k). The World Bank (2016a) predicts that population growth will slow further over the coming decade. This trend will further accelerate ageing of the Chilean population. Reductions in youth numbers translate into smaller traditional cohorts for Chilean educational institutions, barring increases in participation rates.

Chile's immigrant population has more than doubled over less than a decade, increasing from 1% to 2% of the total population between 2006 and 2013. Most immigrants come from Peru, Bolivia and Colombia. The estimated number of immigrant children attending early childcare, primary or secondary education is 56 000.

In terms of educational attainment among 25-64 year-olds, Chile lags behind other OECD countries (see Table 1.3). In 2013, 38% of Chilean adults had not completed more

than lower secondary schooling, as compared to the 2014 OECD average of 24%. Total tertiary attainment in Chile was equal to 21% in 2013, as compared to the 2014 OECD average of 31%. Chile fell especially far behind in terms of master's and doctoral programme completion, at one-twelfth the OECD average. The data show considerable improvement, however. For example, in 2013 attainment of at least an upper secondary degree and at least tertiary education were almost double among young adults aged 25-34 (53% and 27%) as compared to 55-64 year-olds (27% and 14%) (OECD, 2016c).

Table 1.3. Percentage of adults aged 25-64 with a given level of education as the highest level attained in Chile (2013) and the OECD (2015)

	Less than primary	Primary	Lower secondary	Upper secondary	Short-cycle tertiary	Bachelor's or equivalent	Master's, doctoral or equivalent
Chile	9	6	23	40	7	13	1
OECD	2	7	15	40	8	16	11

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Education system structure

The Chilean education system consists of four levels of education (Annex 1.A). The compulsory levels that are currently operational are basic education (*educación básica*), which corresponds to primary and lower secondary education, and upper secondary (*educación media*). The non-compulsory levels are pre-primary education (*educación parvularia*), which we will generally refer to as early childhood education and care (ECEC), and higher education (*educación superior*) (MINEDUC, 2017). ECEC caters to children 6 months to 6 years old. ECEC became compulsory from age 5-6 in 2014, but this has not been enforced yet (MINEDUC, 2017).

There are three stages of ECEC in Chile. The first is lower and higher nursery (*salas cuna*) for 0-2 year-olds. The second is lower and higher middle levels (*nivel medio*) for 2-4 year-olds. The third is the transition levels 1 and 2 (*nivel transición*), or pre-kindergarten and kindergarten for 4-6 year-olds. The transition levels are generally offered in schools, so references to ECEC throughout the report generally focus on the first two stages. ECEC centres are typically open for 11 hours per day, while the transition levels in schools run just four hours per day (Bertram et al., 2016).

Basic education lasts eight years (grades 1-8), and is typically for 6-14 year-olds. Upper secondary education in Chile lasts four years (grades 9-12), and is typically for 14-18 year-olds (see Annex 1.A). Schools offer three upper secondary pathways: the humanistic-scientific (HS) pathway, the technical-professional (TP) pathway and the artistic pathway (which is smallest in terms of enrolment). All pathways aim to prepare students for higher education, but the TP stream corresponds with vocational education and training (VET). Therefore, it also aims to train students for direct labour market entry, offering up to 35 different specialisations (*especialidades*) in 15 occupational areas (OECD/The World Bank, 2009; MINEDUC, 2017). After successfully completing four years of secondary schooling, students obtain the secondary school diploma (*licencia de enseñanza media*). Chile's 12 years of compulsory schooling (ages 6-18) exceed the OECD average of 10 (ages 6-16) (OECD, 2016c).

At the higher education level, study programmes can be classified as academic degrees, professional degrees and technical degrees (OECD/The World Bank, 2009). Academic degrees are offered only at universities, and include academic undergraduate programmes (*licenciatura* for specific advanced careers). These undergraduate programmes are usually five years in length. Universities also offer one-year post-graduate diplomas (*post-títulos*), master's degrees, doctoral degrees and other advanced specialisations (e.g. medicine) (OECD/The World Bank, 2009). Chilean universities and professional institutes (*institutos profesionales*, IPs) also offer professional degrees below bachelor degree, which are four-year programmes (OECD/The World Bank, 2009). Finally, universities, IPs and technical training centres (*centros de formación técnica*, CFTs) can offer two- to two-and-a-half-year technical-degree programmes (OECD/The World Bank, 2009).

Curriculum

The National Curriculum of Chile was developed under the principles of the General Law of Education (Law 20.370 of 2009, see Box 1.2). Its educational goals are stipulated in the Educational Act. The curriculum is established in three articles of the General Law of Education (Article 28 for early childhood education, Article 29 for basic education and Article 30 for secondary education), which outline key knowledge, skills, attitudes and learning objectives that children should develop in order to accomplish these goals. Decree N 83 of 2015 of the Ministry of Education establishes universal access to education. The decree also sets criteria and guidelines for curricular adaptations in early childhood, and primary education levels for students with special education needs. This decree, however, is only partially enforced at present. It will become fully operational in 3-4 years or more.

Adherence to the official curriculum document is compulsory. The curriculum defines minimum learning expectations that every student should fulfil. The key goals of the curriculum are to enable people to lead their lives fully, to actively participate within their communities and to contribute to the development of Chile. It also aims to promote inclusion and integration, be representative of diverse social demands and prevent any form of discrimination that may hinder student learning.

To accommodate various learning interests and needs, students can choose to pursue technical-professional (TP) education, humanistic-scientific (HS) education or an artistic-oriented education in the last two years of secondary education. Each of these modalities includes a general common core of knowledge and additional subjects on specific knowledge. Currently, Chile is in the process of developing a new curriculum for general education and the HS stream in upper secondary (11th and 12th grade levels).

Education providers and enrolments

Chile's education system has a segmented structure based on choice and "freedom of education", defined as the right by legal entities or individuals to open, organise and manage educational institutions (see Ministry General Secretariat of the Presidency, 2005). As a result, the system combines public, private and state-subsidised providers to a much greater extent than other OECD countries. This mix of different types of providers is found across all education levels in Chile.

Compulsory education

In compulsory education (and to a lesser extent in pre-primary education), independent providers (*sostenedores*) can own and operate one or several schools. *Sostenedores* are responsible for managing school staff, infrastructure and teaching materials.

Sostenedores can be public or private entities. Public *sostenedores* are either municipalities, with schools operated by a local education department or a municipal corporation, or not-for-profit organisations with "delegated administration". Private *sostenedores* are either government-subsidised or independently owned, depending on whether or not they receive funding from the government. Private *sostenedores* can include not-for-profit entities and profit-oriented entities. However, recent regulations have established that all entities receiving public funds must be designated as not-for-profit organisations in the coming years. This report will refer to private *sostenedor* schools as follows: government-dependent private schools (private schools that receive government subsidies) and government-independent private schools (private schools that do not receive government subsidies).

In 2015, Chile's compulsory basic and upper secondary schools enrolled almost 2.9 million students. There were 9 203 schools at the basic level and 3 545 upper secondary schools. 2 592 upper secondary schools offered the HS pathway, and 953 offered the TP pathway (MINEDUC, 2017). Enrolments by *sostenedor* type are indicated in Table 1.4.

Table 1.4. Distribution of compulsory education enrolment by provider type (2015)

Level and education modality		Total enrolment	Distribution of enrolment by provider type (%)			
			Public municipal	Government-dependent private	Government-independent private	Delegated administration
Primary education	Regular	1 937 397	38.9	53.2	7.9	0.01
	Special needs	39 867	34	65.8	0.1	-
Secondary education (youth)	HS	619 940	31.1	54.1	12	2.8
	TP	285 304	46.3	43.8	0.002	9.9

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

PISA data show that, in 2015, 38.5% of Chilean students attended public municipal schools, 51% attended government-dependent private schools and 10.5% attended government-independent private schools (OECD, 2016l). In Chile, urban areas have a larger share of government-dependent private schools, while a majority of public municipal schools are located in rural areas (MINEDUC, 2017).

Students with special education needs can attend either schools with school integration plans (Programas de Integración Escolar, PIE) or schools that cater exclusively to special education students (MINEDUC, 2017). There were 782 basic-level special education schools in Chile in 2015. Government-dependent private schools educated two-thirds of these schools' students, a higher proportion than the general student population (MINEDUC, 2017).

Adult education was also offered to 141 976 students in 1 219 basic and upper secondary schools in 2015. Adult education falls beyond the scope of this report

(although most of these students attended municipal or government-dependent private schools) (MINEDUC, 2017).

In 2013, Chilean teachers in compulsory education had the largest class sizes in the OECD in both public and private schools, although class size and student-teacher ratios have fallen since 2004 (detailed figures are provided in Table 1.5) (MINEDUC, 2017).

Table 1.5. Class size by education level and institution type, OECD and Chile (2013)

Institution type	Primary education		Secondary education	
	Chile	OECD	Chile	OECD
Public municipal	29	21	31	24
Government-dependent private	32	21	33	23
Government-independent private	24	20	25	20

Source: OECD (2015b), *OECD Economic Surveys: Chile 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-chl-2015-en.

Pre-school education

The structure of pre-primary education in Chile is distinct from compulsory education primarily because of the roles played by two actors: the National Board of Preschool Institutions (Junta Nacional de Jardines Infantiles, JUNJI) and the Integra Foundation (Fundación Integra). JUNJI operates its own pre-schools, but also currently manages financing for pre-school services delivered by not-for-profit organisations (MINEDUC, 2017). These subsidised centres include some community kindergartens that have contracts with JUNJI and receive small groups of children (Bertram et al., 2016). The Integra Foundation is a non-profit private organisation that was launched with a focus on impoverished preschool children (Bertram et al., 2016; MINEDUC, 2017). Government-independent private nursery centres are also in operation (MINEDUC, 2017).

In 2015, 767 720 Chilean children under the age of six attended pre-primary schooling (MINEDUC, 2017). Of these children, 625 413 attended regular pre-schools, and 142 307 attended special education programmes. Fully 10 273 institutions offered regular early childhood education and care (*educación parvularia*) in 2015, of which the majority were JUNJI, Integra or public municipal centres. Chile also had 1 892 nursery centres for children with special needs in 2015 (MINEDUC, 2017). Most of these were government-dependent private nursery centres, educating almost all nursery centre students with special needs (MINEDUC, 2017) (see Table 1.6).

Table 1.6. Nursery centre enrolment by centre type (2015)

Centre type	Regular (%)	Special needs (%)
Government-dependent private nursery centres	33.0	97.8
Nursery centres directly operated by JUNJI	28.1	-
Public municipal nursery centres	20.5	2.2
Integra Foundation nursery centres	11.4	-
Government-independent private nursery centres	6.9	-

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

In 2011, the Ministry of Education (MINEDUC) passed Decree 115, which changed student-teacher ratios for early childhood education and care programmes serving very young children. The decree changed student-teacher ratios for children in the International Standard Classification of Education (ISCED) 01 programmes. These programmes typically serve children under the age of three. ISCED 02 programmes typically serve children aged 3 and older, and aim to prepare children of this age group for primary school. The ratio of pupils to ECEC teaching staff in ISCED 02 programmes in Chile was almost double the OECD average in 2014. Chilean ISCED 02 programmes had 26 students per teaching staff member, while the OECD average was 14 students per teaching staff member. Further to Decree 115, in 2014, the ratio in Chilean ISCED 01 programmes was slightly lower than the OECD average. Chilean ISCED 01 institutions had 13 students per teaching staff member, as compared to the OECD average of 9 students per teaching staff member at this level (OECD, 2016c).

Higher education

In 2014, Chile's higher education system had 157 state and private autonomous institutions operating 398 different campuses (see Table 1.7) (MINEDUC, 2017). As in other education levels, the private sector made up the largest share of Chile's higher education system. All private universities are required by law to operate on a not-for-profit basis.

Table 1.7. Number of higher education institutions and campuses by institution type

Higher education institution type	Institutions (2014)	Campuses (2013)	Campuses per institution
CRUCH: Public state	16	29	1.8
CRUCH: Private, not-for-profit, public-oriented	9	16	1.8
Private university	35	111	3.2
Subtotal of universities	60	156	2.6
IP	43	125	2.9
CFT	54	117	2.1
Subtotal of professional and technical training institutions	97	242	2.5
Total	157	398	2.5

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile: Desde 2004 a 2016" [Review of Educational Policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

The Council of University Rectors (Consejo de Rectores de las Universidades de Chile, CRUCH) includes 27 universities. From these, 18 are public, state universities (which are also members of the Consortium of State Universities, or Consorcio de las Universidades Estatales de Chile, CUECH). The remaining nine are private, not-for-profit, public-oriented universities (which are also members of the Public Non-State Universities Network, Red de Universidades Públicas No Estatales), also referred to as the G9. Members of CRUCH are Chile's oldest universities, created before the 1980s.

All of Chile's 43 IPs and 54 CFTs are private, although the government is creating 15 state-owned CFTs, to be completed by 2022 (Senado de la República de Chile, 2016). Private IPs and CFTs are allowed to operate for profit (MINEDUC, 2017).

Chile also has major research centres and regional research centres, which vary considerably in terms of type of research (basic or applied), size and other factors. Most

of these research centres are affiliated with universities, especially CRUCH institutions in Santiago and Concepción. Some of these centres include single labs located on a university campus with researchers from different universities or institutions. Others have extensive physical infrastructure and management, and engage with university faculty and students. These research centres have several goals. They aim to train the next generation of scientists and engineers, increase academic excellence and contribute to the development of new technologies (as well as increase the incorporation of these technologies by industry). They also work to increase public resources for this research, and contribute to efforts to transform Chile into a knowledge-based economy.

Research activity is incipient in Chile. Chile ranked among the bottom five OECD member countries on 11 out of 19 different statistics used by the OECD to measure the comparative performance of national science and innovation systems (for which data were available) (OECD, 2014a). Among OECD countries, Chile consistently spends the least on research and development (R&D). These expenditures are measured as a percentage of GDP in terms of gross, and represent spending by government, higher education institutions and business. Chile spent just 0.39% on R&D in 2013, compared to the OECD average of 2.36% (OECD, 2014a; OECD, 2015c). From 2008-2010, Chile had the lowest proportion of innovative firms in the OECD (OECD, 2014a). Chile also had the lowest number of researchers per thousand workers in 2013, with only 0.79 as compared to the OECD average of 7.77 (OECD, 2015c).

Innovative activity is unequally distributed in Chile. Most innovation is concentrated in the main research-intensive universities in the Santiago area, and in Concepción to a much lesser extent (OECD, 2016a). For example, in 2010, half of R&D expenditure and personnel were in the Santiago metropolitan region, which also accounts for 66% of Patent Cooperation Treaty (PCT) patent applications. From 1995-2007, the region of Bío-Bío accounted for 29% of all patents from universities across the country (OECD/The World Bank, 2010).

Altogether, data from 2014 on tertiary education indicate that 80% of students in Chile were enrolled in private institutions (OECD, 2016c). In 2016, 27.7% of undergraduate students were enrolled in CRUCH universities, while 30.1% were enrolled in other private universities, 30.8% in IPs, and 11.4% in CFTs. In 2012, 25% of students in academic programmes were enrolled in public institutions (including 45.9% of doctorates). Just 3.9% of all students in technical or professional studies (MINEDUC, 2017) studied at public institutions. The slight majority of the 22% of higher education students pursuing technical degrees attended CFTs in 2009. 12% of higher-education technical-degree candidates studied in CFTs, while 8% studied at IPs and 2% studied at universities (Venables Brito and Carrasco Páez, 2012).

Education system governance

Across all levels of education, the extent to which the Ministry of Education subjects educational institutions to certain policies and processes depends on how much public funding the educational institution receives. Private providers that do not receive public funding undergo the least oversight.

Government decision making in education

Chile is a unitary state with separate executive and legislative branches. The President of the Republic exercises executive power. The House of Representatives (Cámara de

Diputados) and the Senate exercise legislative power. Only the president can propose laws that affect the national budget, but Congress has the ability to modify, pass or oppose these proposals. Law proposals must be approved directly by relevant congressional committees, the finance committee, the House of Representatives and the Senate.

The Ministry of Education (MINEDUC) is responsible for all levels of education development. MINEDUC's legislated responsibilities include: to propose and evaluate educational policies and plans, to develop curricular programmes and learning standards, to award official accreditation as necessary, to audit dependent unit activities and monitor system trends, and to manage financial resources in pursuit of its goals (Biblioteca del Congreso Nacional de Chile, 2010). MINEDUC has an Undersecretariat of General Education (Subsecretaría de Educación). The ministry also recently created the Undersecretariat of Early Childhood Education (Subsecretaría de Educación Parvularia), in 2015.

The Undersecretariat of General Education is organised into the following units and divisions: Curriculum and Assessment (Unidad de Curriculum y Evaluación, UCE), General Education (Educación General), Subsidies (Coordinación Nacional de Pago de Subvenciones), Planning and Budget (Planificación y Presupuesto), General Administration (Administración General), Higher Education (Educación Superior), Legal Affairs (División Jurídica), and the Centre for Pedagogical Training, Experimentation and Research (Centro de Perfeccionamiento, Experimentación e Investigaciones Pedagógicas, CPEIP) (Santiago et al., 2017).

The Ministry of Education is the main liaison with some autonomous institutions that contribute to steering the education system: the National Accreditation Commission (Consejo Nacional de Acreditación, CNA); the National Monuments Council (Consejo de Monumentos Nacionales); the CRUCH; the National Board of School Assistance and Scholarships (Junta Nacional de Auxilio Escolar y Becas, JUNAEB); the National Board of Preschool Institutions (Junta Nacional de Jardines Infantiles, JUNJI); the National Commission for Scientific and Technological Research (Comisión Nacional de Investigación Científica y Tecnológica, CONICYT); the Libraries, Archives and Museums Directorate (Dirección Bibliotecas, Archivos y Museos, DIBAM); the National Council of Education (Consejo Nacional de Educación, CNED); the Agency for Quality Education (Agencia de Calidad de la Educación); and the Superintendency of Education (Superintendencia de Educación) (MINEDUC, 2017).

The Undersecretariat of General Education facilitates communication and co-operation between two types of autonomous bodies: regional ministerial secretariats (Secretarías Regionales Ministeriales de Educación, SEREMIs) in all fifteen of Chile's administrative regions, and provincial education departments (Departamentos Provinciales de Educación, DEPROVs) in 42 out of 54 provinces. Provincial education departments provide local support for the delivery of compulsory education. Chile's 346 municipalities are the most important subnational compulsory and pre-primary education jurisdictions because they are the public *sostenedores* for public schools throughout the country.

Quality assurance in education

Chile has established a network of autonomous regulatory bodies with national jurisdiction and varying autonomy that, together with MINEDUC, comprise two different national quality assurance systems. One system is in charge of regulating quality at the

preschool, primary, lower secondary and upper secondary school levels. It is called the National System for Quality Assurance of Early Childhood, Basic and Upper Secondary Education (Sistema Nacional de Aseguramiento de la Calidad de la Educación Parvularia, Básica y Media, SAC). The other system is in charge of regulating quality at the post-secondary level. It is called the National System for Quality Assurance in Higher Education (Sistema Nacional de Aseguramiento de la Calidad de la Educación Superior, SINAC-ES).

The following institutions comprise the SAC at the ECEC, primary, lower and upper secondary school levels, along with MINEDUC (MINEDUC, 2016a, 2017; Santiago et al., 2017):

- **The Ministry of Education:** in charge of steering the system, proposing and implementing education policy, developing curricula and other tools. The ministry also provides technical and pedagogical support to education institutions and *sostenedores*, and works to promote teacher development.
- **The National Council of Education (Consejo Nacional de Educación, CNED):** in charge of promoting education quality in schools. It has several functions, which include reviewing proposals on curriculum, study programmes, or evaluations made by MINEDUC and other relevant institutions.
- **The Agency for Quality Education (Agencia de Calidad de la Educación, or Agencia):** in charge of evaluating and guiding the school system to improve the equity and quality of student outcomes. The agency performs student assessments. These can include assessments like the Education Quality Measurement System (Sistema de Medición de la Calidad de la Educación, SIMCE), as well as international assessments, like PISA, TIMSS or TERCE. The agency also performs the Other Indicators on Education Quality (Otros Indicadores de Calidad Educativa, OIC) assessment. The agency aims to strengthen the process of improvement through evaluation and guidance visits, which consist of three-day school visits. The agency gathers different types of information to generate a qualitative assessment of schools during these visits. Based on this assessment, schools may receive support for school improvement from the Ministry of the Education, or private certified institutions. This assessment, in principle, helps schools to strengthen their internal capacities and educational networks. The agency also aims to inform and promote the good use of results. The Agency for Quality Education is present across the country through five macro-zones.
- **The Superintendency of School Education (Superintendencia de Educación Escolar)**: contributes to the auditing of the use of public resources by school providers and individual schools. It also helps school providers and schools to comply with relevant laws, standards and regulations. With representatives in each region to locally manage citizen's complaints, it is also responsible for investigating claims and complaints submitted against schools and their owners. If it finds violations, the Superintendency of School Education can apply pertinent sanctions.
- At the higher education level, **the SINAC-ES** is comprised by three key actors that occupy the same rank: the Ministry of Education's Division of Higher Education (DIVESUP), the CNED and the National Accreditation Commission (CNA). According to previous OECD work, SINAC-ES focuses on regulatory and supervisory issues and mechanisms. Quality enhancement, learning

assessment, teachers' capabilities and other issues are handled by other higher education institutions (OECD, 2013). As part of the SINAC-ES (CNED, 2017):

- **The Ministry of Education** is formally in charge of information sharing through its Higher Education Information Service (Servicio de Información de Educación Superior, SIES), which is part of DIVESUP. SIES work consists of sharing information relevant to the public, such as statistics and other data that could be requested by administrators and schools.
- **The National Accreditation Commission (Comisión Nacional de Acreditación, CNA)** is in charge of accreditation processes. It holds decision-making powers in the following areas: institutional accreditation for autonomous universities, IPs and CFTs, and the accreditation of post-graduate programmes at autonomous universities. The CNA has also licensed for-profit accreditation agencies to address particular career, undergraduate, master's and health specialisation programmes. The CNA accredited ten of these agencies in 2012 (OECD, 2013). Accreditation of institutions and programmes has been voluntary (with related costs borne by the institution), but only accredited institutions and programmes are eligible for certain state resources. These resources include student scholarships and loans. Accreditation is delivered for a certain number of years, depending on the assessment of the institution's performance.
- **The CNED** is in charge of licencing processes, although it is expected to participate in information sharing and accreditation processes as well**.** It performs licencing processes for new and private higher education institutions. It also participates in appeal procedures regarding decisions adopted by the CNA, and other processes initiated by MINEDUC, such as designation acting administrators of higher education institutions. More recently, the CNED also undertook the role of special monitoring (*supervigilancia*) of the newly created state CFTs, until they can become accredited. CNED is also newly in charge of supervising teacher preparation programmes which may not have obtained accreditation yet, or may have lost it.

Governance of research and innovation

Research and innovation in Chile involves a host of different governing actors, including numerous government ministries beyond MINEDUC. However, three agencies are of particular relevance to research conducted by Chile's higher education institutions.

The National Commission for Scientific and Technological Research (Comisión Nacional de Investigación Científica y Tecnológica, CONICYT) is MINEDUC's main science funding agency. It works to advance and strengthen scientific and technological progress through funding opportunities. It also promotes the formation of human capital by sponsoring Chilean students to pursue advanced study.

The Chilean Economic Development Agency (Corporación de Fomento de la Producción, CORFO), attached to the Ministry of Economy, is the other key agency that bolsters innovation in Chile. Innova Chile is the responsible department within CORFO. It allocates funds to support R&D, private sector innovation of products and processes, and technology transfer (diffusion and adoption of new technologies), while also assisting businesses in accessing private sector financing (World Bank, 2008).

Furthermore, the National Commission on Productivity (Comisión Nacional de Productividad), created in 2015, is an autonomous agency that provides advice to the president. It focuses on public policy and topics related to the country's longer-term economic growth, as well as citizen well-being related to productivity (CNP, 2017).

Finally, the National Council on Innovation for Development (Consejo Nacional de Innovación para el Desarrollo, CNID) was created in 2005 as the main co-ordinating agency for Chile's innovation system. Its responsibilities include: advising the President of the Republic on the objectives and operation of state support for science, technology and innovation; fostering research and innovation; broadening the concept of innovation from competitiveness to development; and improving the quantity and quality of information available to support policy. The CNID includes ministers and other government representatives, experts, and the chief executives of CORFO and CONICYT, who do not have voting rights.

Governance of higher education institutions

Provisions of the Organic Constitutional Law of Teaching (Ley Orgánica Constitucional de Enseñanza) provide for the academic, economic and administrative autonomy of Chilean universities established before 1990. Private institutions created after 1990 can gain autonomy after a period of supervision. Forms of institutional governance vary by institution type, but also at the level of individual institutions.

Existing state universities were created by statute. In general, they standardise their governance structures using the same regulatory frameworks. The Universidad de Chile, the Universidad de Los Lagos and the Universidad Tecnológica Metropolitana, are notable exceptions. Their statutes are slightly distinct. The University of Talca also modified its statutes in recent years. The board of directors (junta directiva) is the highest governing body in state universities. It is comprised of an equal number of representatives appointed by the President of the Republic, external members appointed by the academic council (consejo académico) and academic representatives named by the academic council (in some cases elected by the body of professors). Based on this structure, two-thirds of directors are external to the university. University academic staff elect rectors by vote. Rectors are then confirmed by the President of the Republic. They are responsible for management of the university (OECD/The World Bank, 2009). Deans and department directors are also often elected (OECD/The World Bank, 2009).

The academic council is made up of the rector, academic vice-rector, deans and other directors or professors designated by the council. This body is mainly consultative, aimed as a support for the rector, except at the Universidad de Chile where it assumes the functions of the board. State universities also have collegiate bodies responsible for decision-making at different levels. The Universidad de Chile, the Universidad de Los Lagos and the Universidad Tecnológica Metropolitana have long permitted the participation of students and administrative staff in collegiate bodies. This is possible because these universities follow slightly different institutional statutes.

The group of nine private, not-for-profit, public-oriented universities, known as G9 universities, generally follow similar governance structures to state-owned institutions. However, Catholic universities have some different processes. Academic peers generally nominate candidates for rector at these universities. Subsequently, church authorities select a candidate.

In general, non-CRUCH private universities have some government structures that are most often very far from the more traditional collegial academic governance structures used at state universities. Some non-CRUCH private universities, for example, have collegiate bodies that help select departmental directors or deans, though at other institutions, these bodies are only consultative (OECD/The World Bank, 2009).

IPs and CFTs have highly compact and autonomous governance structures with executive capacity, where partners or board members choose the relevant authorities (MINEDUC, 2017). In general, all decisions are centralised in these institutions, with no participation of collegiate bodies or students.

Education finance

Chile has been making efforts to increase the resources invested in education, but overall spending remains comparatively low. Chile also has high levels of private funding, and significant disparities between institutions and regions.

Total resources for education

At 3.4% of GDP, spending on educational institutions in Chile was below the OECD average for primary, secondary and post-secondary non-tertiary education, but well above average at the tertiary level in 2014 (OECD, 2016c). In fact, Chile was one of the top three higher education spenders in the OECD, along with Canada and the United States (OECD, 2014a) (Table 1.8).

Table 1.8. Spending on education institutions as a share of GDP in Chile (2014) and the OECD (2013)

	Early childhood education (%)	Primary, secondary and post-secondary non-tertiary (%)	Tertiary education (%)
Chile	1.3	3.4	2.3
OECD	0.8	3.7	1.6

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Investment in educational institutions in Chile rose as a share of GDP by 2% between 2008 and 2013, slower than the OECD average growth of 4% during that same period (OECD, 2016c). Inflation-adjusted, per-student expenditure increased by 12% for primary, secondary and post-secondary non-tertiary education between 2008 and 2013. At the same time, it increased by only 5% at the tertiary level (OECD, 2016c). The slower pace of per-student spending growth for tertiary students resulted from a 34% rise in enrolment between 2008 and 2013. Total expenditure on tertiary education actually increased more at this level than at other education levels (with an increase of 41%), compared to the increase at lower levels of education (3%) (OECD, 2016c).

Nevertheless, Chile's education spending per student in 2013 was less than half the OECD average (see Table 1.9). Spending per student was especially low for upper secondary education. That said, Chile did approach the OECD average in terms of spending on tertiary education (excluding research and development activities).

Table 1.9. Annual per-student expenditure on educational institutions in Chile (2014) and the OECD (2013)

	ECEC	Primary	Lower secondary	Upper secondary	Tertiary (with R&D)	Primary to tertiary (with R&D)
Chile (USD)	6 530	4 021	4 099	4 141	7 642	5 092
OECD (USD)	8 618	8 477	9 980	9 990	15 772	10 493
As percentage of OECD average	75.8%	47.4%	41.1%	41.5%	48.5%	48.5%

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

The gap between per-student spending in tertiary education in Chile and the OECD expands considerably when accounting for research and development. At 0.15%, Chile's spending on higher education research and development (HERD) as a share of GDP was little over one-third the OECD average of 0.43% in 2015. Chile's HERD spending was also the second lowest in the OECD ahead of Mexico (OECD, 2015c). Chile's low spending in this area as a share of GDP largely reflects the reality that research and development investment is very low in Chile overall. However, Chilean higher education institutions are highly prominent within the country's research system. Chile had the fourth highest proportion of research and development completed by higher education institutions in the OECD in 2013 at 38.8%. The OECD average was 18.2% that year (OECD, 2015c). Universities or affiliated research centres employ almost 80% of all researchers in Chile (OECD, 2016a).

Public funding for education

As in other OECD countries, most expenditure on educational institutions in Chile comes from public sources. Some 85% of spending on ECEC and 61% of spending on primary through tertiary education came from public sources in 2014 (OECD, 2016c). The Chilean government has clearly prioritised spending on education relative to other needs. Chile dedicated a higher proportion of total public spending (i.e. government expenditure for all goods and services) to education from primary to tertiary level than all but two other OECD countries in 2013 (OECD, 2015b) (see Table 1.10). Again, relative investments in higher education are particularly high. However, public education expenditures relative to GDP in Chile are lower than the OECD average. The discrepancy between these figures seems to be because of Chile's very low overall public spending.

Table 1.10. Public education expenditure as a share of total public expenditure and as a share of GDP in Chile (2014) and the OECD (2013)

	Share of total public expenditure (%)				Share of GDP (%)	
	Primary and secondary education	All tertiary education	Primary to tertiary, including undistributed programmes	Primary, secondary and post-secondary non-tertiary	Tertiary education	Primary to tertiary, including undistributed programmes
Chile	10.5	4.9	15.4	2.5	1.2	3.7
OECD	8.0	3.1	11.3*	3.5	1.3	4.8

**Note:* Includes post-secondary non-tertiary education (0.2%) as well. This category does not apply to Chile.
Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Chile offers public education free of charge from the middle levels of pre-primary education (age 2) to upper secondary (MINEDUC, 2017). Chile uses various mechanisms to deliver public funding to institutions at these levels and in higher education.

In compulsory education, the central government provides public funding for public municipal schools based on nationally agreed-upon payments per child. This funding can amount to 100% of costs (Bertram et al., 2016). Municipal governments also fund schools. Private subsidised schools also receive public funds from the central government through several mechanisms, including vouchers and other subsidies associated with students or teachers and teaching assistants (MINEDUC, 2017). Under the voucher system, funds are transferred directly to the school, but parents can choose the school they prefer (Bertram et al., 2016).

In pre-primary, the state provides funds to JUNJI and the Integra Foundation directly. JUNJI then redistributes considerable funds to private and municipal nursery centres (MINEDUC, 2017). Types of supply-side funding include subsidies to fund infrastructure, subsidies for staff salaries, capital grants and resource grants, as well as programmes to support nutrition and curricular development (Bertram et al., 2016).

At the higher education level, government funding represented 19.7% of revenues at state universities and 15.2% at G9 universities in 2013, but considerably more modest shares of funding at other private institutions (MINEDUC, 2017). Of the CLP 363 292 million in funding that the Chilean government provided directly to higher education institutions in 2015 (public and private), 62.9% was base funding and 37.1% was competitive funding (MINEDUC, 2017).

Base funding is only provided to CRUCH universities. A fund known as the Direct Fiscal Contribution (Aporte Fiscal Directo, AFD) provides the vast majority of base funding (93% in 2015). State universities consistently receive 58% of total base funding, while G9 universities receive 42% (MINEDUC, 2017). The AFD is distributed between institutions largely on a historical basis, and support differs significantly. A 2009 OECD review found that certain G9 universities received a per-student contribution that was as much as ten times higher than what the poorest-funded state university received. In 2015, other types of base funding were provided to assist state universities in providing retirement incentives for staff, and to pursue activities in the national interest (OECD/The World Bank, 2009).

Competitive funding is available through the Institutional Development Fund (Fondo de Desarrollo Institucional, FDI), the Programme to Improve the Quality of Higher Education (Programa de Mejoramiento de la Calidad de la Educación Superior, MECESUP), and the Indirect Fiscal Contribution (Aporte Fiscal Indirecto, AFI) (MINEDUC, 2017). The FDI and MECESUP focus in particular on financing infrastructure (MINEDUC, 2017). The AFI is assigned based on the number of enrolled students with high scores on the university entrance exam (Prueba de Selección Universitaria, PSU), (MINEDUC, 2017). Nevertheless, the share of AFI received differs significantly among different institution types. According to 2015 data, private CRUCH universities received 41% of these funds, although they represented only 9.5% of the number of recipient institutions (with 37% of the students for which this benefit was allocated). At the same time, IPs and CFTs received 0.8% of this overall funding, despite the fact that they represented 15.8% of recipient institutions (with 1.2% of the students for which this benefit was allocated) (Comptroller General of the Republic, 2015) (see also Chapter 4).

A majority of HERD in Chile (57.1%) was financed directly by the government in 2015, which is a higher rate than most other OECD countries. The government provided 7.1% of this financing from general university funds (funding that can be used for other purposes than research and funding), which is among the lowest rates across OECD countries (OECD, 2015c). Approximately 80% of CONICYT's budget is dedicated to funding research programmes. Universities are eligible to apply for these funds, which are summarsed in Table 1.11 (World Bank, 2008). Innova Chile's Millennium Science Initiative, (Iniciativa Científica Milenio, ICM) also funds nine research institutes currently, with up to USD 2 million per year. This funding is dedicated to research in the natural and physical sciences, as well as social sciences. Programmes that fund research centres generally operate through competitive calls for proposals.

The Chilean government assists students indirectly through student financial aid in the form of loans and scholarships. The two loan programmes are the University Credit Solidarity Fund (Fondo Solidario de Crédito Universitario, FSCU), created in 1981, and the State Guaranteed Loan System (Crédito con Aval del Estado, CAE), created in 2006. Both operate based on a combination of private and public funding. They cover up to 100% of a "reference tuition fee", which is set by MINEDUC based on the estimation of the cost of every career based on different factors, such as teaching staff quality, retention and graduation. They also have an actual interest rate of 2% per year. This rate includes limits on the amount of future income that may be dedicated to repayment (up to 5% of the student's future income for the FSCU and 10% for the CAE). The FSCU however suspends payment for two years after graduation and fixes the repayment period at 12-15 years, depending on the loan amount. The FSCU forgives any remaining balance when this period expires. The CAE has a repayment period of 10-20 years and is financed through private banks. The CAE is the principal financial aid instrument for students attending non-CRUCH higher education institutions, and represents the main public subsidy that these institutions receive.

Additionally, MINEDUC offers scholarships for tuition fees. The National Board of School Assistance and Scholarships (Junta Nacional de Auxilio Escolar y Becas, JUNAEB) offers scholarships for living costs (MINEDUC, 2017). In the past, scholarships have been awarded based on financial need and merit (MINEDUC, 2017).

The three most important scholarship programmes for undergraduate studies are the New Millennium Scholarship (Beca Nuevo Milenio, BNM), the Juan Gómez Millas Scholarship (Beca Juan Gómez Millas, BJGM), and the Bicentenary Scholarship (Beca Bicentenario), which target students from the seven poorer deciles. The BNM can be used to attend any accredited higher education institution by students with secondary school grades of at least 5.0 on average (on a scale 1 to 7 points) (MINEDUC, 2017). The BJGM and the Beca Bicentenario are for students with scores of at least 500 points on the PSU university entrance exam. That said, the former is available for study at any accredited higher education institution, whereas the latter is only available for CRUCH universities. Funding is available for all eligible students, regardless of the total budget cost to the government of Chile. Certain other scholarships specifically target indigenous groups (MINEDUC, 2017). Finally, 20% of CONICYT's funding is provided to support graduate scholarships.

Table 1.11. CONICYT research funding programmes

Programme	Date	2016 budget (in thousands of CLP)	Area of study	Details
Fund for the Promotion of Scientific and Technological Development (FONDECYT)	1982	124 006 720	Basic research, not specified	Mainly research by individual academics and researchers.
Regional Programme	2000	4 724 301	Thematic areas of relevance to local regions	Promote research, technology, innovation and skills through 13 centres in 11 regions outside the Santiago Metropolitan Area.
Fund for the Financing of Research Centres in Areas of Priority (FONDAP)	1997	18 400 (2014)	Identified priority areas	Has helped to establish 18 research centres. Participating universities are required to contribute 10% of the centres' budgets.
Programme of Associative Research (PIA)	2008	35 600 (2015)	Apply and/or transfer of research results to improve Chile's economic competitiveness.	PIA centres can receive up to USD 2 million, must raise 20% of total budget from private and/or international organisations.
National Fund for Scientific and Technological Development (FONDEF)	1991	20 271 928	Apply scientific and technological capacity of universities and research centres to commercial innovation	Projects by recent graduates or other commercially related entities.
National Graduate Fellowships	1988 (managed by CONICYT as of 2008).	NA*	NA	Supports students in Master and PhD level studies.
International Graduate Fellowships	1981 (Becas Chile as of 2009)	NA*	Any discipline	Supports students in Master and PhD level studies in any country other than Chile.

*CONICYT's total budget for scholarships was CLP 87 677 139 thousand in 2016.

Source: World Bank (2008), *Chile: Toward a Cohesive and Well Governed National Education System*, World Bank Publishing, http://siteresources.worldbank.org/INTCHILE/Resources/nationalinnovationsysteminchile.pdf; OECD (2016b), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en; Library of the National Congress of Chile (2016), "Education Law 18.956: Restructuring the Ministry of Public Education- Draft Law", www.leychile.cl/Navegar?idNorma=30325; Library of the National Congress of Chile (2012), "Decree 325: Establishment of Criteria and Conditions to Assign National Postgraduate Scholarships from the National Commission for Scientific and Technological Research", www.conicyt.cl/becas-conicyt/files/2012/10/Decreto-335-2010-Becas-Nacionales.pdf; Library of the National Congress of Chile (2008), "Education Supreme Decree 664: Establishing Norms on the Granting of Scholarships for the Bicentennial Scholarship Programme for the Year 2009", http://portales.mineduc.cl/usuarios/bchile/doc/201206261712260.DECRETO%20664.pdf.

Private funding for education

Private sources also play a key role in financing Chile's education system. In fact, Chile had by far the largest share of private expenditure for primary through tertiary education among OECD countries in 2012, more than double the OECD average (see Table 1.12). Most private financing comes from households. Additionally, these private expenditures are subsidised in Chile at a far lesser rate than in OECD countries on average. Chile's private expenditure subsidy rates are lower than the OECD average across all levels of education (OECD, 2016c).

Table 1.12. Percentage of education expenditures from households and all private sources in Chile (2014) and the OECD (2013)

	ECEC		Primary, secondary and post-secondary non-tertiary education			Tertiary education			Primary to tertiary (including undistributed programmes)		
	Private	Public	Households	Total private	Public	Households	Total private	Public	Households	Total private	Public
Chile	15	85	21	21	79	51	62	38	34	39	61
OECD	19	81	7	9	91	21	30	70	12	16	84

Source: OECD (2016c), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

One of the important aims of the 2015 Inclusion Law was to gradually end "shared financing" at the school level. Prior to the passage of the Inclusion Law, shared financing was a very important part of the education system. This mechanism allowed schools receiving public funding to charge tuition fees to families from students enrolled in these schools. At the compulsory education level, Chile started using shared financing in 1993. This practice had the effect of incrementally reducing the share of state financing from these schools.

Two-thirds of spending on tertiary education in Chile comes from private sources. Chile was the first Latin American country to introduce tuition fees for public universities in the 1980s, and it remains the only country with fees above USD 1 000 for undergraduates in public universities (MINEDUC, 2017). Among OECD countries, Australia, Japan, Korea and the United States also have high levels of private funding in tertiary education that mostly derives from household expenditure. However, only Japan comes close to Chile in terms of spending from household expenditure (with 51% and 52% respectively, compared to the OECD average of 21%) (OECD, 2016c).

In the Chilean education system, fees are highest at the university level. This is true even at state universities, though they represent a larger share of institutional resources at IPs and CFTs (see Table 1.13). Fees increased across all institution types between 2004 and 2014, with the greatest growth at CFTs and CRUCH universities. In response to high costs, the Chilean government has put in place numerous student financial aid instruments. The Free Tuition Programme, also known as *Gratuidad*, is a new grant programme aiming to exempt certain students from paying tuition fees in higher education (discussed in Chapter 4), is an important example.

Table 1.13. Tuition fees at higher education institutions in Chile

Institution type		Tuition as share of revenues (2013) (%)	Average fees in 2014 (USD)	Change in fees from 2004 to 2014 (%)
CRUCH universities	State	49.2	USD 4 100	+28.5
	Not-for-profit	37.9		
Private universities		82.3	USD 4 500	+19.4
IPs		95.0	USD 2 000	+6.1
CFTs		93.9	USD 1 900	+32.1

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

In addition to fees, individual contributions or loan payments, Chilean educational institutions can attract private revenues from other sources. Chilean schools receive these other private funds at just about the OECD average rate (OECD, 2016c). These revenues are minor at the compulsory education level, but slightly above average at the tertiary level. Many higher education institutions collect fees for consultancies and other services, which represented 13.8% of total revenues at these institutions in 2013. The Chilean government also provides significant tax rebates for private donations to higher education institutions. In 2013, these represented 5.3% of revenues at non-CRUCH private universities and 0.4% at CRUCH universities (MINEDUC, 2017).

Funding from business enterprises and private non-profits as a share of HERD was relatively low in Chile in 2013 at 5.1% (OECD, 2015c). However, higher education institutions themselves financed 28% of HERD in 2013. A significant share of this may be attributed to private sources, based on the institutions' overall funding breakdown (OECD, 2015c).

Chilean learning outcomes

Education is fundamentally about learning, i.e. expanding what individuals know and can do. The world's strongest education systems combine elevated quality and broad equity. Examining learning outcomes of children and adults provides a key starting point for assessing the performance of Chile's education system.

Performance of Chilean students on selected standardised assessments

Chilean students have participated in a host of international learning assessments, including the OECD Programme for International Student Assessment (PISA) and UNESCO Latin American Laboratory for Evaluation of Education Quality (Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación, LLECE). Chile has also participated in assessments that include the Trends in Mathematics and Science Study (TIMSS), the International Computer and Information Literacy Study (ICILS), the Progress in International Reading Literacy Study (PIRLS) or the International Civic and Citizenship Education Study (ICCS) (MINEDUC, 2017).

In addition to international learning assessments, Chilean students must complete a national assessment called the System to Measure the Quality of Education (Sistema Medición de Calidad de la Educación, SIMCE). Students take this exam in grades 2, 4, 6 and 8 of primary education and grades 10 and 11 of secondary education. Chilean students enrolled at all types of schools (including public, government-dependent private and government-independent private schools) must take the SIMCE (MINEDUC, 2017). The analysis of children's learning in our report will focus principally on PISA and SIMCE outcomes. Chilean student outcomes on other international assessments are generally consistent with Chile's results on these tests.

PISA measures student skills and knowledge in reading, mathematics and science. It is administered to 15-year-old students in OECD participating economies. In 2015, all OECD member countries participated in PISA, as well as 37 partner countries and economies (OECD, 2016m). The SIMCE standardised test measures students' learning outcomes and, in particular, whether students have learnt the skills and knowledge identified in Chilean curricula.

Overall performance

Chile's results on PISA and LLECE are the strongest in Latin America. Chile has the best performance among countries in the region participating in PISA in reading, science and mathematics. Additionally, Chile has continued to improve student performance in reading significantly across PISA cycles. However, performance in science and mathematics remained essentially unchanged across cycles. Chile performed the best overall in Latin America on the LLECE assessment, though it fell just slightly behind the Mexican state of Nuevo León in sixth grade mathematics (OECD, 2016m; UNESCO, 2014). In terms of the SIMCE assessment, Chilean year-four students improved their results in reading and mathematics between 2005 and 2014. Chilean year-ten students have improved in mathematics since 2003 (MINEDUC, 2017).

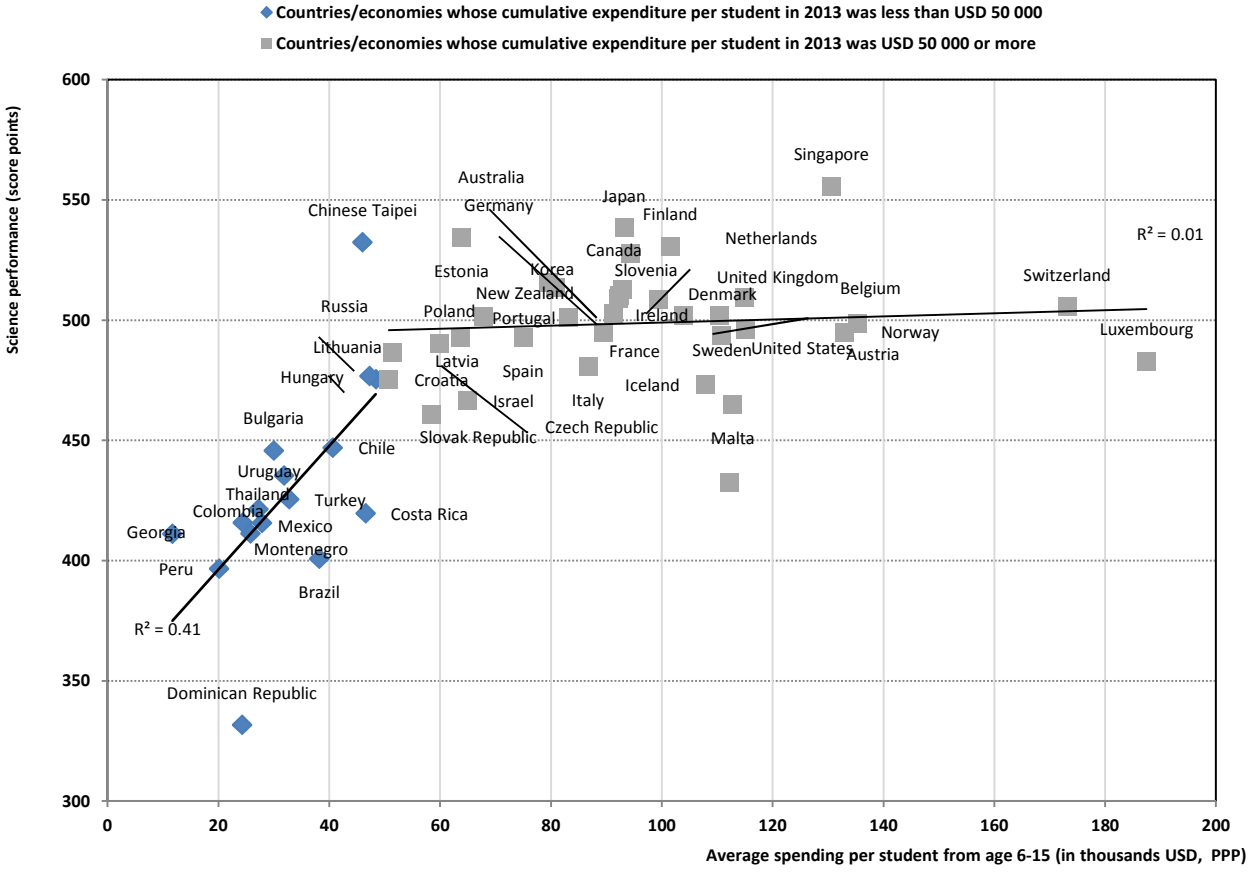
With an average PISA performance in science of 493 points, most OECD countries outperform Chile, which had an average science performance of 447 points on the 2015 PISA test. Chile had the fourth lowest performance in PISA 2015 among OECD countries for reading, and the third lowest for mathematics and science, ahead of only Mexico and Turkey (OECD, 2016l). The gap in learning between Chile and the OECD average is equal to approximately one year of schooling for reading, 1.5 years of schooling for science, and 2 years of schooling for mathematics (OECD, 2016m).

A comparison of Chile and other countries with similar cumulative spending per student between the ages of 6 and 15 (less than USD 50 000 in 2013) demonstrates some notable differences as well. Chile performed similarly in science to Bulgaria, even though Bulgaria spends less cumulatively between the ages of 6 and 15. That said, Chile performed better than Brazil, even though both countries spend about the same cumulatively per student. Lithuania's cumulative spending per student is 19% higher than Chile's, but results show that Lithuanian students have a performance difference of about an additional year of schooling compared to Chile. The difference is much greater with Chinese Taipei. The country's expenditure is only 13% higher than Chile's, but the performance difference with Chile is equivalent to three additional years of schooling for students in Chinese Taipei (OECD, 2016l) (Figure 1.2).

Over a third of Chilean 15-year-olds (35%) performed below Level 2 in science on PISA 2015. PISA designates Level 2 as the baseline level of scientific proficiency that is required to engage with science-related issues as a critical and informed citizen. Chile's share of students performing below Level 2 was also significantly higher than the OECD average of 21% (Figure 1.2) (OECD, 2016m). Chile also had a higher-than-average percentage of low performers in reading (28%). Almost half of Chilean 15-year-olds (49%) performed below Level 2 in mathematics, a figure that is more than double the OECD average of 23%.

PISA results show that Chile is having difficulty fostering the type of high achievers who could help transform the country into a complex, knowledge-based economy. Only 1.2% of Chilean students were top performers in science in PISA 2015, as compared with the OECD average of 7.7% (OECD, 2016m).

Figure 1.2. Science performance in PISA 2015 and spending per student from ages 6-15



Source: OECD (2016m), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

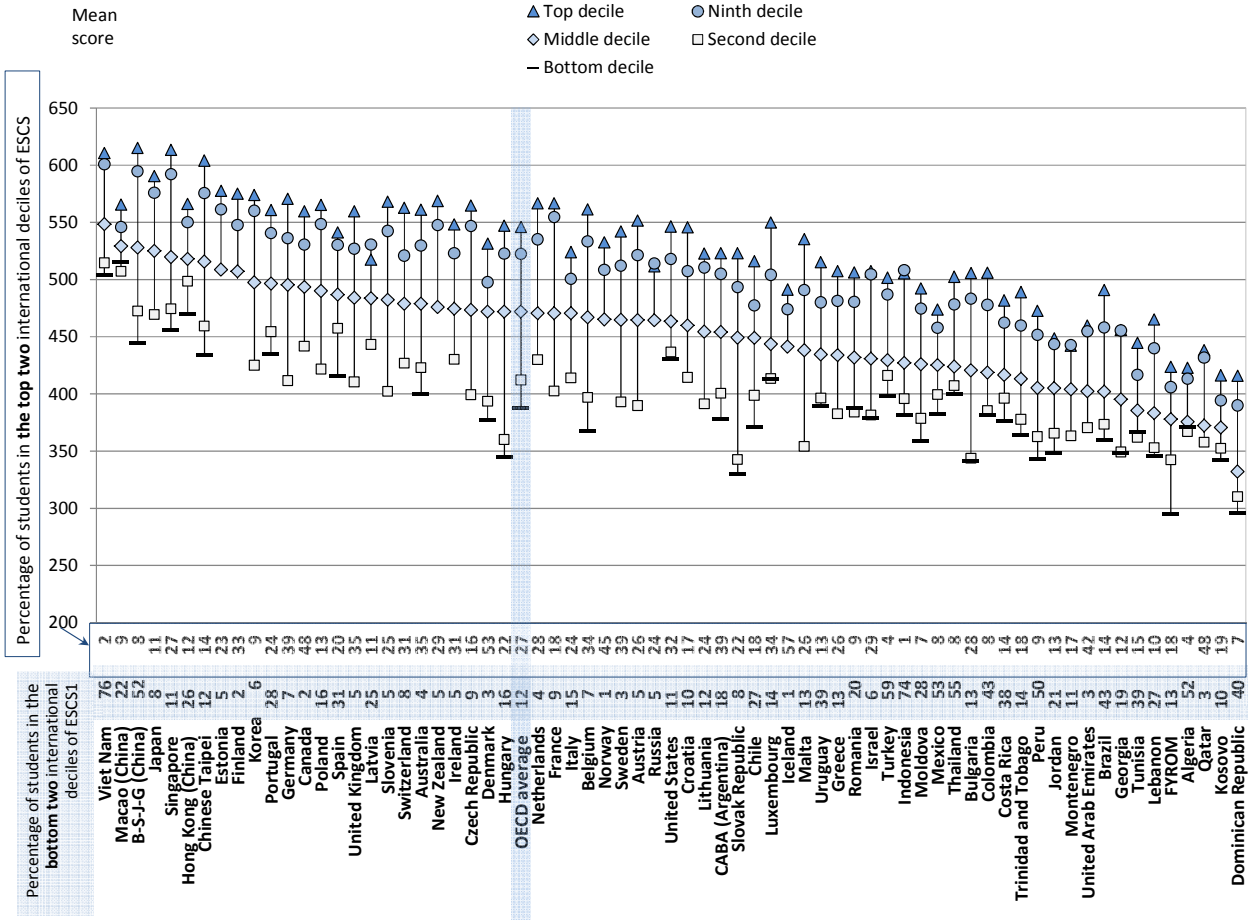
Inequity in quality of learning remains comparatively high among Chilean children

Chile's education system reflects the significant inequities in Chilean society. Chile is one of the countries participating in PISA 2015 where the socio-economic background of students most influences performance. Socio-economic status explained 17% of the variance of Chilean students' science performance on PISA 2015. While this is the sixth highest figure for OECD member countries (the OECD average was 13%) (OECD, 2016l), equity in science performance has increased significantly in Chile since PISA 2006. Figure 1.3 shows the performance difference between students of different socio-economic backgrounds. The most disadvantaged Chilean students (bottom 10%) performed 145 points lower in science than the most advantaged Chilean students (top 10%). This gap is slightly smaller than the OECD average of 158 score points (OECD, 2016l).

In addition, Chile had the second lowest proportion of resilient science students in the OECD. Resilient students are students that outperform expectations based on the average performance their socio-economic group. Only 14.6% of disadvantaged students in Chile

beat the socio-economic odds against them and performed at the highest levels in science, compared to the OECD average of 29.2% (OECD, 2016l). This proportion has remained largely unchanged since the last time science was the major domain tested by PISA in 2006. In addition, Chilean students from the most advantaged backgrounds performed lower than students from similar socio-economic backgrounds in 40 other participating countries and economies (OECD, 2016l).

Figure 1.3. PISA 2015 student performance in science by deciles of economic, social and cultural status (ESCS)



Note: Countries are in ascending order by student performance of the bottom quartile.

Source: OECD (2016l), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264266490-en.

In Chile, 31.3% of performance differences in science are observed between schools and 50% are observed within schools. At the OECD average, 30.1% of performance differences are observed between schools and 69% is observed within schools. However, a slightly larger-than-average percentage of between school variance in science performance is explained by students' and schools' socio-economic background (66.5%, compared to 62.6% at OECD average). In the same way, the impact of socio-economic status on student performance in Chile is also evident when comparing SIMCE scores across quintiles.

Performance by students at Chile's public municipal schools tends to be lower than performance by students at government-dependent private schools and government-independent schools. Public municipal schools serve the highest proportions of students living in conditions of vulnerability in Chile. When comparing SIMCE scores between students of similar socio-economic backgrounds in public municipal schools and government-dependent private schools, however, notable results appear. Performance differences are either small, non-existent or demonstrate better performance by students at public municipal schools (Table 1.14). This indicates that school performance in Chile is more a function of the socio-economic status of its students than of the quality of the educational services delivered by schools and school types.

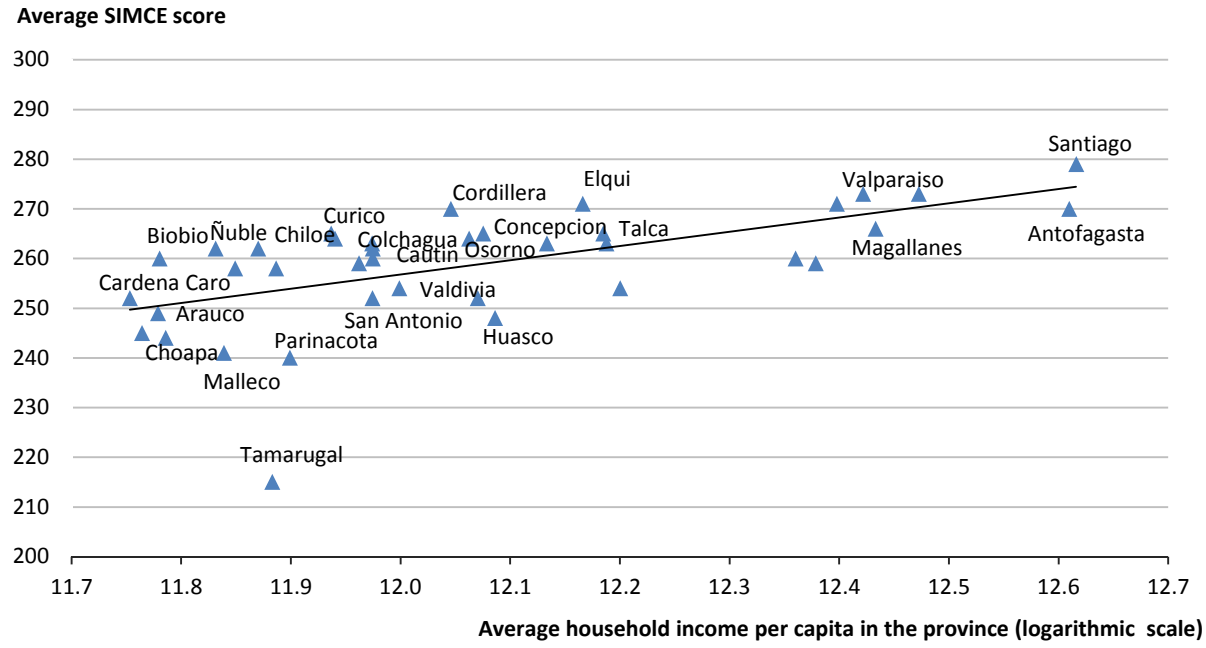
Table 1.14. SIMCE 2013 test results according to dependence and socio-economic level

Grade 4						
Socio-economic level	Reading comprehension			Mathematics		
	Public municipal	Government-dependent private	Government-independent private	Public municipal	Government-dependent private	Government-independent private
Low	245	242		236	227	
Medium low	249	253		240	245	
Medium	260	266		250	258	
Medium high	282	281		277	273	
High		294	299		290	297
Grade 8						
Socio-economic level	Reading comprehension			Mathematics		
	Public municipal	Government-dependent private	Government-independent private	Public municipal	Government-dependent private	Government-independent private
Low	237	238		236	234	
Medium low	238	245		241	250	
Medium	256	259		261	267	
Medium high	287	274		300	286	
High		283	289		299	312

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

Rural-urban performance gaps are more pronounced in Chile than in other OECD countries. The OECD defines cities as areas with more than 100 000 inhabitants. Rural areas are defined as having less than 3 000 inhabitants. Finally, towns are defined as areas with 3 000-100 000 inhabitants. The majority of Chile's population (87%) lives in urban areas. In PISA 2012, the previous PISA assessment, students living in cities outperformed hose living in rural areas by 73 points in mathematics, far above the OECD average (36 points). At the same time, students living in towns also outperformed students in rural areas by 59 points, which was also more than double the OECD average (25 points) (Santiago et al., 2013; OECD, 2016b). Similarly, there are considerable differences between provinces in results on the SIMCE, which are correlated with the provinces' incomes per capita (Figure 1.4).

Figure 1.4. Average SIMCE results by income per capita



Source: OECD (2015b), *OECD Economic Surveys: Chile 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-chl-2015-en.

Chilean students also have important performance gaps related to gender. In PISA 2015, Chilean boys performed significantly higher than girls in science (15 score points higher compared with the OECD average of 4 points), and outperformed girls in mathematics (by 18 score points compared with the OECD average of 8 points) (OECD, 2016l). Chilean girls outperformed boys in reading (by 12 score points, less than the OECD average of 27 points). SIMCE results indicate these differences are magnified as students get older (MINEDUC, 2017).

In terms of national evidence, student performance results in SIMCE based on school type show that students attending government-dependent private schools for basic and secondary education consistently achieve higher scores than students from public municipal schools in years 4 and 8. That said, these differences disappear, for the most part, when data are controlled for socio-economic backgrounds of students (MINEDUC, 2017). Finally, government-independent private school students have the strongest SIMCE results within the educational system (MINEDUC, 2017).

Over the past decade, performance of students in the lowest two quintiles has increased at a faster pace than that of students in the highest two quintiles. Since 2002, performance for students in the highest two quintiles has either remained practically unchanged, or has declined. These changes in performance represent an improvement of equity. At the same time, achievement continues to be low by national and international standards for students across the socio-economic spectrum. Furthermore, while slightly reduced, the trend of inequity in student outcomes based on socio-economic status has remained unabated over the past decade.

Learning outcomes among Chilean adults

The OECD Programme for the International Assessment of Adult Competencies (PIAAC) completes its Survey of Adult Skills to assess the proficiency of adults (aged 16-65) in literacy, numeracy and problem solving in technology-rich environments. The Survey of Adult Skills also gathers information on participants' use of other skills, use of information and communication technologies (ICT) and general work lives (OECD, 2016h). Literacy, numeracy and problem solving are considered "key information-processing skills" necessary for full integration and participation in the labour market, education and training, and social and civic life. Data for Chile were collected between April 2014 and March 2015. As of 2016, data are available for 28 member countries and economies, and 5 partners.

In the second round of the Survey of Adult Skills (conducted during 2014-2015), Chilean adults obtained the lowest average literacy and numeracy results among participating OECD countries across all levels of educational attainment (OECD, 2016h). At 15%, the proportion of Chilean adults that attain Level 2 or 3 in terms of problem solving in technology-rich environments is less than half the OECD average of 31% (OECD, 2016h). Chile also has one of the greatest gaps between the lowest and highest performers in literacy and numeracy proficiency, with a 73-point gap for literacy and an 82-point gap for numeracy. These gaps exceed the OECD averages of a 62-point gap for literacy and 68-point gap for numeracy. Chile is behind just Israel and Singapore in these measures (OECD, 2016h).

Level 1 on the Survey of Adult Skills corresponds to the ability to use widely available and familiar technology applications such as e-mail and a web browser. Adults who score at Level 1 are also able to solve simple problems with few steps, simple reasoning and little or no navigation across applications (such as e-mail software or a web browser) (OECD, 2016n). A majority of adults in Chile have literacy (53.4%) and numeracy (61.9%) proficiency at or below Level 1. This means that a majority of Chilean adults can only complete short and simple reading tasks or basic mathematical operations (OECD, 2016h). These are the lowest figures in the OECD, and well above the averages of 18.9% for literacy and 22.7% for numeracy (OECD, 2016h). At 26.8%, Chile has the highest proportion of adults who scored below Level 1 in problem solving in technology-rich environments; the OECD average is 14.2% (OECD, 2016h).

In order to score "proficient" on the Survey of Adult Skills, individuals must score at Level 3 or above. Chile has the lowest proportion of proficient adults in numeracy (11.9%). The country is ahead of only Turkey in the OECD in terms of proficiency in literacy (14.5%). Chile is well below the respective OECD averages for proficiency in numeracy (43%) and literacy (46%) (OECD, 2016h).

The association between low performance in literacy or numeracy and low education levels is stronger in Chile than in any other OECD country (OECD, 2016h). Low performance is defined as scores at or below Level 1 on the Survey of Adult Skills. Low educational attainment is defined as studying until upper secondary school as compared to completing tertiary education. Low educational attainment by parents (i.e. neither parent attained upper secondary education, as compared to at least one parent with a tertiary education) is also strongly associated with low performance. That said, these effects are greatly mitigated once the data are controlled for other socio-economic characteristics (OECD, 2016h). Among adults without upper secondary education, 87% scored at or below Level 1 in literacy. This is important, given that such adults make up

32% of the total population, the highest rate among participating OECD countries, partners and economies. Chile has the third greatest difference in the OECD in literacy proficiency between those with tertiary and less than upper secondary education. Finally, Chile has the second highest differences in literacy and numeracy proficiency by gender in the OECD, which is in favour of men in both cases. The gender difference in Chile for literacy proficiency is 7.6 points. For numeracy, it is 21 points. The OECD gender gap averages are 2.1 points for proficiency in literacy and 12.2 points for proficiency in numeracy (OECD, 2016h).

While it might seem useful to compare Chile's literacy results on the Survey of Adult Skills (a product of the OECD Programme for the International Assessment of Adult Competencies, or PIAAC), with its results on the International Adult Literacy Survey (IALS), completed in the 1990s, results do not tell the full story. Chile shows no improvement (in fact, results have fallen from 222.73 score points to 220.15 score points, but this very modest difference in results is not sufficient to draw significant conclusions (OECD, 2016h)). The fact that Chile has the fourth highest difference in literacy proficiency between 25-34 year-olds and 55-65 year-olds (at 41.37 points) suggests skills may be improving. That said, this gap could also be explained by other factors, such as skills deterioration (OECD, 2016h). The difference is also considerably reduced (to 19.5 points, compared to the OECD average of 15.6 points) when adjusted for educational attainment, which may indicate that much of the improvement in the skills of younger workers results from more schooling, as compared to improvement in schooling and other factors (OECD, 2016h).

The context of this report

A system with large but decreasing coverage, and persistent inequities

This chapter has presented a broad overview of Chile's education system. The learning outcomes described above indicate how far Chile has to go to build an education system that can equip Chileans to realise their full potentials and compete in the twenty-first century. However, this picture of low performance belies the remarkable commitment to reform that Chile has demonstrated over the past 25 years.

The democratic government that came to power in 1990, after 17 years of military dictatorship, inherited an education system that was low performing and among the most unequal in the world. The system was heavily inspired by market-oriented principles. Mechanisms to establish system-wide goals that drove continuous improvement were largely absent.

Under the dictatorship, compulsory education was left in the hands of municipalities and individual schools, despite the fact that the government did not provide them with adequate funding, capacity-building, support and accountability mechanisms. The creation of privately run, publicly funded schools (government-dependent private schools) was incentivised. The regime gave these schools the right to operate as for-profit entities. It also developed a voucher system to allocate resources to schools based on the number of students the schools attracted. Individual schools and municipalities contracted certified but mostly unregulated external providers to perform professional development sessions with teachers and lend school support.

Higher education was similarly atomised. The government broke up major traditional universities. Deregulation in terms of financing and quality assurance permitted a massive proliferation of private providers. Academic inquiry was severely repressed.

To maintain political cohesion in the country, the new democratic government decided to advance its educational change agenda within many of the constraints of the existing structure. This meant that education legislation, the ministerial structure and the drastically decentralised and privatised education system remained unchallenged. Nevertheless, considerable progress was made between 1990 and 2004. Markers of this progress include: a three-fold increase in education expenditure, a three-fold increase in teacher salaries, the establishment of full school days, a comprehensive curricular reform, the development of positive discrimination programmes (programmes aimed at improving educational opportunities for the most disadvantaged communities and schools), and a remarkable commitment to continuity of education reform efforts regardless of the political affiliation of the current president. These efforts yielded real results. Enrolment in primary, secondary and higher education increased substantially, as did completion rates, while drop out and repetition rates fell.

And yet, progress varied in other areas. Chile saw slight improvements in student performance and a slight reduction in the achievement gap between municipal and government-dependent private schools from 1990 to 1995. However, student performance remained relatively stable from 1996 to 2002, and achievement gaps widened (OECD, 2004).

New perspectives from a new generation

The movement commonly known as the Penguin Revolution (Revolución Pingüina) of 2006, led by upper secondary students, and a further student movement in 2011, led by university students, precipitated Chile's current education reforms. The 2011 movement was considered one of the most "massive and original social movements" in recent years in Latin America (Salinas and Fraser, 2012). It resulted from a few factors: a combination of mobilising grievances such as disparities in access and quality of education, and greater capabilities and resources for political mobilisation such as critical awareness and higher aspirations regarding the education system (Salinas and Fraser, 2012).

Chileans perceived inequalities in the education system as a reflection of broader social inequalities generated by the market-oriented policies implemented during the dictatorship (Durán Migliardi, 2012; Bellei and Cabali, 2013). As education expanded to sectors of the population that had been historically excluded, Chilean students were filled with greater expectations of equity of opportunity for quality education. However, these expectations remained unmet by the education system. The generational turnover of a younger "generation that was born without fear" (as they had not experienced first-hand the consequences of the dictatorship) also contributed to the unique conditions that bore these movements (Salinas and Fraser, 2012; Ouviña, 2012).

In the aftermath of the Penguin Revolution, the Chilean government created the Presidential Advisory Council for Quality in Education (Consejo Asesor Presidencial para la Calidad de la Educación, CAPCE). The advisory council brought together representatives from different sectors, including universities, academia, student representatives, Congress and municipalities. This advisory council agreed on a common set of principles (CAPCE, 2006):

- The existence of public and private education in Chile is part of the strength of the system; these modalities are not antagonists and, as such, it is important to generate proposals that strengthen the education delivered in both education modalities.

- Education improvement policies should have the school at the centre, and should include a participative process with students and families.
- Teachers and school leaders are key actors, which is why it should be a priority to propose policies to attract, train (improving initial and continuous training) and retain them.
- Schools need adequate financing in order to provide high-quality education, which is why mechanisms that are more equitable should be implemented in order to correct inequities in financing among municipalities due to factors such as co-payment (share financing by families).
- The government must ensure that arbitrary discrimination in schools does not take place. Incentives should be introduced to strengthen social inclusiveness. Also, the government should reduce the risk of social segregation through differentiated financing and the exploration of other instruments as well.
- Substantial changes in the educational legal framework are needed, starting with an urgent reform to the Constitutional Organic Law of Teaching (Ley Orgánica Constitucional de Enseñanza, LOCE) to give it legitimacy and guarantee the right to education.

Based on these guiding principles, the advisor council issued recommendations in ten areas: 1) The regulatory framework; 2) education quality; 3) quality assurance; 4) administration of the public school system; 5) education financing; 6) education cycles and curriculum; 7) teachers; 8) schools; 9) vocational education and training (technical-professional education), and; 10) higher education. The Chilean government is currently implementing many reforms based on these areas and topics.

Significant reform legislation, mainly in the pre-tertiary sector, has included the 2006 Law to Establish a Higher Education Quality Assurance System (Ley de Aseguramiento de la Calidad de la Educación Superior), the 2009 General Education Law (Ley General de Educación, LGE) (MINEDUC, 2009) that replaced the LOCE, the 2011 Quality and Equality of Education Law (Ley de Calidad y Equidad de la Educación), the 2015 Inclusion Law (Ley de Inclusión), and the 2016 Law to Create the New System for Teacher Professional Development (Sistema de Desarrollo Profesional Docente) (MINEDUC, 2016b).

The current education agenda

The education reforms being implemented during the drafting of this report cover ECEC to higher education, and can be summarised as follows (MINEDUC, 2017):

- **Early childhood education and care** (*educación parvularia*): The current government is seeking to strengthen the ECEC system by creating the Undersecretariat of Early Childhood Education and the Intendancy of Preschool Education (Intendencia de Educación Parvularia). The government is also updating curricula and setting quality standards, increasing coverage capacity, improving teaching and adopting new standards for infrastructure. Another important element related to ECEC is that educators will now be considered part of the general teaching body. This will provide ECEC teachers with opportunities for career advancement and greater opportunities for professional development and support.

- **General education:** In compulsory education, the government is undertaking reforms that address different aspects of the system:
  - **Inclusiveness:** This reform aims to reduce segregation, mainly by ending co-payment mechanisms (share financing paid by parents), by providing greater public resources to the Preferential School Subsidy (Subvención Escolar Preferencial), by gradually ending selection of students by schools receiving public funding, and by allowing the development of special programmes that can engage in student selection with 30% of its students (e.g. arts, sports, academic excellency). In addition, this reform provides schools with greater autonomy to develop their education projects, requests families to adhere to the pedagogical project in which their children are enrolled, ends the possibility of schools receiving public allocations to make profits, and forbids the expulsion of students due to academic, political, ideological or other reasons. Implementation of this law is to be overseen over a period of four years (2016-2020).
  - **Teacher professional development:** The New System of Teacher Professional Development has a planned time of implementation of 10 years (2016-2026). It aims to strengthen initial teacher education, first, by gradually raising the bar of entrance to the profession through the number of points required in the PSU university selection test. Second, it establishes the requirement of accreditation for universities providing the initial teacher preparation programme. Teaching students will also have to take mandatory diagnostic tests at the beginning and end of their studies. The reform establishes professional pathways for all teachers in schools receiving public subsidies (from ECEC to upper secondary education), with a new progression of five steps that pair increased salary with increased responsibilities, as well as an induction programme for starting teachers. Teachers' salaries will also increase by 30% to 100% depending on the career step. Additional bonuses will be provided to teachers working in socio-economically disadvantaged schools. Non-teaching time for class preparation will also be increased to 30% of the teachers' total working time in 2017, and to 35% in 2019. The reform also aims to improve continuous teacher training, for example, through local teacher professional development committees. The government expects that conducting teacher training in this way will allow understanding local training needs and co-ordinate offerings with *sostenedores*, local authorities and universities.
  - **Quality:** The School Quality Assurance Plan 2016-2019 (launched in 2016), aims to articulate and co-ordinate the SAC. The main objectives of this plan include: 1) the development and implementation of strategies by schools based on their education improvement plan (Plan de Mejoramiento Educativo, PME) and other tools available to them; 2) provide all schools with continuous access to the Support and Capacity Strengthening System for Education Improvement (Sistema de Apoyo y Fortalecimineto de Capacidades para el Mejoramiento Educativo); and 3) provide education actors in the system with useful, pertinent and contextualised information, as well as tools and resources to help them improve their schools.
  - **New public education:** This reform, which was under discussion in Congress during the drafting of this report, aims to create and consolidate a national public education system through the development of approximately seventy

local education services. These education services will be in charge of technical-pedagogical, as well as administrative-financial matters related to schools and early childhood education centres managed by municipalities. Local education services will be comprised of specific teams set independently from local and national political cycles. Their main areas of work will include: student learning, teacher quality, curriculum implementation and innovation, school environments and the development of tools for different contexts. They will also be charged with linking education to the social context and the development of specific skills (artistic, technical or others) that may be needed regionally, and may be connected to higher education. Local education services may be able to establish partnerships with higher education institutions or labour market representatives, in order to strengthen the quality of technical-professional education. In addition, a local council of public education created in each of these local education services will aim to bring together a broad range of representatives from the education community. The local education services will receive direct funding and will have financial autonomy for its distribution.

- **VET (professional-technical education):** The National VET Policy *(*Política Nacional de Formación Técnico-Profesional) aims to develop a VET system that is better linked to social, productivity and labour needs in each region and in the country overall. The VET policy also liaising with enterprises and training institutions. Four key elements define this policy: 1) increasing VET quality through the creation of 15 technical training centres (CFT) across the country, learning assessments at upper secondary VET institutions, and guidelines for equipment needed for specific courses; 2) focusing on competitiveness, entrepreneurship and innovation, through the creation of centres for technological learning and the creation of a VET qualifications framework; 3) successful education and labour pathways (through the Más Capaz programme, the Programme for Support and Effective Access or PACE, technical programmes for Chile, as well as forging better connections between upper secondary VET and regional CFTs); 4) better governance of the VET system by defining an institutional framework for VET in the Education Ministry, by creating an advisory board for VET and through the creation of public and private boards (*directorios*) in state technical training centres.
- **Higher education:** Priorities in higher education include: 1) restructuring the governance of the higher education system through the new Undersecretariat of Higher Education, which oversees higher education and VET at the tertiary level, as well as the higher education superintendency; 2) strengthening quality assurance processes by, for example, creating a SAC for higher education; 3) enhanced equity, mainly by waiving off tuition fees for students from disadvantaged backgrounds (subject to state income as a share of GDP); 4) strengthening regional public higher education through the creation of state universities in the regions of O'Higgins and Aysén, the creation of state CFTs, and by strengthening collaboration between state universities and the state and reforming governing bodies inside universities); and 5) reforming funding structures to enhance quality and equity. Other more recent elements in this reform include efforts to strengthen research in universities, and the creation of a body in charge of the process of closing universities due, for example, to financial, academic or other major factors.

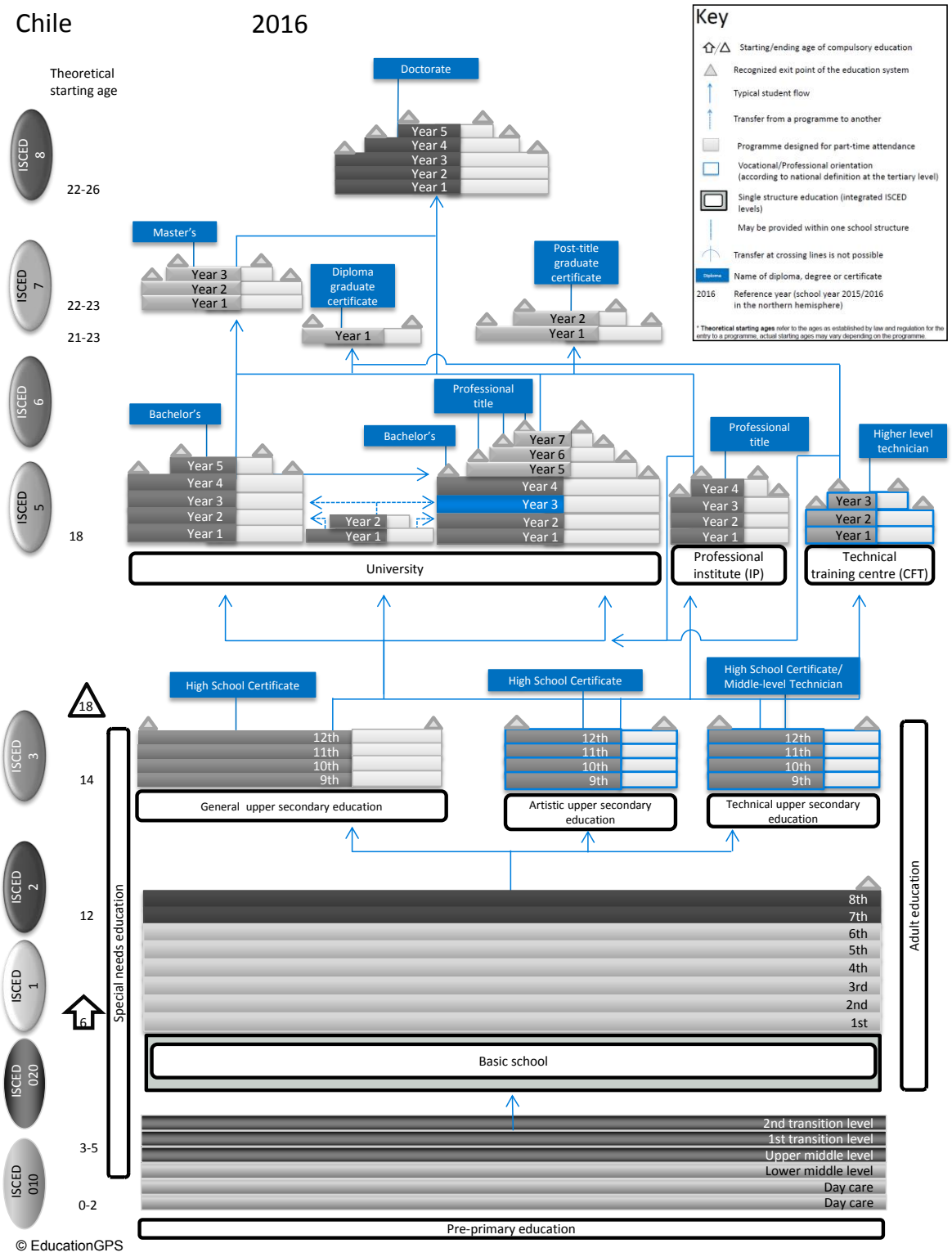
The following chapters of this report will review these initiatives and the current strengths and challenges of Chile's education system. Our analysis aims to identify pathways towards greater quality and equity. Chapter 2 specifically examines the structures and practices that improve student achievement through equitable opportunities in compulsory education. Chapter 3 considers how to support improved performance by the Chilean teaching and school leadership professions. Chapter 4 examines how Chile's higher education system can help the country develop a knowledge-based economy. Chapter 5 focuses on how vocational education and training can better support students' successful transitions into the labour force. Finally, Chapter 6 explores how the Chilean government can move towards a vision of educational improvement across the education system.

It is the opinion of the OECD that Chile has demonstrated an impressive commitment to strengthening education since 2004; and this commitment has translated into considerable progress. Yet it is clear that considerable work remains to be done to achieve excellence and equity throughout Chile's education system. To put in place the conditions for inclusive economic and social growth, Chile can and must achieve a strategic vision of what its education system should be like. The Chilean government should also continue to challenge outdated practices and structures that circumscribe the potential of its people, and foster life-changing learning opportunities for all.

Note

1. The poverty line in 2013 was CLP 361 311 in income per month for a family of four.

Annex 1.A Structure of Chile's education system



Source: OCDE (2016n), "Diagram of the education system: Chile", *OECD Education GPS,* http://gpseducation.oecd.org/CountryProfile?primaryCountry=CHL,http://gpseducation.oecd.org/Content/MapOfEducationSystem/CHL/CHL_2011_LL.pdf

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PART 2: BETTER FOUNDATIONS FOR STUDENT LEARNING IN CHILE

Chapter 2

Strengthening the quality and equity of Chilean ECEC and schools

Good schools and early childhood education are crucial for prosperity and democracy. A good Chilean education system should provide opportunities for social and economic participation and active citizenship to all people living in Chile. It should engender social cohesion and economic growth that all members of the community can benefit from. This chapter discusses structures and practices to improve student, school and system management in Chile. It addresses Chile's need to continue efforts to provide better-quality education opportunities to all students by: 1) strengthening quality across the system through a coherent and evolving strategy for learning in the future; 2) strengthening an environment of inclusiveness across the system by addressing processes and structures; 3) supporting successful outcomes for all girls and boys and students from all ethnic origins by identifying, promoting and monitoring structures, attitudes and practices; 4) ensuring good education and care opportunities from the youngest age, and; 5) Unifying and strengthening the public education system as a learning organisation.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

Good education early on in students' lives is necessary to realising a country's potential for inclusive growth. As discussed in Chapter 1, good education is related to more participative democracies, better employment opportunities and even better health and more life satisfaction for individuals (OECD, 2016a). A good Chilean education system should provide opportunities for social and economic participation and active citizenship for all people living in Chile. It should also contribute to building social cohesion and economic growth from which all community members can benefit.

Good education is about both quality and equity. Quality refers to providing students with a high level of skills that will be useful to them later on in their lives. Equity in education means students' personal or social circumstances, such as gender, ethnic origin or family background, do not hinder them from achieving their educational potentials. Therefore, good education is about ensuring that all students reach their full potentials as people, professionals and citizens. Evidence shows that the earlier a government invests in education, the higher the payoff will be for individuals and society. Reaching students while they are still in compulsory education helps them to remain in the education system for longer. In turn, this helps them access other educational and professional opportunities later on in their lives (OECD, 2012).

Educational quality and equity are not competing priorities; they are mutually reinforcing. PISA 2015 data show that the five top-performing OECD countries in science all boasted a weaker-than-average relationship between student performance and socio-economic status. These top-performing countries have this relationship in common with many other high-performing systems in science, like Hong Kong, China; and Macao, China. These top-performing systems combine policies at the system and school levels that ensure that all students, regardless of origin, receive a high-quality education. This approach simultaneously enhances equity and quality. Put another way, high-performing systems develop excellence *through* equity (OECD, 2013a).

Over the last decade, there has been growing awareness in Chile about the importance of education to help students succeed later in life, and the right of Chile's people to receive good education. As mentioned in Chapter 1, the nationwide student movements in 2006 and 2011 brought education in Chile to centre stage, spurring national debate and making educational equity and quality a political priority. These movements posed important questions about how the education system defined the opportunities available to Chileans throughout their lives, and questioned unequal access to education in Chile. Activists called into question the structural constraints imposed by the market-oriented model, which was left unchallenged after the country's return to democracy. The student movement demanded that the power of education be returned to the state, that the voucher system be eliminated and that profit-making activities be banned at schools receiving state funds.

Over the past 25 years, the Chilean government has undertaken several efforts to improve the education system. Examples of these efforts include the development of measures targeted at supporting disadvantaged students and schools across Chile. These measures include programmes like the P-900 programme (the Programa Escuelas Multigrado, developed in the 1990s), and the more recent Preferential School Subsidy, launched in 2008 (discussed later in this chapter). The education reforms promoted by the current government aim to improve the quality of educational opportunities for students enrolled in public schools. Examples of these reforms include the New Public Education

Reform, and the creation of regional education administrations that aim to better support public schools across the country. In addition, the government modified regulations of government-dependent private schools through the Inclusion Law. The law aims to facilitate student access to these schools mainly by forbidding student selection by school administrators, economic profit and co-payment by parents in schools receiving public funding (see Chapter 1).

However, in order to fulfil its promise to substantially improve pre-school, primary and secondary education, the country needs to adopt a broader educational vision that can guide all levels of schooling. Chile must go beyond structural change to change mindsets. This strategic vision of education must be implemented through everyday practices by students, teaching and care staff, parents, employers, and other community members. Education must be viewed as vital to the common good, and to students' and communities' potentials to thrive. These changes require hard work, and will require substantial investment of time and effort on the part of stakeholders. Failure to translate structural changes into changes in everyday practices in classrooms, schools and the system as a whole will likely result in new, though perhaps subtler, modes of inequity and discrimination. Without deep changes in the way education is viewed, the country will continue to have low levels of performance.

Providing opportunities for Chileans of all socio-economic and cultural backgrounds to excel, regardless of the school or ECEC institution in which they are enrolled is paramount. Ensuring equal opportunity for students in both private and public education can make Chile a more equal society, one that can seize upon the unique talents of all its citizens.

Considering these key ideas, this chapter identifies policy options to enhance quality and equity of educational opportunities for all Chilean students. This includes:

- Strengthening quality across the system through a coherent and evolving strategy for learning for the future.
- Strengthening an environment of inclusiveness throughout the system by addressing processes and structures.
- Supporting successful outcomes for all girls and boys from all ethnic origins by identifying, promoting and monitoring structures, attitudes and practices.
- Ensuring good education and care opportunities from the youngest age.
- Unifying and strengthening the public education system as a learning organisation.

Strengths and challenges

Strengths

The Chilean school system has several strengths.

Access to education is better in Chile than in other Latin American countries.

Differences in access to schooling are less pronounced in Chile than in other Latin American countries. Students in the lowest quintile of income distribution are about 15% less likely to attend secondary school than students from other quintiles. In contrast, in

Brazil and Costa Rica, children who belong to the lowest quintile of income distribution have almost half chance to access secondary education than those from the last quintile.

Chilean students remain in the education system for longer, and follow a common curriculum for a longer time.

As mentioned in Chapter 1, Chile's 12 years of compulsory schooling (ages 6-18) exceed the OECD average of 10 years of compulsory schooling (ages 6-16). Chile has a broader age range during which at least 90% of students are in education, compared to other Latin American countries (OECD, 2016a). In 2014, Chile could expect that at least 90% of its population would remain in education during 13 years (ages 5-17). During the same year, Argentina and Brazil could expect the same for 11 years (ages 5-15 for both countries), while Mexico could expect this for 9 years only (ages 5-13). At OECD average, the expected number of years was 14 (ages 4-17).

Chile has made achievement gains in terms of quality and equity.

Chile was the best-performing Latin American participating country in PISA 2015, performing better than Uruguay, Costa Rica, Colombia, Mexico, Brazil, Peru and the Dominican Republic. Only the CABA (Ciudad Autónoma de Buenos Aires, Argentina) attained higher performance in Latin America. Chilean students' reading performance increased on PISA 2015, while mathematics and science performance remained unchanged.

Efforts to address inequities due to other factors have been increasing.

Important efforts include the adoption of a funding formula that favours schools with larger proportions of students in conditions of vulnerability. More recently, the passage of the Inclusion Law marked a notable step in efforts to reduce inequalities. The Inclusion Law prohibits three systemic practices that have historically contributed to inequity in educational opportunities for students: student selection, profit making and co-payment. The Chilean government has also made important efforts to improve gender inequalities in the education system and country at large. The creation of a Ministry for Women, and a transversal strategy across the government (with goals and instruments) to address gender inequities have contributed to these efforts.

Chile is also working to unify and strengthen the public education system across regions.

The Chilean government is currently implementing a network of approximately 70 local education services, established through the New Public Education Initiative (Chapter 1). These local education services aim to support management of public educational institutions, and establish stronger cycles of educational improvement.

Challenges

The Chilean school system also faces important challenges in terms of equity and quality.

The quality and coverage of ECEC has been highly uneven in Chile.

Coverage of ECEC in Chile remains below the OECD average, particularly for the youngest children. In addition, ECEC coverage is uneven across the country. Socio-

economic or cultural background, residence in rural areas or having special education needs are some factors that hinder access to ECEC. At age 2, roughly one-third of the pre-primary age population was enrolled in an institution in Chile in 2014 (compared to the OECD average of 36%). At age 4, the share of the population enrolled in ECEC reached 84% during the same year (compared to 86% at OECD average) (OECD, 2016a).

Student dropout could be reduced further.

Data from the National Socio-economic Survey (Caracterización Socioeconómica Nacional, CASEN)[1] found that only 75% of 14-17 year-olds were enrolled in secondary school in 2015 (MINEDUC, 2017). In 2015 approximately 4% of secondary students dropped out of school in Chile, down from 6% in 1994, though the improvement took place mainly before 2004 (MINEDUC, 2017).

Chile could provide better education opportunities.

PISA 2015 results show that Chile lags behind in science in comparison to other PISA participants with similar or lower levels of economic development, like Kazakhstan, Croatia, Russia and Vietnam. This suggests that Chile's low science performance is not due entirely to structural factors, such as income level or education expenditures.

The system is not delivering quality education sufficiently across the social spectrum.

Chile combines below-average performance with low equity. As noted in Chapter 1, 16.9% of the variance of Chile's performance in science on PISA 2015 was explained by the socio-economic status of students; among other PISA participants, that figure is 12.9%. That said, Chile has experienced a significant decrease (of 6.4%) since 2006 in its proportion of science performance explained by socio-economic background. This is the ninth highest percentage change among all participating countries and economies in PISA. Although privileged students in Chile perform better than disadvantaged ones, they have a smaller absolute gap in performance than the OECD average. The increase in science performance associated with a unit increase in the socio-economic status (ESCS) of students is 32 points in Chile, lower than the OECD average of 38 points. However, given the relatively low performance of Chile, this gap is quite significant and higher than in most other Latin American countries.

Access to quality education opportunities is highly stratified.

From an early age, and through compulsory education, students' access to quality education opportunities is hindered by different policies and practices. As the Ministry of Education (MINEDUC, 2017) points out, "evidence shows that students from vulnerable backgrounds and low socio-economic status choose, on average, different academic alternatives than students who do not live in vulnerable conditions". Beginning in early childhood education, disadvantaged students in Chile generally have less access to quality education (MINEDUC, 2017). As they move to compulsory education, Chilean students are more often segregated into low-performing schools than their peers at the OECD. Policies like school choice, student selection, student transfers and grade repetition have been more widely practised in Chile than the OECD average. Evidence shows that, if not managed carefully, these practices can hinder equity and affect students' motivation to succeed and remain in school (OECD, 2012).

In addition to socio-economic segregation, other inequities prevail.

Other inequities exist in Chile, such as unequal social and learning outcomes according to gender, and indigenous or immigrant background. Chapter 1 highlighted the significant differences in learning outcomes on PISA 2015 by gender, mainly with lower performance by girls in mathematics and science. The cultural environment can exacerbate different outcomes for girls and boys. Indigenous Chileans (who make up 9% of the total population) also face inequities – with 9.7 years of schooling on average, as opposed to 10.9 years among non-indigenous Chileans (Ministry of Social Development, 2015). In addition, recent waves of immigration to Chile from Peru, Colombia, Ecuador, Bolivia and Haiti, among other countries, may pose a challenge to the Chilean education system. Integration of immigrant children in schools, among other concerns, will have to be addressed. In recent years, the immigrant population in Chile has doubled, from 154 643 people in 2006 (1% of the national population), to 354 581 people in 2013 (2.1% of the national population) (MINEDUC, 2017).

Capacities, roles and the development of a new dynamic of interaction between the government and schools still need to be developed.

Chile's need to improve the quality of its public schools is evident through differences in performance among school types, and the decrease in students enrolled in public municipal education over the past 15 years. In Chile, public schools generally perform poorer than private schools. In addition, student enrolment in public schools has decreased from 53.7% in 2000 to 36.8% in 2014. The new local education services can play a key role in ameliorating these issues. These services should create a new dynamic of interaction between the Chilean government and public schools. They should also help public municipal schools become more effective learning organisations that are able to attract, maintain and maximise student learning.

Recommendation 2.1

In order to strengthen quality across the education system, Chile should establish a coherent and evolving system-level strategy centred on learning for the future, with high expectations and positive outcomes for all students. This strategy should focus on improving teacher knowledge and skills, bettering instructional practice, and increasing collaboration.

Summary

Chile should develop a coherent and evolving strategy to improve teaching and learning across the entire education system, while paying special attention to the school level. Seven distinctive yet interdependent features should orient this strategy:

1. Ensure a shared vision across the system concerning what students should learn and why.
2. Make effective instructional and school management practices visible across the entire school system.
3. Stimulate and support the development of collaborative cultures focused on examining and improving instructional practices within and among schools.
4. Develop new and more comprehensive measures of school quality, making them easy to understand and use.

5. Intensify school and classroom-level support for public municipal schools and government-dependent private schools serving large proportions of students under conditions of vulnerability.
6. Prioritise implementation and develop system coherence.
7. Gradually shift the logic of the relationship between the Ministry of Education and schools from one of hierarchical separation, compliance and external accountability to one of partnership, support and learning alongside teachers, school leaders, and communities.

Context

Chilean schools and ECEC institutions are Chile's most powerful resource to help improve the lives and future opportunities of its young population through quality teaching, care and learning. Strengthening all schools, including public municipal schools, government-dependent private schools and government-independent private schools, will increase the opportunities Chile's young people have to reach their full potentials and meet the challenges of tomorrow's world. Therefore, the Chilean government needs to reflect carefully on what it thinks Chilean schools should look like ideally in the years to come, and how to devise and implement practices to help all schools achieve this vision every day.

As noted above, the comparatively large coverage of the Chilean school system is one of the country's main strengths, and Chile has been working to improve ECEC coverage since the early 1990s. In 2014, 80% of 25-34 year-olds in Chile had attained at least upper secondary education. This share was slightly below the OECD average of 84% (OECD, 2016a). Still, it is a strong showing for Chile. The government achieved this education coverage because of an expansion of the public offering of public municipal and government-dependent private schools. Despite the strength of the coverage of the system, high-quality education needs to be provided to all students, starting where it is most needed.

Many Chilean families do not trust the public education system. This fact became evident when families were given the choice and economic possibility to attend government-dependent private schools through the voucher system, implemented in the early 1980s. While over 54% of students in Chile were enrolled in public municipal schools in 2000 (primary to upper secondary education), that percentage dropped to 36.8% by 2014 (MINEDUC, 2001). This decreased enrolment in public schools is indicative of Chile's need to restore the trust of parents in the public school system. Parents should perceive public schools as an effective first option for quality education for their children (MINEDUC, 2017).

Most of the education reforms in Chile over the past decade have focused on structural and legislative changes to level the playing field between students from different backgrounds. These reforms also aimed at basic infrastructure to support school improvement across the system. As this report is being prepared, the Chilean government is undertaking broad educational reforms that aim to address the coverage, equity and quality of the education system. Examples of these broad reforms are the newly implemented Inclusion Law, which aims to improve access to government-dependent private schools by giving them a public orientation, and the ongoing New Public Education Reform, which targets the organisation of the public education system (see Chapter 1).

These initial steps are necessary to set the main lines of work for Chile. However, as important as these efforts are, further work is needed to help improve everyday practices across Chilean schools, to build a shared educational vision and to practice improvement across the education system.

International evidence

Research from the past couple of decades (see Fullan, 2010; Hargreaves and Shirley, 2012; Mourshed, Chijioke and Barber, 2010; OECD, 2016b) has yielded increasingly precise knowledge of how certain conditions and strategies can effectively improve whole education systems. A handful of cases demonstrate successful, large-scale pedagogical changes in Latin America (Colbert and Arboleda, 2016; Rincón-Gallardo, 2016).

Evidence shows that the most direct, though highly complex way to improve student learning is to change instructional practices. Some elements associated with expert teaching are: making good use of knowledge; having extensive knowledge of pedagogical content; having better problem solving strategies; being able to better adapt and modify goals as needed for individual diverse learners; improvising better and being better at making decisions; presenting more challenging objectives; maintaining better classroom climates; monitoring learning; and providing feedback to students, among others (Schleicher, 2016).

This vision of effective teaching will be transformational only if it is directly connected to student learning, and in a way that is clear to actors across the system. A shared vision of effective teaching can be the bridge between teachers and school leaders who wish to make a positive and observable difference in the life opportunities of students. Furthermore, school leaders and the government should build a shared educational vision in order to fulfil the mandate of providing high-quality education that is relevant to the country's future economic and social development needs.

In order to gain insight into how to affect these changes, it is helpful to study successful education models in the region. There at least two examples of initiatives in Latin America that successfully transformed teaching and learning in thousands of schools located in historically marginalised, mostly rural communities. Students in these initiatives improved achievement at a faster pace than students from more privileged backgrounds. Eventually, these marginalised students overtook their privileged counterparts in terms of achievement (see Box 2.1).

- Escuela Nueva (New School) in Colombia, with its student-centred participatory pedagogy reached over 20 000 rural schools between the late 1980s and early 1990s. Thanks to Escuela Nueva, children in rural schools outperformed their counterparts in urban schools – with the exception of children in mega cities – at the time (see Colbert and Arboleda, 2016).
- In Mexico, The Integral Strategy for the Improvement of Educational Achievement in Mexico (EIMLE, also known as Learning Community Project or Redes de Tutoría), turned classrooms in 9 000 schools across the country into learning communities. When EIMLE was in operation, the achievement of public middle school students in the most marginalised communities reached and surpassed the achievement of their most privileged counterparts. In the case of mathematics, EIMLE students practically reached the performance of students in private schools (see Rincón-Gallardo, 2016).

Evidence shows that education systems that have managed to substantially improve student learning outcomes have given continuous attention to ensuring effective implementation of reforms and developing system coherence. Implementation refers to the translation of reform intentions into changes in the everyday practice of schools and classrooms (Fullan, 2016). System coherence refers to the development of a state of shared mindsets about the nature of the work in a system (Fullan and Quinn, 2016).

Implementation and system coherence are often treated as afterthoughts of education policy. They are expected to naturally follow the design of policy and the passage of new legislation. But implementation and system coherence are complex processes that require substantial effort, focus and continuous cultivation. Elements such as a policy design around students and learning, strengthening the teachers' capacities to deliver quality teaching and engaging all stakeholders have been identified as key to helping reforms succeed (OECD, 2015a).

Body of the recommendation

2.1.1. Ensure a shared vision across the system concerning what students should learn and why.

The Chilean government needs to establish a simple, clear and inspiring vision for Chilean education centred on student learning for the future. This vision of education quality can emerge from three basic questions:

"Why is education important for us as Chileans?" At the core of a shared vision should be a compelling answer to the question of what education quality means for Chile, and how the government can help to improve the futures of Chilean students. The simpler and more tangible this vision is, the easier will it be to ensure that it is continuously reinforced. A clear and thorough educational vision should be followed every day in schools and ECEC institutions by educational staff, students, parents, employers and other actors related to the school.

"What should students learn then?" Content is at the core of every education system. Current and past reforms made by the Chilean government represent efforts to ensure that students receive an education that truly helps them as individuals, while also fulfilling Chile's social development needs (see Chapter 1). Curricular reforms undertaken since the 1990s and the curriculum revision currently underway for the intermediate levels 3 and 4 are examples of these efforts. Additional efforts include the current revisions and renewal process of curricular foundations for early childhood education. Beyond the curriculum on paper, the crucial matter is whether the curriculum lives in the minds of students and teachers, and is embedded in the everyday experience of the school community. To achieve this, it is critical to ensure that curricular expectations are articulated in simple terms so that anyone in the school system, from students and teachers to system administrators at the regional and national levels, can understand and communicate what they are. The way these expectations connect to everyday activities and how the curriculum will be useful to students in the future, should also be evident. It is crucial that all participants feel some ownership of Chile's educational vision. This is likely to occur if the Chilean government encourages broad participation of all actors in the education sector, including educators and students. If all participants feel they can help shape, provide feedback to and refine Chile's educational vision, it will feel like a mission of their own making.

"How can we best teach it?" No matter how visionary a curriculum is, it will only be as good as the capacity of schools to implement it. The Chilean government needs to define what good teaching of the curriculum means, and strengthen teachers' and school leaders' capacities to use their professional judgement to implement it. Initial and continuous teacher preparation of quality is key. Chile has been taking important steps in this direction, through the Good Teaching Framework. More recent reforms to consolidate teaching as a profession from ECEC to upper secondary level are also good first steps (see Chapter 3).

2.1.2. Make effective instructional and school management practices visible across ECEC programmes and the entire school system

A top priority of educational leadership should be identifying real-life examples of effective teaching practices and curriculum implementation based on a common understanding of education quality. This can be achieved through guidance from the Ministry of Education and other national agencies, as well as collaboration with intermediate-level education agencies and schools.

There are several examples of effective instructional and school management practices in Chile, at least at the school level (Bellei, 2014, 2015). The OECD is aware of fewer documented examples of effective instructional and school management practices in ECEC in Chile. This gap can be gradually filled through attempts to identify exemplary existing ECEC institutions in the country.

The government should disseminate real-life examples of effective instructional and school management practices using a well-identified set of resources explaining and showing good methods. Examples of this could include videos, documentaries, printed and online publications, workshops, professional learning sessions, forums or learning fairs. It may be helpful to refer to successful models of such resource networks when constructing one of Chile's own. The Australian Institute for Teaching and School Leadership developed a set of online resources to illustrate practices that reflected the principles set out by its professional frameworks. The online resources are aimed at teachers and school leaders.

In addition, creating multiple opportunities for teachers and school leaders not only to observe, but also to practice and refine pedagogy and school management in their own environments is key. Teachers and school principals should be immersed in the conditions that have been proven to produce learning and enhance skills. Teachers need constant exposure, constant practice and constant feedback on the new methods and behaviours that are expected from them. At the same time, creating these conditions should be manageable for each school's budget. Education authorities should also place a strong emphasis on ensuring the quality of exchanges, and knowing how what is being learnt can be useful to students. Examples of this type of policy work are the "Boost" policies in Sweden, aimed at collaborative learning among teachers. These policies establish professional learning on specific topics for teachers using evidence-based practices. The success of the first "Boost" policy led to the organisation of other "Boost" initiatives aimed at different needs, but based on the same methodology (Chapter 3).

2.1.3. Stimulate and support the development of collaborative cultures focused on examining and improving instructional practice within and among schools.

Creating conditions and support to stimulate effective teacher collaboration within and between schools is one of the most important investments Chile can make to improve

individual schools and the entire system. This requires simultaneously addressing the structural and cultural constraints to teacher and school collaboration that currently exist in Chile.

Chile is working to provide teachers with more non-teaching time to help them refine the quality of their practice. This additional time could be used by schools to encourage exchanges among teachers on how to develop teaching practices that effectively contribute to a shared view of education quality. During these professional development sessions, teachers and administrators can also discuss and plan the implementation of the school's educational vision. Some possible formats for teacher collaboration include intra-school learning communities, school-to-school visits, on-site coaching, school networks, learning fairs and practice-based professional development. These exchanges could be organised by multiple educational authorities, such as the Agency for Quality Education, the Deprov, or the local education services for which legislation is currently being discussed in the Senate.

Such a mindset allows teachers to focus on their own growth. It also allows teachers see their own professional development as part of a greater project shared with educators around the country, and facilitated by exchanges and collaboration. In addition, for effective collaboration to take root through the everyday activities of schools, teachers need to adopt a growth and development mindset. As a part of these exchanges, it is important to cultivate a culture of formative assessment centred on improving pedagogical practice. Formative assessment (i.e. assessment for learning) aims to identify aspects of learning as it is developing in order to deepen and shape subsequent learning) (OECD, 2013b). This culture of assessment will help teachers and schools better identify – on a continuous basis – how they can improve. Existing knowledge of effective collaboration (see Rincón-Gallardo and Fullan, 2016) can also be leveraged to develop tools (e.g. developmental rubrics) and protocols (e.g. guidelines to facilitate teacher collaboration). These tools and protocols can help stimulate the development of collaborative cultures within and between schools. Greater responsibility and autonomy in exchanges could be provided according to evidence on how schools strengthen their capacities for self-improvement.

Facilitating collaboration between schools and regions, if done right, can lead to accelerated and deeper improvement in schools and classrooms. This is because these structures can quickly cultivate leadership and capacity among educators, leaders and schools.

2.1.4. Develop new and more comprehensive measures of school quality, and make them easy to understand and use.

In the short term, the development of school profiles that provide a more comprehensive picture of the quality of schools is crucial to building a renewed public education system. The Ministry of Education and the Agency for Quality Education have taken important steps in this direction. As a part of their work, these agencies are creating school profiles that include not only SIMCE scores that compare schools serving students with similar socio-economic backgrounds, but also measures of the personal and social development of students. These measures include academic self-esteem, motivation, school coexistence climate, citizen participation, healthy lifestyle habits, gender equity, attendance and retention.

Enhancing the usage of these broader results requires improving, for example, the reporting of SIMCE results so that they can inform school management and instructional practice decisions, as we understand the Agency for Quality Education is already doing. It

also requires enhancing the capacity of teachers and school leaders to individually and collectively analyse the results. Teachers and school leaders also need to be empowered to use these results to improve instructional practice in classrooms and school management decisions. These additional data, as well as student work and other sources of information that capture whether, what and how students are learning, should be infused into the individual and collective work of teachers and principals. This practice will help teachers and principals to identify progress and areas of improvement, to develop and test solutions, and to continuously get better. We take this on in more detail below.

2.1.5. Intensify school and classroom-level support for public municipal schools and government-dependent private schools serving large proportions of students under conditions of vulnerability, with a focus on reigniting public education in Chile.

In a context where student achievement is heavily determined by socio-economic status and where enrolment in public municipal schools has declined, it would be tempting to push for small improvements. Such efforts aiming at increasing the performance of public schools to a minimally acceptable level would mean progress, but it would be meagre. There is, however, a more audacious and ultimately more effective solution. Disadvantaged schools serving large proportions of students in conditions of vulnerability present an opportunity to radically transform instructional practice, and gradually create a renewed school system. In order to accomplish this, it may be necessary to establish a specific area of focus at first, such as improving reading comprehension, problem solving, or self-learning skills in these schools. But developing good teaching practices in one area can help strengthen teaching practices in other domains later on. Great gains are possible if the Chilean government sets an ambitious agenda paired with a narrow focus for improvement and clear parameters for implementation.

The most disadvantaged schools (in terms of socio-economic income and performance of students) should be those that receive the most support and become examples for others in the system. This can be achieved by:

- setting high expectations for what students can achieve in these schools
- providing stronger external and more targeted support to help schools achieve a specific goal (monitoring improvements and providing guidance)
- allocating resources (providing incentives to attract the best teachers, facilitating administrative procedures and equitable funding so school leaders can focus more on instructional leadership).

The rationale for taking this approach is three-fold. First, conventional instructional practices may have proven already ineffective in these schools in engaging students and producing acceptable levels of performance. Second, the need to improve results in schools serving the most disadvantaged students is the greatest, and a matter of basic equity. Third, improving student performance in the most challenging conditions can simultaneously increase overall student performance in the entire education system. Such improvements would provide a real-life example of the efficacy of radically changed instructional practice. Others could learn from these cases, and such transformations could help improve the public perception of Chilean public schools.

The Chilean government should offer intensive support with a growth and development orientation, and should offer such support in non-judgemental terms. Evidence of consistent underperformance has to be discussed transparently and respectfully. School administrators and teachers are more likely to take ownership of plans for improvement if such plans are co-developed with teachers and leaders of the school. Ongoing follow-up and support are key components of an effective intervention strategy. Depending on the preferred process determined by authorities in consultation with the school, this can take the form of regular school visits, modelling of effective practices or on-site coaching.

2.1.6. Prioritise implementation and develop system coherence.

Prioritising implementation means carefully planning and designing the structures and processes that need to be in place so that all involved parties can make sense of new policies and incorporate them in their everyday work. It also means keeping an open learning stance that assumes that first attempts will not be perfect. Leaders charged with implementation need to commit to continuously reshaping and refining strategies based on feedback. From this perspective, learning is the work not only of students and teachers in schools, but also of school leaders, the different external bodies supporting schools (mentioned earlier in this chapter), and the Ministry of Education. This is how successful education systems, such as Ontario (Canada), have greatly improved their education systems.

The development of system coherence is another crucial aspect of a successful, whole system reform agenda. Creating system coherence requires examining the entire educational reform strategy to simplify delivery of messages, services and supports reaching schools. System coherence also requires a review of existing programmes and initiatives, and evaluation of how they stack up against the new vision for the system. For example, the government should evaluate how well the system is preparing young people for further education, training and employment. It should also end programmes that do not align with the new vision for the education system, end ineffective initiatives and integrate redundant systems.

The end goal is that the educational system makes sense to teachers, principals, parents, students and employers. As a result, any individual who interacts with the education system should be able to readily articulate what the priorities of the Ministry of Education are. They should also be able to articulate the key strategies that advance a shared educational vision, and how their everyday work connects with this vision.

2.1.7. Gradually shift the logic of the relationship between MINEDUC and schools from one of hierarchical separation, compliance and external accountability, to one of partnership, support and learning alongside teachers, school leaders, and communities (including employers and continuing education and training programmes).

Effective reforms are characterised by a continuous process of learning and improvement. This requires continuously gathering feedback from implementation, collecting evidence in order to reshape improvement strategies accordingly, and establishing continuous dialogue to create ownership and leadership in the system. This happens through continuous cycles of improvement.

First, administrators must put in place a streamlined set of **accountability mechanisms** to understand schools' progress and challenges. The National System for Quality Assurance of Early Childhood, Basic and Upper Secondary Education (Sistema Nacional de Aseguramiento de la Calidad de la Educación Parvularia, Básica y Media, SAC) has been working on this task in recent years. Chile now has an opportunity to better support the education processes in schools using an integral perspective. Accountability mechanisms need clear guidance regarding the goal to be achieved.

Second, developing **capacities** among key actors is crucial for effective policy implementation and the long-term sustainability of the education reform (OECD, 2015a). This implies clarifying: 1) who are the key actors of education reform; 2) their different roles; c) the different capacities they need; and; d) how these align to promote education improvement across the system, in particular to achieve specific goals.

Third, the government should gradually allow for greater **autonomy** in collaborative work, as long as schools demonstrate evidence of progress and capacity development. More struggling schools should receive more support and monitoring. This support, however, should be guided using a growth mindset, rather than a judgemental mindset. Specific content and processes should be specified through close dialogue between providers of support, like the new local education services, and targeted schools.

Recommendation 2.2

Strengthen an environment of inclusiveness throughout the system by continuing to address processes and structures that provide rich learning opportunities for students in all schools, and by maintaining high expectations for all students regardless of socio-economic background.

Summary

In order to enhance equity and quality of learning opportunities and outcomes, Chile should develop a system-wide strategy to improve instructional practices and school management in low-performing schools serving large proportions of students in conditions of vulnerability. Simultaneously, the country should continue to eliminate or weaken system and school-level practices that hinder equality.

This means, in the short term:

- Developing a strategy among teachers and principals to set high expectations for all students in order to ensure that the principles guiding the new Inclusion Law translate into everyday classroom and school management practices.
- Monitoring school choice, grade repetition and school transfers, and replacing these with classroom and school practices focused on quality learning opportunities for all.

In the medium term this means:

- Maintaining and strengthening SEP, ensuring that the resources reach schools, monitoring SEP's impact, and creating incentives to invest the majority of SEP funds in capacity-building for continuous instructional improvement.

Context

Despite improvements in PISA 2015, Chile has one of the least inclusive education systems among OECD countries. The 2004 OECD review found that the educational system in Chile was consciously class structured. It also warned about the increasing concentration of children in schools with children from similar socio-economic backgrounds. According to the 2004 review, 65% of students with 20% lowest family income were attending primary schools averaging the lowest 10% of family income. In contrast, 80% of students in families in highest income quintile attended schools in the top 10% of family income. At the secondary level, the corresponding figures were 58% and 98% (González, Mizala and Romaguera, 2001). While there seem to be no comparable figures from recent years, there is strong evidence that the educational system in Chile continues to be class structured today.

Differences in performance by socio-economic status, paired with the uneven distribution of students from different socio-economic backgrounds between public municipal schools, government-dependent private schools and government-independent private schools, reflect important levels of school segregation in Chile (Bellei, 2013; Valenzuela, Bellei and de los Ríos, 2008).

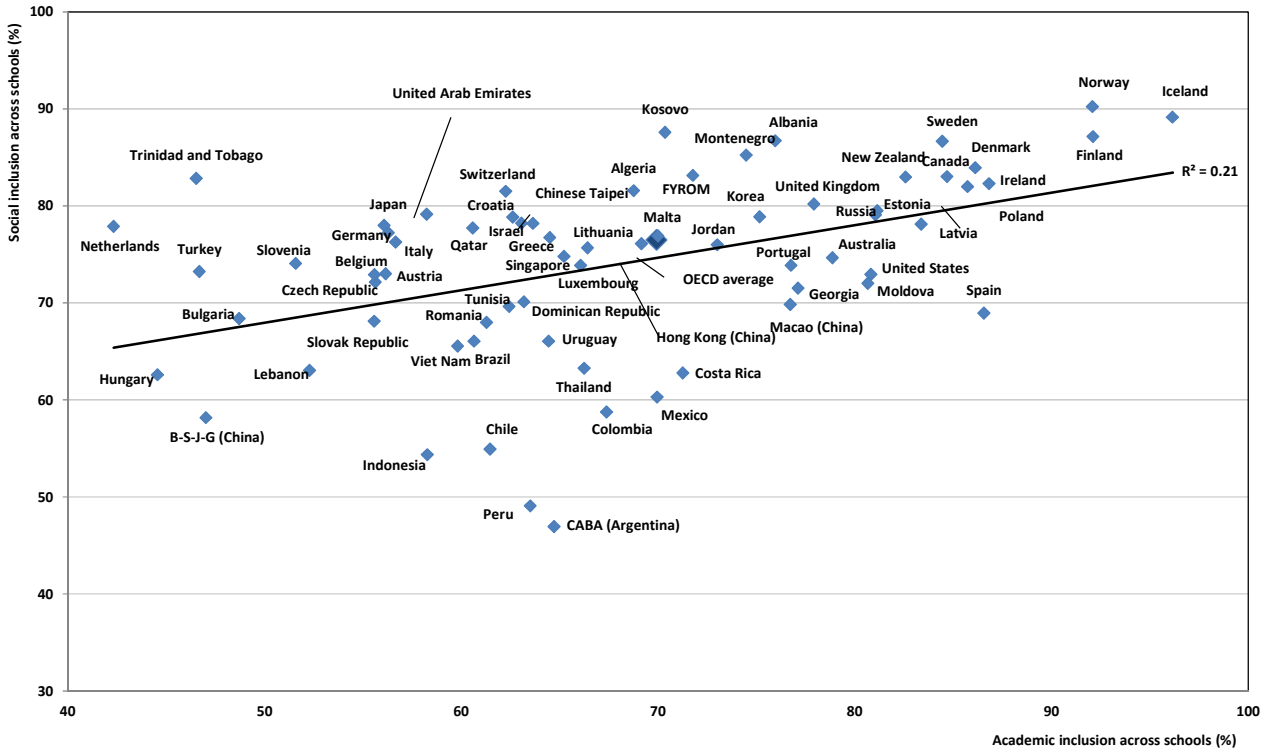
Similarly, the Chilean education system was among the most socio-economically segregated among countries participating in PISA 2015. As reported in PISA 2015, socio-economic and academic inclusion across schools in Chile was below the OECD average. Chile was one of the countries with the lowest socio-economic inclusion among all participants, after the Ciudad Autónoma de Buenos Aries (CABA) and Peru and Indonesia (OECD, 2016c) (Figure 2.1).

Much of this segregation has occurred through a process of segregation by school type, and may be increasing. According to MINEDUC's classifications of schools by socio-economic group (SEG), most low and medium-low SEG students attend public municipal schools and corporations of delegated administration schools (between almost 80% and over 90% in 2014). Government-independent private schools serve high and medium-high SEG students almost exclusively (close to 100%).

These trends strengthened between 2004 and 2014. During that time, only government-dependent private schools educated students from across the income spectrum in large numbers. That said, the proportion of low and medium-low SEG students attending government-dependent private schools has been increasing. At the same time, the proportion of high and medium-high SEG students has been shrinking. Furthermore, research has found that the socio-economic composition within government-dependent private schools is rather homogenous. Some cater to students from advantaged background, while others cater to students from more disadvantaged backgrounds (Mizala and Torche, 2012).

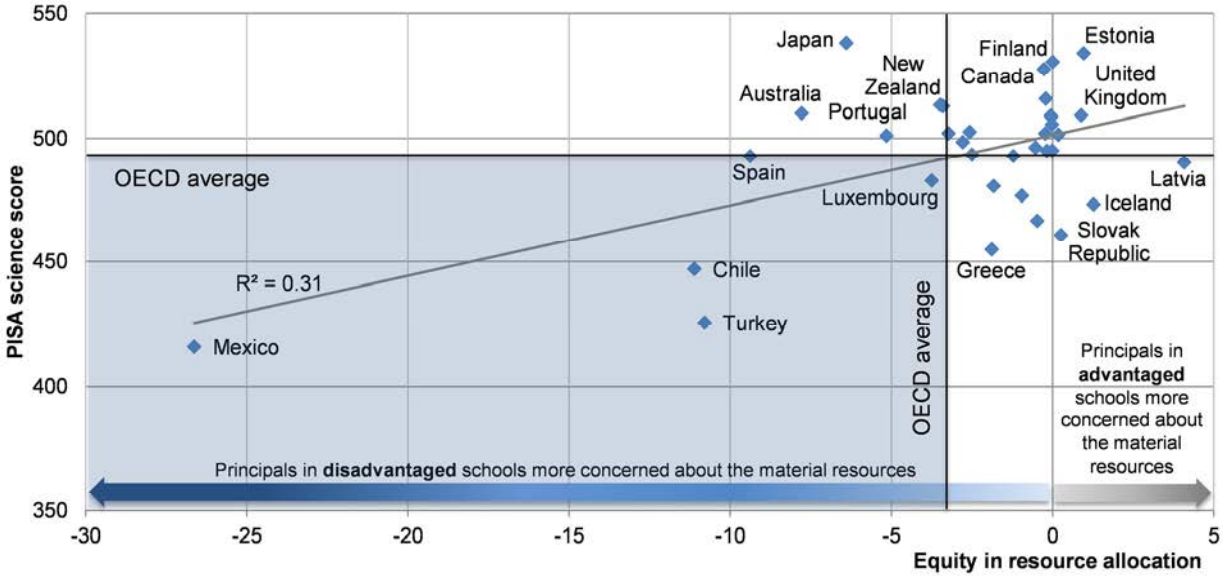
Inequity in the allocation of resources across schools in Chile is high compared to most other OECD countries that participated in PISA 2015. Equity in resource allocation among schools was only more equitable in Chile than in Mexico (Figure 2.2). According to PISA 2015, in countries and economies where more resources are allocated to disadvantaged schools than advantaged schools, overall student performance in science is somewhat higher. Among OECD countries, 31% of the variation in science performance was explained by the degree of equity in the allocation of educational resources between advantaged and disadvantaged schools (OECD, 2016c).

Figure 2.1. Academic and social inclusion across schools, according to PISA 2015



Source: OECD (2016c), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

Figure 2.2. Equity in resource allocation and student performance in science on PISA 2015



Source: OECD (2016c), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

Furthermore, according to teachers' reports in the OECD Teaching and Learning International Survey (TALIS) (OECD, 2014a), more educated teachers in Chile were 50% less likely to report working in schools with more socio-economically disadvantaged students. In most TALIS countries there was no significant difference in the distribution of more educated teachers between more or less challenging schools (OECD, 2014a).

Some system-level policies that can disproportionally affect students from disadvantaged backgrounds

In 2004, the OECD warned, "school choice should not become a cause of inequality. When it does, it impacts underlying democratic values and institutions" (OECD, 2004). Back then, the OECD suggested that the Chilean government take a hard look at the policy structures that were contributing to the increasing segmentation of Chilean society.

Recent evidence gathered for the current report shows that the capacity of parents and families to choose schools has not been fully effective across socio-economic backgrounds. School segregation in Chile seems related to a "school choice bottleneck", resulting from decreasing trust from parents in the public education system. This is combined with practices hindering access to other quality education alternatives, such as cost, social or academic student selection, school transfers, and grade repetition.

The Chilean school choice model has provided incentives not only for parents and families to choose schools, but for schools to select students as well. Chile's education model has promoted competition between schools through a voucher system. The voucher system aims to reduce the cost of attending public and government-dependent private schools. Under this funding structure, school funding is directly related to student enrolment. The notion is that by linking school funding to student enrolment, schools will compete against each other to attract students. As a result, schools will strive to enhance the quality of educational opportunities offered to the students.

However, according to the Ministry of Education, the voucher system can reinforce socio-economic segregation of students (MINEDUC, 2017). This is because many schools have selected for admission those students with higher academic performance and more-advantaged socio-economic and cultural backgrounds. This student selection has helped to make schools more competitive in attracting students from higher socio-economic backgrounds whose families can contribute more funds through shared financing. As children from higher-income families accumulate, schools have been able to increase fees. This, then, has driven out lower-income students. Increased fees have also delivered higher levels of funding to certain parts of the education system, causing funding to be highly uneven between institutions of different characteristics.

MINEDUC asserts that many government-dependent private schools choose students according to the social, economic and cultural background of their families. This selection occurs even though the General Education Law prohibits such practices among institutions receiving state subsidies between Transition Level 1 of pre-primary education level and sixth grade of primary education (MINEDUC, 2017).

Other factors of inequality are student transfers and grade repetition, which can lead to student dropout and school failure. Furthermore, student transfers appear to be common practice in Chile. In PISA 2012, 23% of 15-year-old students attended schools

where the school principals reported that a student was very likely to be transferred to a different school because of "low academic achievement", "behavioural problems" or "special learning needs", as opposed to 13% across the OECD (OECD, 2013a). Chile also has high rates of grade repetition, and, therefore, a high degree of vertical stratification. In Chile, 24.6% of 15-year-olds reported that they had repeated a grade at least once in primary, lower secondary or upper secondary school. This is twice as high as the OECD average (12%), according to PISA 2015. Disadvantaged students were also more than twice as likely (34%) as advantaged students (16%) to have repeated a grade.

Four waves of equity reforms in Chile have aimed at improving the system's inclusiveness

Broadly speaking, there have been four waves of policies aimed at enhancing educational equity in Chile over the past 25 years. The first wave corresponds to financial and other supports to encourage school attendance for students in conditions of vulnerability. Under the umbrella of JUNAEB, these include a wide range of scholarships and programmes that either provide direct financial incentives to attend schools or aim at lessening deterrents to attendance to schools through supports in the form of food, health, transportation and school supplies, among others. The social supports provided by JUNAEB have expanded over the past two and a half decades, with new programmes based on the priorities set forth by each new administration. The existence of these programmes explains, at least in part, the steady increase in student enrolment and school attendance at primary and secondary schools reported a decade ago (OECD, 2004) and continued or sustained over the past decade (MINEDUC, 2017).

The second wave of equity-oriented policies are compensatory programmes launched in the second half of the 1990s. These programmes were designed to improve school management and instructional practice in consistently low-performing schools (the P-900 programme) and in schools located in rural communities (Programa Escuela Rural Multigrado). These programmes reduced achievement gaps between schools participating in these programmes and the rest of Chilean schools (OECD, 2004). However, in its 2004 report, the OECD expressed preoccupation with the decrease in importance assigned to affirmative action and targeted programmes of this nature. Since these types of programmes have a positive impact on increasing student performance and reducing achievement gaps, they greatly serve Chile's goals. But, since 2004, programmes aimed at improving management and instructional practice in schools serving higher proportions of students in conditions of vulnerability seem to be drastically reduced from Chile's education policy agenda.

The Subvención Escolar Preferencial (SEP) represents a third wave of equity-oriented policies in Chile, a product of the most recent decade. Launched in 2008, SEP is the result of a new school funding formula that allocates additional resources to schools based on the number of students in conditions of vulnerability. Evidence suggests a positive effect of SEP on student achievement (MINEDUC, 2012; Valenzuela, Villarroel and Villalobos, 2013).

In our visits to a handful of schools serving large proportions of students in conditions of vulnerability, SEP was the single nationwide initiative most often referred to by teachers and principals as a helpful support of their work. This positive perception exists because SEP has allowed schools to enhance their learning environments, improve school

infrastructure and hire much-needed new personnel. In addition, SEP is one of the few interventions made by the Ministry of Education that schools perceive as not only having a direct benefit on their work, but making a positive impact on student achievement.

Encouraging as these findings are, however, it is important to point out that SEP seems to have limited impact on reducing school segregation and creating a more inclusive education system (Valenzuela, Villarroel and Villalobos, 2013). In the OECD report on Chile in 2004, the authors posed the following question: "Has Chile reached the ceiling imposed by structural constraints, so that effects on equity clearly visible during early stages of the 1990 reform are becoming fewer and less identifiable?" (OECD, 2004). The slight improvements in equity and quality in student learning outcomes in Chile over the past decade seem to suggest that this is the case.

The fourth and most recent wave of educational equity policies in Chile represents the first system-wide attempt to dismantle some of the core structural conditions and institutionalised practices that created and exacerbated inequality of educational opportunity since the 1980s. The Inclusion Law, approved in 2016, aims at ending the institutionalised practice of student selection by government-dependent private schools (and public municipal secondary schools). It also aims to end the co-payment structure that allowed these schools to charge fees to families, as well as the right of government-dependent private schools to operate as for-profit entities. Other measures of this reform include allocating an additional 20% of resources to "priority students" (see Chapter 1).

With SEP, the Inclusion Law has the potential to provide students with better learning opportunities in the shorter term by directly addressing some structural factors related to access to schools. But as ambitious and audacious as these reforms are, they require additional support in order to overcome the "school choice bottle neck". Strengthening disadvantaged schools, and creating a truly inclusive environment that makes students feel welcomed and encouraged to succeed, are some ways of doing this.

International evidence

Creating inclusive schools across the system

For the Inclusion Law to succeed, schools need to have a broader understanding of what inclusive education means. Multiple definitions of inclusive education exist, but they share some basic elements related to creating a welcoming learning environment for all students in schools. For the United Nations Educational Scientific and Cultural Organisation (UNESCO), education is not simply about making schools available for those who are already able to access them. It is about being proactive in identifying the barriers and obstacles learners encounter in attempting to access opportunities for quality education, as well as in removing the barriers and obstacles that lead to exclusion.

In the Canadian province of British Columbia, inclusive education is envisioned as a public education system where all students attend and are welcomed by their neighbourhood schools. Students in British Columbia attend regular, age-appropriate classes, and are supported to learn, contribute and participate in all aspects of the life of the school. In order to achieve inclusive education, British Columbia develops and designs its schools, classrooms, programmes and activities so that all students learn and participate together.

Other organisations define inclusive education in more tangible terms, by describing what it means in the classroom on a daily basis. For example, Open Society Foundations provides the following definition:

> Inclusive education means different and diverse students learning side by side in the same classroom. They enjoy field trips and after-school activities together. They participate in student government together, and they attend the same sports meets and plays. Inclusive education values diversity and the unique contributions each student brings to the classroom. In a truly inclusive setting, every child feels safe and has a sense of belonging. Students and their parents participate in setting learning goals and take part in decisions that affect them. And school staff has the training, support, flexibility, and resources to nurture, encourage, and respond to the needs of all students. (Open Society, 2015)

Inclusiveness also refers to making sure that challenging schools receive opportunities to better support their students. Below are selected examples of how other countries have effectively enhanced the performance of low-performing schools serving large proportions of students in conditions of vulnerability. In addition, the section below describes some approaches that have been used to eliminate or weaken system and school-level structures and practices that hinder equity.

Improving instructional practice in challenging schools

Growing international evidence shows that it is possible to quickly increase student performance in schools serving large proportions of students in conditions of vulnerability. A few factors are at the core of successful policies that have achieved this. First, a relentless focus on enhancing or transforming instructional practice in classrooms. Second, building the individual and collective capacity of teachers to effectively increase and deepen student learning. And third, the establishment of a progressive learning and support-oriented partnership between the central education authority and schools. Programmes like Estrategia Integral para la Mejora del Logro Educativo (EIMLE) in Mexico, Colombia's Escuela Nueva and the Ontario Focused Intervention Programme have all shown positive results (see Box 2.1).

An important factor shared by successful programmes in disadvantaged and more-advantaged schools is the development of positive school environments with high expectations for all students. Disadvantaged schools and students often face lower academic expectations. But evidence shows that certain pedagogical practices in schools and classrooms can make a difference for low-performing students.

For example, strengthening relationships and advice given to students across schools can help disadvantaged students. Since low-performing disadvantaged schools often have more difficult learning environments, policies targeting these schools need to focus more on developing positive teacher-student and peer relationships. Schools also need to ensure adequate student counselling and mentoring to support students and achieve smoother transitions throughout their educations. Ontario (Canada) did this through its Student Success/Learning to 18 Strategy programme. The programme focused on engaging students in their learning process and their sense of belonging at schools (Box 2.2).

Box 2.1. Transforming instructional practices in classrooms

In **Mexico,** the Estrategia Integral para la Mejora del Logro Educativo (EIMLE) was launched in 2009 to transform conventional classrooms into learning communities in thousands of low-performing schools serving large proportions of students in conditions of vulnerability. EIMLE adopted a new pedagogy of tutorial relationships that had been developed through a small, grassroots pedagogical change initiative called the Learning Community Project. EIMLE developed a strategy to spread the Learning Community Project's pedagogy to 9 000 schools with a history of consistently low performance. EIMLE offered teachers, principals and technical-pedagogical staff in school regions multiple opportunities to observe, practice and refine the new pedagogy of tutorial relationships through classroom-based coaching, teacher collaboration sessions, school exchanges, and learning fairs. During these meetings, EIMLE constantly showcased the new pedagogy and asked all participants to practice it. Between 2009 and 2012, the schools that adopted this new pedagogy increased the proportion of students scoring at "good" and "excellent" levels in the national standardised test at a faster pace than their more privileged counterparts. In addition, EIMLE students were able to match or surpass the scores of wealthier students.

In **Colombia,** Escuela Nueva was developed in the 1970s as a pedagogical innovation to serve rural multi-grade schools across the country. Escuela Nueva transforms the conventional culture and structure of schooling into a learner-centred participatory model. It uses a flexible promotion mechanism that allows students to move from one grade to another and complete academic units at their own pace. Interactive learning guides, teacher facilitation, peer support and a multiplicity of learning materials are available to students as needed. Self-paced teacher guides and micro-centres are used to build the capacity of teachers to change pedagogy in their classrooms. The model also includes community participation, and a student-run school government. In the 1980s, Escuela Nueva was adopted as national policy, and reached 20 000 rural schools in Colombia. In the 1990s, thanks to Escuela Nueva, students from rural schools consistently outperformed their better-off counterparts in urban schools (with the exception of schools in mega-cities).

In **Canada**, the Ontario Focused Intervention Program (OFIP) was launched in 2006-2007 to offer targeted support to low-performing schools. OFIP was designed to be a non-punitive, capacity-building intervention. Ontario's Literacy and Numeracy Secretariat identified schools that were consistently achieving low levels of student performance. It then partnered with these schools and their districts to develop intervention strategies. These strategies included needs assessments, support, co-development of an action plan, participation in school-based learning communities and learning from other schools through formal and informal networking. More than 700 schools qualified for OFIP in 2004 based on the original criterion. The original criterion mandated that schools could qualify for the programme if one-third of their students achieved the provincial standards. In 2014-2015 only 63 schools were targeted for OFIP support based on the more demanding criterion of half of the students achieving the provincial standards. At the secondary level, the Student Success School Support Initiative provided support and development for the lowest-achieving 20%, or about 180 schools. Activities primarily involved building the capacity of the principal and teachers as instructional leaders in order to enhance instructional practices. This resulted in improved student achievement.

Source: Rincón-Gallardo, S. (2016), "Large Scale Instructional Transformation as Widespread Cultural Change in Mexican Public Schools", *Journal of Educational Change,* Vol. 17, pp. 411-436; Colbert and Arboleda (2016), "Bringing a Student-Centered Participatory Pedagogy to Scale in Rural Colombia", *Journal of Educational Change*, Vol. 17/4, Springer, Heidelberg, pp. 385-410; Rincón-Gallardo and Fullan (2016),"Essential features of effective networks in education", *Journal of Professional Capital and Community*, 1(1), pp. 5-22; OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264130852-en; Fullan, M. and S. Rincón-Gallardo (2016), "Developing High Quality Public Education in Canada: The Case of Ontario", in *Global Education Reform: How Privatization and Public Investment Influence Education Outcomes*, Routledge, New York, pp. 169-193.

Designing an alternative organisation of learning time can also help. This can be done by creating smaller classrooms and schools, which can help reinforce student-student and student-teacher interactions and better learning strategies. Such a plan could entail significant costs to the system, however. Other possibilities include strengthening methods, such as formative assessment or employing a hierarchy of successive formal and informal interventions as needed to assist those most at risk. Finland employs this strategy (Field, Kuczera and Pont, 2007) (Box 2.4).

Systems can also use data to monitor at-risk students. Promoting the use of data information systems to identify struggling students and factors that lead to learning disruption (e.g. through information on school attendance, performance and involvement in school activities) can also help to monitor and prevent school failure. In the **Netherlands**, for example, students' educational pathways are followed via their personal identification numbers (*persoonsgebonden nummer*, PGN) (Box 2.2).

Box 2.2. Strategies to support student engagement

Canada (Ontario): In 2003, the Ontario Ministry of Education implemented the Student Success/Learning to 18 Strategy to increase graduation rates and provide all Ontario students with the tools to successfully complete their secondary schooling and reach their post-secondary goals. The strategy was introduced in phases, beginning with building leadership capacity to promote strong leadership in schools and school boards. These efforts also aimed to change school cultures in order to achieve long-term systemic improvement. At the school-board level, the initiative created a new senior leadership role, the student success leader, and at the school level, it created the student success teacher to provide support to students at risk of dropping out. In addition, secondary schools established student success teams, consisting of school leaders, student success teachers and staff. The teams tracked and addressed the needs of students who were disengaged, and worked to establish quality learning experiences for all students.

The Netherlands: Beginning at the age of three, all children in the Netherlands receive a personal identification number (*persoonsgebonden nummer*, PGN). This number follows them through their schooling. According to the Dutch Inspectorate, most primary schools track student development using this number, and half of the schools use the information to improve school policies, teaching and learning.

Source: OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264130852-en.

Managing system practices that hinder educational equity

School competition can hinder equity, if not managed carefully. Evidence shows that some of the intended benefits of competition are not necessarily related to student achievement. At the same time, school competition has potential disadvantages in terms of equity and social inclusion. School choice presumes that schools will create a diversity of options, parents will have accurate information about schools and access to them, and schools will have limited ability to select or screen students. Nevertheless, when parents can choose the school that their children attend, disadvantaged parents often end up choosing the best school among a more limited set of choices than more affluent parents. As a result, school choice may benefit disadvantaged students less than their more-advantaged peers. If affluent families are more likely to opt out of the neighbourhood school than poorer residents of the same area, competition may also increase socio-

economic segregation in schools. Policies in the United States, the Netherlands and the Flemish Community of Belgium have aimed to manage school choice and make it more equitable.

Countries can manage school choice in order to avoid initial segregation. The government can design and manage choice programmes while limiting their negative impact on equity. Improving disadvantaged families' access to information about schools and supporting them in making informed choices can ameliorate some aspects of inequality, but not all. There are other possible options, such as introducing controlled choice schemes. These schemes combine parental choice and measures to promote more diverse distributions of students at schools (OECD, 2012; 2013b). Box 2.3 shows two classic examples of school choice management.

Box 2.3. Managing school choice in the United States and the Netherlands

In the **United States**, the Cambridge Plan is a system in place for Cambridge public schools where new families visit a central registration area, choose four schools and rank them in order of preference. The district reviews the lists and tries to assign students to their choices, but also tries to ensure that no school exceeds its capacity. The district also tries to guarantee that all schools reflect the school district's racial and ethnic composition. In addition, to ensure balance, the government offers incentives to make disadvantaged students attractive to high-quality schools.

School choice is common in **the Netherlands**, with control applied at the local level to mitigate imbalances in school composition. Local controls also manage student funding to support greater social diversity in schools. A central subscription system to assign students also exists in the Netherlands for primary schools. It requires that the student population of each school be 30% disadvantaged students. All primary schools in the Netherlands have agreed on a central subscription system based on the distribution of students in different categories. In the event of oversubscription, priority is given to siblings and children who live nearby. Subsequent priority is given to either advantaged or disadvantaged students, in order to reach the required balance by lottery system. Additionally, the National Knowledge Centre for Mixed Schools (Kenniscentrum Gemengde Scholen, 2007) produces knowledge, and influences work on school choice. This centre also provides procedures for school choice and information on the topic to parents.

Source: OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264130852-en.

Another way to mitigate the negative effects of school choice and the voucher system is to continue making funding strategies more responsive to students' and schools' needs (OECD, 2012). Available resources and the way they are spent influence student learning opportunities. To ensure equity and quality across education systems, funding should guarantee access to quality ECEC, especially for disadvantaged families, and use strategies such as weighted funding formulas that assume that the instructional costs of disadvantaged students may be higher.

Grade repetition is costly and ineffective in raising educational outcomes. Alternative strategies to reduce this practice include: preventing repetition by addressing learning gaps during the school year, allowing automatic promotion or limiting repetition to subject or modules failed with targeted support, and raising awareness on the importance of preventing repetition (OECD, 2013a). To support these strategies, complementary policies need to reinforce schools' and teachers' capacities to respond appropriately to student learning needs. It is also vital that schools and teachers provide early, regular and

timely support. Decreasing grade retention rates also requires raising awareness across schools and society about the cost and negative impact of this practice on students. By setting objectives and giving schools incentives, education authorities can decrease repetition rates further. Finland, for example, has reduced its high rates of repetition considerably by using some of these practices (Box 2.4).

Box 2.4. Policies to reduce grade repetition in Finland

Finland combines low grade repetition with high student success. Finland has a unified curriculum that does not track or stream students into ability groups or educational tracks. Every child has the right to individualised support provided by trained professionals as a part of their normal schooling. Their characteristics, including personality, abilities and orientations are taken into account during teaching and learning. Repetition is only an option after the nine-year comprehensive school, when students can opt for a "10th grade" to consolidate learning or contemplate future steps. Schools work to help students make more well-informed choices about these steps. There is no grade retention at the upper secondary level either, since modular curriculum units are used instead of grades. Students structure their own learning schedules according to a menu of learning courses offered either in their schools or by other learning institutions. This flexibility allows students to complete courses at different rhythms depending on their abilities and life situations, but in a context of high expectations for what they can achieve.

Source: OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264130852-en .

Body of the recommendation

Current reform efforts in Chile, such as the Inclusion Law, SEP and the New Public Education System are important steps to promoting better life opportunities for all students. However, in order to enhance equity and quality of learning opportunities and outcomes, Chile should develop a system-wide strategy to improve instructional practice and school management in low-performing schools serving large proportions of students in conditions of vulnerability. Improving instruction and management of these schools would help make them into effective, high-quality education options for all children and families. The Chilean government also needs to develop further and consolidate its view of inclusiveness so that it can become a shared vision held up across the education system. Inclusiveness goes beyond access; it is about the everyday processes in schools that define the opportunities that children can receive for a meaningful and empowering education.

2.2.1. Develop a system-wide strategy to improve instructional practice and school management in low-performing schools serving large proportions of students in conditions of vulnerability.

Eliminating or weakening the negative effects of system-level structures and practices that hinder educational equity is just one part of the work the Chilean government must do. It is even more important that the government develop structures and practices to replace inadequate ones, while also creating the capacity for educational actors to implement changes in the everyday practices of schools and the education system as a whole.

The Chilean government should more strongly support low-performing schools with large proportions of students under conditions of vulnerability that struggle to improve. This support should be oriented towards installing high-quality pedagogical practices coupled with high expectations for all. It should also foster innovation in order to turn these schools into exemplars of the new public education system in Chile. The recent history of the Chilean education reform offers some examples of effective compensatory policies. They include the P-900 and the Programa Escuela Rural Multigrado, launched in the second half of the 1990s.

However, unlike these targeted programmes, the new strategy should be designed intentionally to inform and enhance school improvement across the entire educational system. That said, it should provide more intensive support to low-performing schools serving large proportions of students in conditions of vulnerability. The experiences of EIMLE in Mexico, Escuela Nueva in Colombia (Box 2.1), and OFIP in Ontario **(Canada)** can inform the new strategy to substantially improve teaching and learning in historically disadvantaged schools.

2.2.2. Monitor and discourage student tracking, grade repetition and school transfers, and replace these with classroom and school practices focused on high-quality learning opportunities for all.

The OECD recommends that the Chilean government invest the time and resources necessary to ensure that the principles behind the Inclusion Law make their way into the everyday practice of schools.

The Ministry of Education has established a strategy and accompanying mechanisms to support government-dependent private schools as they gradually transition to conform to new regulations. This strategy and the accompanying mechanisms will help these schools to adopt the new funding structure, and put an end to selecting students, taking co-payments and profit making. The focus of this support has been legal and technical in nature. This type of operational capacity-building is very important, especially in the short run, as government-dependent private schools make their way into the new structure.

However, it should be noted that the profound structural changes currently underway will not automatically produce shifts in mindsets and practices, even though these shifts are necessary to operate within the new structures. Increased quality and equity will be achieved only if efforts are made to ensure that the everyday practices and underlying beliefs of those in charge of educating children are consistent with the equity and quality orientation of the new policies.

The OECD therefore recommends that school review protocols used by the quality assurance system include provisions for identifying school practices of student tracking, grading repetition and transfers. A range of strategies and protocols should also be developed for use when these practices are identified. By doing this, the government can manage and gradually replace these practices with inclusive policies that grant all students access to high-quality learning opportunities. This may include requiring that schools that practice academic selection, grade repetition or school transfers include in their school improvement plans deliberate strategies to diminish and eventually eliminate these policies.

We also recommend making efforts to mitigate the negative effects of school choice on equity of educational opportunities for students of different socio-economic backgrounds. One strategy to consider is the Cambridge Plan in the United States,

whereby families choose a handful of schools and rank them in order of preference. The district then strives to assign students in ways that respect their choices and ensure that the school reflects the district's racial, ethnic and socio-economic composition. The centrally managed student allocation system in the Netherlands is another good option to keep in mind. It strives to have all schools maintain a student population with 30% of students in conditions of vulnerability.

2.2.3. Taking steps to get the most out of SEP as a tool for pedagogical improvement.

In the short run, Chile should continue to use SEP and monitor its impact. The Ministry of Education is currently investing significant financial and human resources in monitoring and ensuring appropriate use of new SEP resources made available to schools. This is very important, especially in the short term. At the same time, the ministry should develop mechanisms to ensure that once basic infrastructure and learning material needs are in place, the majority of the funds allocated to schools by SEP is invested in enhancing teaching and learning in classrooms. These funds should also be directed at enabling effective teacher collaboration for instructional improvement. The ministry should also develop the capacity of schools to continuously improve teaching and learning, while effectively managing the additional funding made available through SEP. If the capacity and performance of schools is effectively enhanced, the external monitoring function of the ministry can be gradually phased out.

Recommendation 2.3

Supporting successful outcomes for all girls and boys from all ethnic origins by identifying, promoting and monitoring structures, attitudes and practices that can provide equal educational opportunities for the future.

Summary

The Chilean government should bring attention to and enhance educational opportunities for all students, regardless of gender, ethnicity or immigrant background. The following steps should be taken to accomplish these goals, raise expectations and improve learning opportunities for all:

- The country should continue to promote equity in opportunities for girls and boys in all school and system-level policies aimed at enhancing learning opportunities for students. Special attention should be paid to encouraging girls' entry in fields of study traditionally dominated by men, such as mathematics and science. Policies should also address lower reading performance by underachieving boys. The government should also adopt system-level gender equality frameworks. Gender inequality should be considered when drafting curriculum frameworks, and choosing learning materials made available to schools.
- An effort of similar magnitude should be made to monitor and address gaps in educational opportunity for students of indigenous and immigrant backgrounds. This involves collecting, analysing and publicly reporting educational opportunities and outcomes for indigenous and immigrant students. More importantly, actions should be taken to substantially improve the educational opportunities and outcomes of students in these groups.

Context

Strengthening opportunities for all students, regardless of gender and cultural background is key to Chile's economic and social development. In the past, monitoring of educational equity and the design of equity-oriented policies in Chile has been based overwhelmingly on socio-economic status. However, student performance can also be strengthened by addressing other factors that may hinder student opportunities, such as exclusion due to gender, ethnicity or immigration background. Gender disparities are a challenge not only in the education system, but in Chilean society as a whole. As pointed out in Chapter 1, Chile ranks 66 out of 142 countries on the World Economic Forum's Gender Gap Index (WEF, 2014).

Chilean women face obstacles in mathematics and science fields, as well as weak labour market outcomes, despite higher participation rates in secondary and tertiary education**.** Chilean girls underperform in science, as indicated by the high share of girls who performed below Level 2 in science on PISA 2015. Chile also had some of the largest performance gaps between girls and boys in science and mathematics compared to other countries.

Home and school environments can shape attitudes in boys and girls, exacerbating gender inequities. The female image often appears in a traditionally female-dominated professions or roles. This "hidden curriculum" can shape children's confidence, expectations and choices (Valdes et al., 2013). Though gender inequalities persist, Chile has made progress addressing performance challenges specific to boys in reading. According to PISA 2015 reading results, Chilean boys had one of the smallest gaps in performance with girls of all PISA participants.

Boys are also more likely to repeat a grade and engage in behaviours that have been linked to lower performance, such as lack of enjoyment in reading or spending less time on homework (OECD, 2015b). As Chilean boys get older, they are less likely to enrol in secondary education and more likely to drop out of school compared with their female peers (MINEDUC, 2017). Coming from a disadvantaged background can also increase the likelihood of a boy to be excluded from the school system. Teachers and parents need to identify the right tools and competencies to avoid reproducing gender stereotypes and inequalities (OECD, 2015b).

The Chilean government is making important efforts at present to shed light on and address gender inequities in opportunity both in the education system and in society as a whole. The creation of the Ministry for Women and Gender Equity, a presidential office charged with advancing a gender equity agenda, is one important example. Since the early 1990s the government has introduced policies to address gender inequities such as the curricular reform of 1997, the Curricular Framework of Basic Education (Marco Curricular de la Educación Básica) (Valdes et al., 2013). Most recently, the government has introduced different education strategies across the whole education system. In ECEC, the government has aimed to change the language of textbooks by referring to girls and boys. The government has also encouraged ECEC providers to use gender-inclusive examples in the classroom, e.g. showing girls performing scientific activities and boys performing humanistic tasks. In primary education, the government has aimed to promote girls' participation in mathematics and science classes, while encouraging boys' participation in language and history classes. The government has also worked to change the language of primary education textbooks, and change the examples discussed in primary education classrooms (MINEDUC, 2017).

Students from indigenous or immigrant backgrounds

Among categories of exclusion, indigenous communities and immigrants are perhaps the most overlooked and underserved groups in Chile. Exclusion is particularly evident in the school system. Indigenous people currently represent 7% of the population in Chile. Meanwhile, immigrants represent about 2% of the population, though the share of immigrants to total Chilean inhabitants is rapidly increasing.

Net enrolment rates among indigenous students are similar to those of their non-indigenous peers in pre-primary and primary education. This may be explained by the fact that roughly three-quarters of indigenous Chileans live in urban areas that provide greater educational options. However, indigenous students appear to face particular challenges in progressing. They have lower participation in upper secondary (71% versus 74%) and tertiary education (Ministry of Social Development, 2015).

The immigrant population in Chile, mostly coming from Peru, Bolivia and Colombia, has more than doubled over less than a decade. Immigrants increased from 1% to 2% of the total population between 2006 and 2013. The estimated number of immigrant children currently attending early childcare, primary or secondary education is 56 000. Chile's Migration Law from 1975 remains unchanged, but there have been some recent policy efforts targeting this population subgroup. For example, the current administration recently established the Migration and Social Inclusion Unit in the Ministry of Social Development. It also established the Migrant Seal (Sello Migrante) initiative, which seeks to certify municipalities that are actively including their immigrant population both culturally and socially. Finally, starting in 2017 the Ministry of Education will give a provisional and unique ID number to all immigrant students so they will be able to receive more social and educational benefits than before (Ministry of Interior, 2014; MINEDUC, 2017)

At the policy level, indigenous and immigrant students remain either invisible or pushed to the margins. While some efforts by the Ministry of Education have sought to bring attention to indigenous cultures and immigrant students, they remain marginal and disconnected from the overall educational improvement agenda. Ethnic, racial and immigrant identities are remarkably absent from the data collection and reports created by the Ministry of Education. This makes it challenging to estimate the extent to which the Chilean education system offers indigenous and immigrant students adequate educational opportunities. It also underlines the magnitude of the challenge of doing so.

International evidence

Enhancing gender equity

Creating a fair and just education system and society requires ensuring that an individual's opportunities and educational outcomes do not depend on their gender or cultural background. OECD countries have made significant progress in narrowing or closing long-standing gender gaps in education. Not only are more young women than ever participating in formal education, the gender gap in educational attainment has been inverted over the last decade. Young women are now more likely than men to have completed tertiary studies. However, other gender gaps are opening up. Data from PISA across different cycles show that Chilean girls and young women are still far less likely than men to either study or work in the areas of science, technology, engineering and mathematics (STEM).

OECD evidence from different PISA cycles shows that gender differences in STEM fields of study are not related to inherent abilities. Instead, these differences are the direct product of student attitudes, behaviour and self-confidence. PISA data show that girls are less confident about their science ability (though this difference is not significant for Chile in PISA 2015).

When girls avoid STEM fields, this choice reflects a lack of confidence, not ability. While girls also express lower levels of confidence in their ability to learn in science subjects, the performance gap between girls and boys in science is very narrow among OECD countries. PISA results show that on average, boys score only slightly higher than girls do. There is good evidence that carefully chosen policy interventions can counteract stereotypes and encourage all students in countries around the world to develop a realistic perspective on science. Examples of such policy interventions include the provision of better careers information, and promoting science more positively.

Attitudes and perceptions among parents and teachers are also likely to influence a boy or girl's choice of field of study. PISA 2015 data show that parents are more likely to expect their sons, rather than their daughters, to enter a STEM career. Therefore, policy makers should aim to influence home learning environments and schools through policies that challenge the attitudes, norms and stereotypes that create unequal and unfair learning environments. Not addressing gender inequities leads to loss of opportunities for individuals and to efficiency loss. This is of particular concern in Chile, where fewer girls achieve positive labour market outcomes despite higher completion rates (Salvi Del Pero and Bytchkova, 2013) (see Box 2.5).

The **Netherlands, Austria, Germany,** the **French Community of Belgium and** the **Province of Alberta (Canada)** are examples of countries and regions that advance policies that aim to bridge gaps in learning and achievement among girls and boys. The objectives of these policies can be very specific (such as promoting girls' interest in science and offering them targeted science learning opportunities). Or, policies can be grounded in more overarching objectives that aim at not just students, but also their teachers and learning environments.

Bring attention to and improve educational opportunities for indigenous and immigrant students

Education systems across the OECD are faced with the challenge of educating increasingly diverse student populations, and providing all students with access to equal opportunities. Ethnic minorities can face difficulties in accessing education. They also shoulder higher risks of low performance, lower graduation rates and lower participation in tertiary education (OECD, 2012).

Supporting schools and learning environments can help raise achievement of indigenous and immigrant students. International evidence suggests the importance of providing a balanced and coherent curriculum that sets high student standards for all, regardless of students' socio-economic status, ethnicity or performance level (Dumont et al., 2010; OECD, 2012). Ensuring that classrooms with a larger share of indigenous and immigrant students are places where the best possible pedagogy is pursued is crucial to enhancing the educational opportunities of these students. It is also vital that teachers are highly skilled in formative assessment, and that they regularly adjust their approaches in response to indigenous and immigrant student needs.

Box 2.5. Improving the gender balance in educational achievement

Girls in science

In the **Netherlands**, the Girls and Technology programme (Meisjes en Techniek) encourages girls to choose technical education and professions. The programme is subsidised by the Ministry of Education, Culture and Science, and is involved in about 30% of secondary and vocational schools (European Commission, 2010).

Austria regards gender equality as an important overarching principle of its compulsory school curriculum. In 1998, the Innovations in Mathematics, Science and Technology Teaching (IMST) project was launched along with the Gender Network. This network aims to improve teaching in mathematics and the natural sciences, and narrow the gender gap by expanding learning perspectives for girls and boys. It offers counselling and information on new developments, as well as initial training and professional development in gender issues (European Commission, 2010).

General strategies

Germany introduced a training tool to help eradicate cultural stereotypes and traditional, religious messages about gender in textbooks.

In the **French Community of Belgium**, the Direction of Equal Opportunities and School Inspectorate produces a small manual to help education staff to review educational resources. The manual is meant to help ensure that teachers and staff foster diversity, including gender equality. The inspectorate also provides a website with helpful tools for education staff to address gender stereotypes in their work.

In **Alberta (Canada)**, the government introduced guidelines to help education staff review educational resources to evaluate and ensure that these resources fostered diversity, including gender equality (OECD, 2015c).

Source: European Commission (2010), *Gender differences in educational outcomes: Study on Measures Taken and the Current Situation in Europe*, Education, Audio-visual and Culture Executive Agency, Brussels, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/120en.pdf; OECD (2015c), *The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264229945-en.

Evidence also underlines the importance of schools and communities working together to foster diverse schools. Education systems should include indigenous education providers (see New Zealand example in Box 2.6). In addition, school leaders and teachers can be key actors in addressing diversity challenges and encouraging tolerance and cohesion in schools. Teachers and schools should also support the preservation of indigenous culture and languages (OECD, 2010). Countries should try to cultivate and incentivise indigenous individuals to become school leaders and teachers (OECD, 2010). (see Box 2.6).

Box 2.6. Policies aimed at improving inclusiveness

New Zealand: The Building on Success initiative combines a number of programmes, including Te Kotahitanga, He Kākano (a strategic school-based professional development programme with an explicit focus on improving culturally responsive leadership and teacher practices), Starpath (which aims to address New Zealand's comparatively high rate of educational inequality, with Māori and Pacific students faring worse than other New Zealand students), and secondary literacy and numeracy projects. The Building on Success initiative combines key components of these programmes to deliver a targeted, tailored and flexible professional development approach that responds to the needs of individual schools. The key components are: 1) developing and embedding relationships, practices and learning environments that respond to and are respectful of Māori students' diverse identities, culture and language; 2) making effective use of evidence and data, including *whānau* voice, to develop a school change and improvement plan; 3) strategically identifying goals and targets that will contribute to achieving national goals and targets, especially for Māori students, and; 4) developing subject and programme pathways that ensure that Māori students plan for and progress towards their goals and aspirations through learning and career pathways.

Ireland adopted the Delivering Equality of Opportunity in Schools (DEIS) programme in 2005 as a national comprehensive policy for educational inclusion. It included a system to identify disadvantaged schools and an integrated school support programme to provide schools and school clusters or communities with additional support and resources. Impact analysis of DEIS has indicated positive results in reading and mathematics performance, as well as in completion rates.

Source: Schleicher, A. (2016), *Teaching Excellence through Professional Learning and Policy Reform: Lessons from Around the World,* International Summit on the Teaching Profession, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264252059-en; OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264130852-en.

Body of the recommendation

Chile has developed a comprehensive strategy aimed at strengthening gender equity in the country, with a variety of indicators and objectives. In the short term, Chile could benefit from selecting a few priorities, and working to ensure their implementation. Three areas in particular could be of special attention:

- First, motivating girls' entry into traditionally male-dominated fields of study such as mathematics and science by changing attitudes among teachers and parents, using guidance and work-related experiences to interest girls in STEM fields, and targeting the content of subjects to make them more appealing.
- Second, addressing the low performance of underachieving boys, specifically in reading. Increasing boys' interest in education requires involvement of parents and teachers to provide the materials that will appeal to them and engage them.
- Third, adopting system-level gender equality frameworks, curriculum frameworks and unbiased learning materials for schools. Working to change teaching habits, attitudes and traditions that might reproduce gender stereotypes is also vital. Engaging parents to provide students with a home learning environment that helps girls and boys excel and achieve their aspirations is also crucial to creating an effective gender equity agenda.

An effort of similar magnitude should be made to monitor and address gaps in educational opportunity for indigenous and immigrant students. A first order of business is to begin a systematic collection, analysis and public reporting of the educational opportunities and outcomes for indigenous and immigrant students. Beyond gathering evidence to assess the magnitude of the challenge of providing adequate education to indigenous and immigrant students, the most important part of the work is taking deliberate actions to substantially improve the educational opportunities and outcomes of students in these groups. Three overarching guidelines for an effective strategy are:

- Supporting indigenous and immigrant students to develop their own understanding of their culture, languages, values and history. First, topics and authors directly relevant to the history, knowledge and status of indigenous and immigrant communities should be identified and included in the national curriculum, as well as in local curricula adopted by schools. Second, indigenous ways of knowing should permeate the school, classroom practices and extracurricular activities. Third, to the extent possible, indigenous and immigrant students should be granted access to teachers and administrators who are themselves indigenous or immigrants. Fourth, training and support should be made available for teachers, administrators, students, and parents to learn to recognise and capitalise on the diversity in knowledge and skills that indigenous, immigrant and migrant students bring with them.
- Ensuring constant and consistent exposure to effective pedagogy. Indigenous and migrant students should be guaranteed a place in classrooms where effective pedagogy is the norm. This includes instructional practices known to be effective at enhancing student learning, as well as the deliberate use of strategies to capture, understand and capitalise on the knowledge and ways of knowing of indigenous and immigrant students to widen and deepen their learning.
- Fostering community engagement and shared governance. The active participation of indigenous and immigrant communities in designing, implementing and monitoring efforts to enhance the learning opportunities of their children and youth should be continuously encouraged and supported. This may involve the creation of committees to design and oversee education policies and strategies to serve indigenous and immigrant students. The government could also establish school councils with the participation of members of the local indigenous and immigrant communities. Whatever strategy the Chilean government chooses, though, direct participation of adults from the local indigenous and immigrant communities in learning experiences for students is key.

Recommendation 2.4

Ensure good education and care opportunities from the youngest age by continuing efforts to guarantee access to quality ECEC, especially for families in conditions of vulnerability. This may involve developing a national plan for early childhood education and well-being by 2020.

Summary

Chile should continue its trajectory of expanded access to ECEC with priority given to children in the lowest quintiles of income or living in rural areas. This expansion of access should occur at a pace that ensures that the youngest Chileans gain access to high-quality learning opportunities as soon as possible. Crucial to producing the educational

and societal benefits of ECEC for Chile is the integration of existing ECEC programmes and practices into an intentional, system-wide strategy. This strategy should identify and spread effective pedagogical and professional practices for early childhood education and beyond. Selected pedagogy and practices should be proven to be the most effective at nurturing student learning and well-being. As a fundamental aspect of this strategy, the country should ensure that its promise to promote opportunities for young Chileans of all cultural backgrounds becomes ingrained in the everyday activities of ECEC centres.

Context

There is a strong public sector commitment to ECEC in Chile. As discussed in Chapter 1, ECEC is the only level of education where the proportion of funding from public sources in 2013 exceeded the OECD average. The percentage gap between per-student spending in Chile and the OECD average was smaller than for any other level of education (except when excluding R&D spending from tertiary education). In recent years, the Chilean government has taken significant steps to expand participation and strengthen quality in ECEC. However, important challenges concerning equity in access to ECEC are pending. These must be addressed if the Chilean government hopes to ensure high-quality learning opportunities for the youngest Chileans, regardless of socio-economic or cultural background.

Efforts to expand participation

Chile has seen a considerable expansion of ECEC over the past decade. From 2005 to 2013, participation in ECEC more than doubled from 23% to 51% for 3-year-old children, and almost doubled from 42% to 83% for 4-year-old children. Between 2004 and 2015, the number of JUNJI and Integra nursery educators increased considerably from 2 472 to 4 732 educators. The government also foresees expanding coverage across the country by about 100 000 spaces between 2014 and 2018, to cater to 0-4 year-olds (MINEDUC, 2017) (Table 2.1).

Table 2.1. Coverage in ECEC services for 0-5 year-olds from 2003 to 2015 (%)

Year	Ages 0-3	Ages 4-5	Total coverage
2003	12	63	30
2006	16	75	37
2009	19	74	37
2011	26	83	44
2013	28	87	49
2015	29	90	50

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of Educational Policies in Chile from 2004 to 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

Chile has also developed several policies that aim to improve child well-being from an early age using a more comprehensive approach. The Chile Grows with You programme (Chile Crece Contigo), for example, is a multidimensional support programme led by the Ministry of Social Development that seeks to provide personalised support to families from disadvantaged backgrounds. This support begins at the first medical appointment of a mother's pregnancy and lasts until her child enters the first transition level of pre-primary education (at the child's age of 4) (Box 2.7).

Box 2.7. Chile Crece Contigo

Chile Crece Contigo, started in 2009, is a transversal initiative carried out through the co-ordination of different ministries depending on the areas of work: the Ministry of Education, the Ministry of Health, the Ministry of Labour and the Ministry of Social Development. It includes four core sub-programmes:

- A mass education campaign featuring radio and television programming, an information phone line operated by the Integra Foundation, a website, social media activity and the development of educational materials (music, children's stories, etc.).
- Support for children's bio-psychosocial development, delivered through the public health system and focused notably on prenatal and natal care.
- Support for newborns, including a care package for newborns in the public health system and co-ordination with other health care supports in the hospital and at children's homes. This newborn support programme should also provide targeted assistance to children whose development is at risk. The programme can accomplish this by referring at-risk children to ECEC centres, and also referring parents to services to enhance parenting skills.
- Targeted grants for children from the 60% most socio-economically disadvantaged households in Chile, tied in part to the Chile Solidario programme.

Source: Government of Chile (2017), *¿Qué es Chile Crece Contigo (ChCC)?*, Government of Chile, Santiago, www.crececontigo.gob.cl/acerca-de-chcc/que-es/.

However, ECEC participation in 2013 remained below the OECD average for children under the age of 6, and especially for 2- and 3-year-olds. These low participation figures belie considerable inequities in participation in ECEC.

According to numerous studies, Chilean students from disadvantaged backgrounds participate less in ECEC than their more-advantaged peers (Wales et al., 2014). Children between the ages of 2 and 6 from the lowest quintile are 10-15% less likely to attend pre-primary education than children of the same ages from the highest quintile (OECD, 2015c).

Coverage is also considerably lower in rural areas than urban areas. 22% of rural children aged 0-3 and 77% of rural children aged 4-5 attended ECEC in rural areas, whereas the corresponding participation rates in urban areas are 29% and 89% (MINEDUC, 2017). Reports indicate that rural deficits in participation result in large part from shortages in available ECEC in rural areas (Bertram et al., 2016).

In terms of equity of access for children from all cultural backgrounds, the Chilean government has passed legislation that aims to ensure cultural diversity is respected in all ECEC programmes. However, the country seems to lack policies prioritising access to ECEC for particular cultural groups or children who speak languages other than Spanish at home. As a result, a lot of work has to be done concerning setting diversity-related eligibility requirements for ECEC programmes, requiring that staff receive systematic training with respect to cultural diversity, deploying additional specialist school staff with expertise in cultural diversity and providing additional funding and equipment to support cultural diversity (Bertram et al., 2016).

Chile also does not seem to target ECEC services based on special needs or disability for children 0-3 years old, even though there are targeted services for children aged 3-6 (Bertram et al., 2016). As indicated in Chapter 1, special needs students aged 0-4 are enrolled almost exclusively in government-dependent private nursery centres, with just 2.4% in municipal centres. Chile also does not consider residential criteria or elder siblings already enrolled in determining access to ECEC (Bertram et al., 2016).

Efforts to increase coverage of ECEC include a national strategy to develop ECEC infrastructure and increase service coverage, focusing notably on coverage in rural, urban or low-income neighbourhoods (Bertram et al., 2016). Chile has also increased opening hours in ECEC centres, and is encouraging year-round availability of services (Bertram et al., 2016).

Addressing quality in ECEC through a clear national vision

The benefits of ECEC are only realised when high-quality learning opportunities are offered to children. Quality of ECEC is thus critical, especially as the number of students increases.

In PISA 2015, Chilean 15-year-olds who attended between one and two years of pre-primary school outperformed their peers who had not done so by 41 percentage points in science. This performance gap is equivalent to more than a year of schooling. In comparison, when students' and schools' socio-economic backgrounds were taken into account in Chile, the benefits of ECEC were considerably reduced. This was true in other Latin American countries, with the difference in student performance falling to just 12 points. The data suggest that the benefits of quality early childhood education and care may not be equal for children from different socio-economic backgrounds.

At the time that this report was prepared, Chile did not have an ECEC policy that clearly defined how to achieve quality ECEC, according to the Ministry of Education (MINEDUC, 2017). The current quality assurance system is also complex, as regulatory requirements and the monitoring body have depended on the kind of ECEC provider (Bertram, 2016). These quality assurance measures have also been limited in scope, covering quality in terms of inputs mainly, rather than how these inputs come together to generate quality of learning processes.

The most notable recent efforts to improve the quality of ECEC include the creation in 2016 of an Undersecretariat of Early Childhood Education (Subsecretaría de Educación Parvularia) within MINEDUC and an Early Childhood Education Intendence (MINEDUC, 2017). These recent government reforms aim to give institutional clarity to the system, by differentiating: who designs policies (Undersecretariat of Early Childhood Education), who provides the services (JUNJI, Integra and other accredited bodies) and who regulates and supervises its functioning (Early Childhood Education Intendence). As a part of these changes, a Quality Assurance System for Early Childhood Education will also be created. Other measures include the update of ECEC curricular foundations, the creation of new quality standards for ECEC and the adaptation of teachers' professional standards to address ECEC staff. These are positive actions that aim to strengthen the steering of ECEC at national level. Nevertheless, the Chilean government will need to clarify how these policy changes will interact in order to allow children, parents and staff to reap their benefits.

Institutions providing the services

Currently, there appear to be wide variations in quality between different ECEC providers. Challenges related to the limited scope of quality assurance measures available, different criteria used depending on the type of service provided and insufficient use of the information generated on the system for improvement purposes contribute to these differences.

The scope of the ECEC quality assurance system in Chile has been limited, compared to international measurements. According to Bertram et al. (2016), Chile's ECEC quality assurance system has addressed providers' regulatory compliance and financial stability, leadership and management, and implementation of the official curriculum, which are important factors. That said, at the moment of drafting this report, the ECEC quality assurance system had not addressed factors such as staff performance, children's well-being, parental satisfaction and value for money. In the same way, while curriculum guidance provided referred to useful elements (such as areas of learning and/or activities, learning objectives, learning outcomes, assessment of learning and development and learning contexts and/or environments), it did not include pedagogical approaches or national guidelines to support the transition into pre-primary education (Bertram et al., 2016).

Moreover, the quality assurance system has mainly applied to providers that receive public funds. Concretely, in order to operate, ECEC centres – with the exception of private services – have required municipal authorisation regarding environmental standards. In the past, private services that did not receive public funds were only required to gain permission from the municipality and the Health Ministry to certify that they complied with safety requirements. Starting in 2017, all ECEC centres that do not need official recognition (private institutions) will nevertheless need authorisation from the Ministry of Education in order to function, according to Law 20.832. In the same way, according to this law, the Superintendence will be in charge of monitoring all ECEC institutions. This will thus address JUNJI's potential conflict of interest, since JUNJI has simultaneously operated childcare centres and performed of quality assurance in the past. (MINEDUC, 2017).

In addition, the information gleaned through the quality assurance system has not been used extensively to support improvement processes. The accreditation and inspection processes generate one or multiple reports to providers (including the specific centre) and to the responsible public agencies. Reports are not provided directly to parents, but they are published on the Internet. In general, the government uses these reports only to inform decisions regarding commissioning of providers, not to further support accountability and performance management of providers or inform central agencies' strategic planning. In addition, reports are not used generally to inform providers' or parental choice of providers.

In 2009, MINEDUC began to strengthen conditions for licencing ECEC providers (MINEDUC, 2017). JUNJI's certification of ECEC providers also changed from voluntary to mandatory in 2015, according to the operation authorisation Law 20.832. (MINEDUC, 2017). These changes have yet to be fully implemented. A new recently approved law (to be implemented right after the Undersecretariat of Early Childhood Education and the Intendence of Preschool Education start operating) will propose a national plan for quality assurance of ECEC and system of accreditation under the Agency for Quality Education. Chile has also updated the national curriculum for ECEC.

Parental engagement

The system has set some expectations in terms of ECEC providers' engagement with parents. The good practices that ECEC providers employ to empower and engage parents as strategic partners can be considered as a mark of their quality. This is also true of the efforts ECEC providers make to promote a culture of "home curriculum" (whereby parents continue learning activities at home, both informal and explicit) and shared educational activities (OECD, 2011). Engagement of parents was analysed in a study comparing ECEC systems in eight countries, based on three different levels (Bertram et al, 2016). Countries participating in this study were Chile, the Czech Republic, Denmark, Estonia, Italy, Poland, the Russian Federation and the United States. Chile fulfilled the terms for the first two levels of engagement: information transmission from the provider to parents (e.g. leaflets, newsletters, parent meetings, parent visits, reports), and consultation and dialogue with parents (e.g. child assessment meetings, surveys, feedback activities, parent group meetings). However, Chile was the only country in the study that did not complete the third level of parental engagement, namely active involvement and participation (through mechanisms like advisory boards, classroom engagement, and meetings to plan children's learning programmes and parental participation in performance evaluations).

Staff

The circumstances of ECEC staff will be discussed more at length in Chapter 3, in the same context as personnel in compulsory education. However, it is worth making a few specific notes here. Until very recently in Chile, the ECEC staff attending the youngest children was considered as a separate body from the teaching profession, for example, without career steps. With the recent education reforms, all ECEC staff will be considered part of the New System for Teacher Professional Development (see Chapter 3). This is a very positive step for the improvement of ECEC quality.

Chile is also changing requirements for staff qualifications. MINEDUC regulations require that principals of public and private nursery schools have an early childhood education degree awarded by a recognised higher education institution, as well as specific classroom teaching experience of at least two years. MINEDUC also requires that these principals receive specific training for their leadership roles (MINEDUC, 2017). There are further plans to adjust requirements for staff qualifications, and also establish new incentives for teacher careers (Bertram et al., 2016).

International evidence

International evidence shows that participating in ECEC can help provide children with the skills needed to enter school and succeed in later schooling (OECD, 2012; 2013a). Nevertheless, benefits of quality ECEC are even broader. ECEC can help improve children's well-being, reduce poverty, increase inter-generational social mobility, raise levels of women's participation in the labour market, increase fertility rates and improve social and economic development for society (OECD, 2015d).

Providing adequate coverage and access to quality services is becoming an international priority. Between 2008 and 2014, at least 19 OECD countries implemented a variety of policies targeting the provision of ECEC from different angles. For example,

Australia, Denmark and Portugal have implemented policies targeting child assessment, while the Czech Republic, Finland, Iceland, Italy, Korea and Sweden have reformed their curricula. In 2001 Australia adopted the Early Development Instrument (see Box 2.8), which helps teachers follow student development in a regimented way. The country also implemented a national strategy for early childhood development in 2009, a quality framework in 2012 and a national partnership agreement on universal access to ECEC in 2013-14.

Box 2.8. Improving the Quality of ECEC in Australia

Australia uses a national adaptation of the Early Development Instrument (EDI), which is a checklist of children's development completed by teachers. The EDI was originally developed in Ontario, Canada, and it is a measure of children's development as they enter school. The results are aggregated to the group level (school, neighbourhood and city) to provide a population-based measure of children's development. The data are not reported at the child or class level, which means they are not used as a diagnostic tool for individual children. The results of the EDI allow local authorities, communities and providers to assess how local children are doing relative to other children in their community and across the country. The checklist measures five key domains of early childhood development, which are physical health and well-being, social competence, emotional maturity, language and cognitive skills, communication skills, and general knowledge.

Source: OECD (2015d), *Starting Strong IV: Monitoring Quality in Early Childhood Education and Care*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264233515-en.

While many countries are making progress in ECEC, many also share challenges in terms of expansion of access to ECEC and improving the quality of services. Common challenges across countries in terms of quality monitoring include: defining quality, establishing a coherent system that understands and addresses contextual differences in the country, capturing a full picture of the quality provided, and ensuring that the information gathered can be used effectively for policy planning and implementation for system improvement (OECD, 2015d). Policies have been introduced to tackle these challenges separately or in a combined way, such as the Zero to Forever strategy in Colombia, which has succeeded in expanding both coverage and quality in ECEC in Colombia (Box 2.9).

Similarly, while quality monitoring usually begins with structural aspects, quality monitoring of processes has started gaining attention as well (e.g. the quality of interaction between staff and children). Countries are also aiming to follow an integrated approach in terms of areas of quality measurement in ECEC (e.g. service quality, staff quality and child outcomes). Countries are also taking an integrated approach in terms of how the monitoring system of ECEC is aligned with the goals and measures established in monitoring systems later on in the education pathway (i.e. primary education) (OECD, 2015d).

Box 2.9. Improving the quality of ECEC in Colombia

In **Colombia**, the Early Childhood Comprehensive Care Strategy – From Zero to Forever (Estrategia para la Atención Integral de la Primera Infancia – De Cero a Siempre, 2011) has focused on children aged 0-5. The strategy has aimed to achieve universal coverage of ECEC with a particular focus on the country's poorest and most vulnerable children. The strategy also aims to: 1) improve the quality and coverage of ECEC provision; 2) ensure the implementation of ECEC in departments and municipalities across Colombia; 3) implement an evaluation and monitoring system for ECEC; 4) develop a knowledge management system for ECEC; and 5) mobilise Colombian society to support the development of ECEC. To accomplish these goals a number of key actions have been implemented to harmonise the provision and objectives of ECEC and co-ordinate the various entities and organisations involved in ECEC:

- The creation of the Inter-sectorial Commission for the Comprehensive Care of Early Childhood (Comisión Intersectorial de Primera Infancia, CIPI) which has provided a co-ordinated approach to ECEC by defining the roles and responsibilities of key national actors.
- The introduction of a comprehensive ECEC framework defining the various types of ECEC provision that have emerged outside of pre-primary education in Colombia. There are three main modalities: family, community and institutional. Each modality has five key components: 1) care and upbringing; 2) health, diet and nutrition; 3) early childhood education; 4) recreation; and 5) civic education and participation.
- The development of technical benchmarks for family and institutional modalities which set ECEC guidelines in six key areas: 1) family, community and networks; 2) health and nutrition; 3) pedagogy; 4) human talent; 5) educational environment; and 6) administration and management. As part of this, the profiles of ECEC staff have been defined and their qualifications have been raised to guarantee a minimum level of compliance with the competencies needed for the meaningful development of a child.

The From Zero to Forever strategy has achieved increasing participation in ECEC. In 2010 only 566 429 children under the age of five were enrolled in comprehensive ECEC in Colombia; by 2014 the number reached by the strategy had risen to 1 040 351. The goal is to increase enrolment in ECEC to 2.4 million for children under 5 years old (the government subsequently revised to 2 million children aged up to five years), and to ensure that 100% of children in extreme poverty participate in ECEC by 2018.

Source: OECD (2016b), *Education in Colombia*, Reviews of National Policies for Education, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264250604-en.

Body of the recommendation

Chile is making several broad and ambitious changes in ECEC as we complete this report. These changes include the creation of the Undersecretariat of Early Childhood Education and the expansion of access to early childhood education through the creation of new early childhood education centres that fulfil new standards of quality. Other changes include the development of a law to make kindergarten mandatory. The government is also working to revamp working conditions and the professional development of early childhood educators and school leaders. Finally, the government is developing new curricular foundations for early childhood education, as well as quality standards for teaching practices and for the operation and management of ECEC institutions (MINEDUC, 2016). Since these changes are taking place at the moment of completing this report, it is difficult for the OECD to develop more detailed recommendations on the topic, especially regarding the specific needs of different age groups within Chile's ECEC system. However, at this moment of reform in ECEC, the Chilean government needs to develop an integral strategy to enhance the quality of learning and well-being of the youngest Chilean children. The government should also

continue to expand access to ECEC with priority given to children in the lowest quintiles of income and children living in rural areas. These two fundamental and complementary steps are required to ensure that ECEC realises its promise of enhancing educational equity and quality in Chile.

2.4.1. Develop a coherent and integrated strategy to ensure the youngest Chileans have access to high-quality opportunities for learning and well-being.

There are many elements already in place in the current ECEC system in Chile that can and should be used to enhance the quality of ECEC services across the country. These include a philosophy (both in JUNJI and Fundación Integra) that centres around the learning and well-being of children, and curriculum guidance to ECEC educators that addresses areas of learning and education activities, learning objectives, learning outcomes, assessment of learning and development, and productive learning environments. Other aspects of the current ECEC that can be used to affect progress include a rich set of measures of student learning and development for children ages 0-3 that can inform staff practice as well as policy decisions, and a regulatory framework for the operation of ECEC centres. The recent creation of the Undersecretariat of Early Childhood Education represents an important step in the effort to give coherence and direction to a previously disjointed ECEC system.

These elements, however, are yet to be integrated into a coherent system-wide strategy that ensures that all babies and young children in Chile are constantly exposed to high-quality opportunities for their learning, well-being and development. Recommendation 2.1 specifies some interdependent factors required for a strategy of this sort. Intentional efforts to co-ordinate and integrate measures to enhance the quality of classroom and school practices throughout the system and entire schooling trajectory of students are likely to pay off. If this co-ordination and integration includes schooling from ECEC through secondary education, it could result in greater coherence and improved performance of Chile's education sector. For now, this report will outline important considerations for the particular case of Chilean ECEC and its integration into the larger educational system.

First, at the system level, expertise and knowledge accumulated in the Chilean ECEC sector around effective practices and environments to enhance the learning, development and well-being of children should be used to widen the focus of and enrich strategies for school improvement in later grades. In particular, the child-centred philosophy that orients ECEC in Chile and its multiple measures of children's learning, development, and well-being can offer important inputs and insights into what public schooling for the future could and should look like in Chile.

- ***Setting a national vision:*** This knowledge accumulated in the system will contribute to the development of a definition of quality in ECEC that can be monitored, but also shared as a common vision with children, parents, staff and other related actors. This has been in the case in other countries. For example, in 2009, Australia launched the National Early Childhood Development Strategy (Investing in Early Years), to ensure that clarity of goals be achieved by 2020. The strategy also worked to ensure national recognition on the importance of ECEC (OECD, 2015d). Similarly, Canada's CMEC Early Learning and Development Framework, implemented in 2014, presented a pan-Canadian vision for early learning to be adapted to the needs of each province and territory. The framework was also introduced to support the development of policies and

initiatives that enhance quality and continuity of the learning experience in the early years and beyond (OECD, 2015d and 2015e). A National Plan for Early Childhood Education and Well-being in Chile by 2020, which recognises and builds on the achievements so far, could consider: 1) a timeline of implementation (for example, ensuring that all children receive quality ECEC by 2020); 2) development of a quality framework which sets out the quality measures required and how to measure them; 3) that all ECEC staff should have a qualification by 2020.

- ***Achieving coherence for and through the monitoring system:*** This refers to establishing instruments for monitoring across the system to support the quality framework, such as national standards or regulations, or standardised monitoring tools (i.e. Chile's Estándares Indicativos de Desempeño). In addition, the monitoring system should ensure that monitoring instruments interconnect clearly, and that the information gathered through them is systematically used for policy reform. This entails making periodic revisions of the information delivered by these instruments (as input on necessary adaptations to the quality framework). Regular revisions should also be made based on the quality of the information provided, in order to ensure that that instruments used are still relevant for the needs of the system, according to its goals. Instruments to assess child development could be adapted according to local needs, taking in consideration the local capacities in place and needed to perform assessments. Similarly, if consequences are added to the system, then the process of evaluation with consequences should take place through different mechanisms than evaluations without consequences. In any case, the instruments used should aim to capture children's development processes through different dimensions (e.g. physical health and well-being, social competence, emotional maturity, language and cognitive skills, communication skills, and general knowledge). These instruments should also capture the views of children's development by different actors, including staff, children and parents. Finally, the monitoring instruments selected should take into account the additional workload they may imply for staff.

Second, the newly integrated ECEC sector should ensure that all ECEC centres in Chile consistently provide high-quality learning environments and pedagogical practices for all children. This can involve:

- ***Developing a guiding policy toolkit*** that crystallises the system's goals, key tools and expectations into tangible examples that can be contextualised by ECEC institutions. This toolkit can integrate identified examples of existing effective pedagogical practices and productive learning environments in exemplary ECEC centres, aiming to make their reproducible features systematic. The toolkit could then be used to help identify opportunities for ECEC educators to observe, try out and incorporate into everyday practice. It is important that this toolkit contain credible and legitimate measures of student learning and well-being outcomes for early childhood education. For example, some systems use student portfolios to better capture the process of the child's development. This approach could also be less onerous for ECEC staff in terms of collection of evidence.
- ***Creating structured collaborative cultures*** within and between ECEC centres is important as well. Educators could receive support to engage in collaborative cycles of inquiry to examine, design and refine their pedagogical practice,

informed by available evidence of student learning and well-being. In order to better integrate the system, clusters of collaboration could be developed across different types of institutions (JUNJI, Integra or other institutions) sharing similar contexts, but with complementary good practices to exchange.

Third, a set of policies should be designed to ensure that the principle of respect for cultural diversity espoused by the General Law of Education materialises in the everyday practice of ECEC classrooms and centres. These could include:

- ***Improving the quality of ECEC opportunities for students from immigrant backgrounds*** and those whose first language is not Spanish. This can be achieved through different means, such as: setting diversity-related eligibility requirements for ECEC programmes; establishing the expectation that cultural diversity is effectively addressed and practised in all ECEC classrooms and centres; providing multiple opportunities for ECEC staff to develop sensitivity to, expertise in and the capability to embrace and adequately respond to cultural diversity (see Recommendation 2.2); deploying additional specialist school staff with expertise in cultural diversity; and ensuring that cultural diversity is reflected in the ECEC curriculum and teaching materials.

2.4.2. Continue the expansion of access to ECEC with priority given to children from disadvantaged backgrounds, and at a pace that ensures high-quality ECEC services.

The Chilean government should continue its upward trajectory of expanding access to ECEC. Efforts should be directed in particular at children in the lowest quintiles of income, children living in rural areas, children from immigrant backgrounds and children whose first language is not Spanish. These efforts will help the country to build both the demand for and the supply of ECEC.

- ***On the supply side***, the government should target underserved communities when deciding where to open new ECEC centres. The rural sector and communities and regions with high proportions of young children from families in the lowest quintiles of income should be given first priority. These new ECEC centres should be connected to the new local educational services of the public education system. That way, education authorities can facilitate the future transitioning of students from these new ECEC centres into primary education. Making efforts to improve access to ECEC for immigrant children is important as well. The government could allow immigrant children to enrol in ECEC even if the children's families have not yet acquired the legal right to be in Chile. Such a provision could be a first step towards the successful integration of immigrant children in the community. Similar measures could be taken for children whose first language is not Spanish.
- ***On the demand side***, initiatives such as awareness campaigns, visits to ECEC centres and ECEC information centres for parents can enhance the interest of low-income parents and parents from more disadvantaged backgrounds to send their young children to ECEC centres. Developing suitable holistic programmes could also stimulate demand. Outreach programmes that incorporate support for both parents and children are effective, for example. The Turkish Home Enrichment programme, which combines parent education with childcare provision, is a good model. Such a programme could be beneficial to the integration process in Chile (Engel et al., 2015).

At the same time, we recommend that the expansion of access to ECEC centres is phased out in a way that ensures high quality of learning opportunities for the youngest Chileans. A crucial aspect of the expansion is co-ordinating the growth so it coincides with the availability of highly qualified candidates to staff new ECEC centres. As the government expands ECEC, one possible growth approach is to select or create exemplary ECEC centres in central locations that neighbour other communities with unmet demands of high-quality ECEC centres. These exemplary ECEC centres could serve as showcase and training settings for educators in other existing and new ECEC centres in neighbouring communities.

Recommendation 2.5

Unify and strengthen the public education system as a learning organisation by continuing to invest in and create the system infrastructure and capacity to support systemic school improvement and promote opportunities for all students in public schools.

Summary

Chile can work to ensure that schools have the adequate support through a progressive strategy:

- In the short term, the Chile government should focus on defining with as much clarity as possible the envisioned role of the new intermediate structure of the education system, the local education services (Servicios Locales de Educación). By doing this the government can ensure that the best available candidates are selected to lead these services. It can also establish basic structures and routines of support and capacity-building for this new intermediate structure.
- In the middle to long term, attention should be placed on establishing routines for organisational learning and improvement at the local education services and ministry levels, and on simplifying the provision of support services to schools.

Context

Chile has an enormous pool of talent in its Ministry of Education, universities, private foundations and student organisations. These actors demonstrate a strong commitment to the betterment of education. The impressive talent and energy available for improving the education system, however, is not met currently with the necessary infrastructure to make significant change. Creating, sustaining and continuously updating such infrastructure is a basic requisite to ensuring the renewal and continuous improvement of the country's education system.

Historically, municipalities have been in charge of administering and supporting schools in Chile. Municipalities have assumed this responsibility to very different extents depending on a variety of considerations. Factors influencing this heterogeneity include: an unclear division of responsibilities; dependence on political cycles, as leaders are subject to popular vote; and problems of scale in the context of small municipalities (e.g. in terms of these municipalities focusing on other priorities besides education, or not having access to sufficient staff to support schools or sufficient funding when funds depend on the size of school populations).

The New Public Education Reform (Nueva Educación Pública) is the most recent structural reform currently under discussion in Congress. It seeks to establish a network of about 70 local education services (Servicios Locales de Educación), each overseeing four municipalities on average. These services will specialise in technical, pedagogical, administrative and financial tasks related to schools (see Chapter 1). As a government run, intermediate level of governance and support for schools, these services represent an important step in establishing a basic infrastructure for system-wide school improvement in Chile. Their creation aims to establish a stable source of support for schools that is not dependent on the political cycles that rule municipal administrations. This independence will allow them to focus exclusively on the provision of educational management and support of schools.

In order to ensure that this new intermediate level becomes an effective vehicle for school improvement, important challenges need to be overcome. Three of the most important challenges include:

1. Addressing possible confusions that might be created across the education sector with the introduction of a new intermediate structure, as well as a possible overlap of roles between the intermediate structure and existing organisations currently in charge of monitoring and supporting schools.
2. Maintaining a focus on improving and extending quality and equity in student learning, defining priorities of areas of attention, as the system becomes more effective.
3. Ensuring that the new mindsets and practices required by the new intermediate structure of education governance take root in the system and replace conventional bureaucratic and compliance-oriented practices of supervision with learning- and growth-oriented leadership and support.

The OECD had the opportunity to visit a handful of schools in Chile and talk with teachers and school leaders. At the time of our visit, we got the impression that overall, at the school level, there was little understanding of the current priorities of the Ministry of Education as they relate to the everyday activities of schools. Rather, ministry initiatives were experienced as vague, incoherent, or as additional paperwork and compliance requirements. Education reform intentions and strategies should be clear in the minds of implementers, as much as or more so than in the minds of policy makers (Fullan, 2016). From the perspective of a school principal or a teacher in Chile, the system of school improvement support available to them therefore needs to be a distinct, coherent and tangible set of resources that helps them to achieve the national goals in their schools. As such, the Ministry of Education should provide educators with enough clarity, flexibility and support to apply national goals to specific educational contexts.

In addition to municipalities, other bodies are tasked with supporting schools for improvement, such as the recently created National System for Quality Assurance of Early Childhood, Basic and Upper Secondary Education and its Supervision (Sistema Nacional de Aseguramiento de la Calidad de la Educación Parvularia, Básica y Media, SAC), the Deprov and the agencies of Educational Technical Support (Asistencia Técnica Educativa, ATE). If this array of sources of support is not experienced at present as a coherent whole, the addition of local education services is likely to add to the confusion of school actors if not appropriately implemented.

The Chilean government also announced recently the creation of two Education Leadership Centres (Centros de Liderazgo Educativo, CLE). These centres are being

developed by two consortia of universities and partner organisations, including international associated institutions. The government has given these leadership centres the mandate to build the leadership capacity of future leaders and staff at local education services (see Chapter 3). These centres might become important vehicles for the development of leadership capacity at the school level. Accomplishing this will require significant investment of time and effort from Chile, however. Rather than one more layer of the organisational structure, CLEs will be successful if they can support school and local education services leaders in developing clarity around system priorities and clear connections between their everyday leadership practice and these priorities.

Efforts by the Chilean government in this direction include the recently published protocol for joint work between the Agency for Quality Education (Agencia de Calidad de la Educación) and the Ministry of Education when visiting schools. This protocol intends to give greater clarity on how these different bodies can interact in schools to monitor quality and strengthen education reform processes by: 1) developing a shared strategy for school evaluation; 2) defining and aligning mechanisms, tools and methodologies available to all schools; 3) strengthening collaboration among institutions, and; 4) implementing the SAC in each education community, while putting schools at the centre (DEG-MINEDUC and ACE, 2016). In addition to this protocol, the government is planning to issue specific guidelines for monitoring visits to early childhood education centres.

International evidence

In decentralised systems with high autonomy at the municipal and school level (e.g. the Netherlands, Flanders, Sweden, Norway and Chile), capacity is a major issue, particularly in smaller municipalities and schools. They can struggle with fulfilling the tasks expected of them, as well as with the scope of policies. Prioritising among competing programmes and initiatives requested by central government can also prove difficult (Blanchenay, Burns and Köster, 2014; Hopfenbeck et al., 2013). Some countries use intermediate governance structures to help to bridge the gap between the central and local education levels.

A fundamental aspect of developing the infrastructure and capacity for continuous school and system improvement in Chile has to do with attracting, developing, and mobilising what has been termed as "professional capital" (Hargreaves and Fullan, 2012). Professional capital is the combination of individual talent (human capital), collective capacity (social capital) and the capacity to make good decisions based on professional judgement (decisional capital) (Hargreaves and Fullan, 2012). At the most fundamental level, in an education context, professional capital involves improving the wages, working conditions, preparation, induction and ongoing professional learning for teachers and school leaders (see Chapter 3). In addition, it also involves creating conditions to enable teacher collaboration focused on the examination and improvement of instructional practice. It also means fostering networks and collaboration between schools and regions, and nurturing a culture of collaborative inquiry and continuous improvement all the way from schools to the Ministry of Education. Finally, building professional capital means developing a progressive learning partnership of support and mutual influence between the Ministry of Education and schools.

The OECD has collected several country examples that have intermediate education structures, including Estonia, Germany, Iceland, New Zealand, Norway, and Portugal (Box 2.10). The characteristics and specificity of the structures play out in a number of

different ways across countries. As the examples below show, intermediate governance structures can be helpful in filling the gap between the central level and municipalities and schools. They can also take on different forms, including networks, clusters, regional development centres and district or county offices. Since every country is different in terms of institutional structures and economic, social and political conditions, intermediate governance structures are very context specific. There is no one-size fits-all structure.

Box 2.10. The role of intermediate structures

In **Germany**, the programme Learning Locally (Lernen vor Ort, LvO) was implemented by the German federal government and ran between 2009 and 2014. It was intended to support local governments in building capacities for education monitoring and management by merging efforts of municipalities within the same larger district, and creating sustainable networks between local administrations and civil society actors. The programme was launched in some states (*länder*) in parallel with a programme supporting regional educational networks that created an educational office at the district level.

In **Portugal**, schools have been reorganised into school clusters for efficiency and effectiveness, with the possibility of closing underperforming or small schools (in an 2010 agreement between the central government and the National Association of Portuguese Municipalities). Portugal also gave schools the possibility to sign autonomy agreements in 2008. This opportunity has been taken up by 26% of school clusters since it was implemented.

Source: Busemeyer, M. and J. Vossiek (2015), "Reforming education governance through local capacity-building: a case study of the "learning locally" programme in Germany", *OECD Education Working Papers*, no. 113, OECD Publishing, http://dx.doi.org/10.1787/5js6bhl2mxjg-en; OECD (2014b), *Education Policy Outlook: Portugal,* OECD, Paris, www.oecd.org/edu/EDUCATION%20POLICY%20OUTLOOK_PORTUGAL_EN.pdf.

Body of the recommendation

In the short run, the priority of the Chilean government should be to define with as much clarity as possible the role it envisions for local education services. This requires that the government select the best available candidates to lead these services and to establish basic structures and routines of support and capacity-building for this new intermediate structure. In the middle to long run, attention should be placed on establishing routines for organisational learning and improvement at the SLE and ministry levels, and on simplifying the provision of support services to schools. These priorities are further discussed below.

2.5.1. The new intermediate structure in the short run – defining the direction, getting the right people and developing basic capacity.

New structures do not automatically produce desired changes in practice. Indeed, without a deliberate effort to do things differently, new structures are more likely to slip into the default routines and cultural norms of the institutions where the new structures are introduced.

Defining the direction and roles of the new intermediate structure in precise and simple terms is an important first step to developing clarity, all the way from the Ministry of Education to schools. Education actors need not only understand the role and importance of the local education services, but also how they connect to other institutions

reaching out to the schools to help them achieve national goals. Achieving precision and simplicity of the envisioned role of the local education services is not only about creating a series of statements that look good on paper. It implies mapping the different actors in contact with schools, and the processes they undertake. It also requires exploring how these all can be better aligned in order to establish priorities of action while the system is put in place, and how to avoid duplicating efforts across the system. Most importantly, the role of the many local education services has to be framed in a way that makes sense and responds to developmental needs of the end users – schools, teachers, and principals. Finally, it is important to answer a few key questions. What processes are fundamental to promote school improvement? Who is best placed to perform these? What key capacities are needed? What is redundant in the system that could be taken away?

Getting the right people and continuously developing their capacities to effectively serve the improvement needs of schools is vital when setting up an intermediate structure. This involves defining clear profiles of ideal candidates, recruiting highly qualified people to lead these units and, from an equity perspective, offering incentives to attractive the best available leadership talent to regions serving the largest proportions of underprivileged and underperforming students.

Building key capacities of leaders and staff of local education services poses the major challenge of simultaneously preparing these people to effectively manage the new structure (administrative capacities) while ensuring that they are able to provide effective and responsive leadership and support to the schools within their jurisdictions (capacities to strengthen the pedagogical processes in schools). These two key areas of capacity-building should be addressed simultaneously to avoid repeating old patterns of compliance and bureaucratic procedures, which will then be hard to reverse. Many leaders and staff of the new intermediate structure will be coming to their new roles from existing roles in the prior system, including municipal government offices, regional inspections and other units of the educational system.

As part of their new responsibilities, they may need to cater to the needs of a more heterogeneous body of schools than they did before, either in terms of socio-economic background, school size, or offer of study (academic or technical-professional). This will require surmounting an important learning curve in order to address schools' needs. For example, an important challenge will be defining and developing the role and interaction of local education services with technical-professional schools, which also happen to serve vast numbers of Chilean students in conditions of vulnerability. These services will need to develop the technical expertise and knowledge needed to properly manage these schools, and offer support and opportunities that would otherwise be out of the schools' reach. It is therefore best to assume that significant investment will be required to build capacity of staff working in these local education services to take on a role that is in many ways fundamentally different from their prior roles and the skills and routines they are most familiar with. Among other things, this new role will require taking on an orientation that prioritises co-learning over compliance, growth over evaluative judgement, dialogue over prescription and support over supervision.

Strengthening leadership across the system to champion reforms is also important. The new centres of educational leadership (CLE) will have to effectively develop the skills, knowledge and dispositions required to effectively enhance the performance of schools and the larger system. The Good Teaching Framework and Good Leadership Framework developed in Chile are important inputs to orient the design and development of CLEs (see Chapter 3). CLEs will also have to establish channels of constant interaction

with schools, local education services and the Ministry of Education to monitor progress, identify unanticipated challenges, and reshape strategies as needed. CLEs should, in co-ordination with the Ministry of Education, aim at developing system coherence. Rather than become one more layer of the organisational structure, CLEs will be successful to the extent that they support school and SLE leaders in developing clarity of system priorities and connections between their everyday leadership practice and these priorities.

The key point to make here is that in order to be truly effective, the new intermediate structure will have to operate under a logic that is qualitatively distinct from the logic under which regional supervisions and the Ministry of Education have historically operated in Chile and many other countries. This will require the development of new capacities and mindsets, even among the most talented people recruited as leaders and staff of the new local education services. Designing and running the local education services in such a way that they become effective agents of renewal of public education in Chile will be hard work and will take time. It should take at least five years to establish a well-functioning intermediate structure of support to schools. This is further discussed below.

2.5.2. The new intermediate structure in the middle to long run – establishing routines for organisational learning and improvement, and simplifying provision of support services to schools.

The two CLEs have the mandate of building the leadership capacity of future leaders and staff of local education services. Since the new roles are fundamentally different from the traditional leadership roles in regional supervisions and the Ministry of Education itself, increased precision of these new roles will be best achieved through refinement over time. The idea is to start with the best possible design of these roles based on what is currently known about effective leadership development. At the same time, the government should be flexible, and constantly refine and reshape leadership roles based on feedback from implementation.

An organisational learning plan of this sort not only represents a promising approach to the rather complex challenge of designing and running a new intermediate leadership structure. It should also inform the development of a new logic of governance between the Ministry of Education and schools. The most successful educational systems around the world have undertaken this significant shift. As such, they operate as learning organisations.

In this context, it is advisable that the design and development of the CLEs are not simply delegated to the two responsible consortia.

Instead, intentional channels of constant interaction and communication should be established between these consortia and the Ministry of Education (in particular the General Education Division). The type of interaction and communication the OECD envisions goes beyond keeping each partner informed. It is rather a developmental type of interaction, whereby both parts learn to do things differently and enhance their capacities as learning organisations.

The design and development of local education services has to be a three-fold task:

- First, training leaders and staff so that they are able to simultaneously manage the new structure and provide effective supports for school improvement.

- Second, developing what Hargreaves and Braun (2012) call "leadership from the middle: – in this case, a leadership practice and mindset of connecting laterally with other local education services peers to continuously learn from and influence each other. Local education services should also cultivate productive partnerships vertically, with the highest structure (Ministry of Education), and the lowest (the schools served.)
- Third, intentionally learning from and documenting the work of designing and developing the training of its staff. As mentioned above, organisational learning resulting from constantly designing, testing, and refining the capacity-building strategy might become a highly valuable asset to be reinvested by the Ministry of Education. This process can inform the ministry, which would help it become a learning organisation itself.

As the role of the local education services becomes more precise over time and the capacity of its leaders and staff to manage the new leadership structure and support becomes more established, it will be very important to continue doing work to simplify the provision of support services to schools.

If developed effectively, the local education services are likely to take on an increasingly prominent role over time as the major support provider to schools. While local education services are designed and developed, the ministry should give continued serious attention to its structures of support for school improvement, maintaining a perspective centred on the users – teachers and principals. This requires a periodical review of the usefulness of current governmental structures. It also requires that the ministry make decisions to restructure, remove, or reorganise these support structures in a way that simplifies and enhances the support experience for its users.

As stated above, some key decisions to make concern the clarification of roles and the nature of the interactions that should take place between the new local education services and the government support structures currently in operation. Most prominently this includes the bodies comprising the SAC (namely the Superintendence and the Agency for Quality Education) and municipalities. In addition, the current system of external providers of technical support to schools, called External Technical Assistance (Asistencia Técnica Externa, ATE) should be re-examined in light of the development of the new intermediate leadership units or SLEs. The OECD learnt that the Ministry of Education is currently working on a quality assurance certification process for ATE that is expected to start operating in 2018. This represents an important step, especially if the process is intentionally designed to work coherently with and support the work of local education services (MINEDUC, 2017).

Conclusions

After a quarter century of reform efforts, Chile continues to face significant challenges in advancing excellence and equity in student learning. The country has recently taken audacious steps to improve equity of educational opportunities for all its students. These include the elimination of system-level structures and practices that have historically perpetuated inequality, the development of a funding formula (SEP) that favours schools serving high proportions of students in conditions of vulnerability, and plans to create local education services as the new intermediate capacity-building structures to connect the Ministry of Education and schools. These represent very

important steps in the right direction, and efforts should be made to ensure their continuation and adequate implementation.

Important as they are, however, the legal and structural changes represented by current reforms should not be confused with actual change. In order to fulfil its promise of substantially enhanced quality and equity of educational opportunities for its younger generations, the Chilean government needs to shift its focus towards cultivating mindsets and changes in everyday practices – in schools and across the entire system. Ingraining changes in the new funding and organisational structures advanced by recent reforms is paramount. This is hard work and will require substantial investment of time and effort.

Develop a strategy to improve quality across the system

The most direct route to improving educational quality and equity is developing a coherent and evolving system-wide strategy aimed at enhancing pedagogical practice in classrooms, with greater support tailored at schools serving high proportions of students in conditions of vulnerability. The current plans to align the Framework for Good Teaching with the assessment of teachers and early childhood educators represent an important effort in this direction (see also Chapter 3). At the same time, for these plans to translate into actual improvement of professional practice at the system level, establishing robust mechanisms and practices of support and capacity-building should take precedence over simply enforcing external accountability measures for teachers.

Promote practices of inclusiveness across the system, with high expectations and high-quality learning opportunities for all

Simultaneously, the Chilean government should continue to monitor and discourage system- and school-level policies and practices that hinder equality of educational opportunity based on socio-economic status, gender, ethnicity and immigration status. In the short term, the government can achieve this by supporting school principals and teachers to ensure that the principles that guide the new Inclusion Law permeate the everyday practices of classroom and school management. This means replacing student tracking, grade repetition and school transfers with practices that reflect high expectations and high-quality learning opportunities for all students. It also means continuing the gender equity-oriented efforts currently underway and expanding their logic of operation to other categories of exclusion such as ethnicity and immigration status. In the medium term, we recommend that the Chilean government maximises the impact of the Preferential Schools Subsidy (Subvención Escolar Preferencial) by turning it into a tool for pedagogical improvement. In addition, in the medium to longer term, Chile should explore alternatives to its current voucher system as the mechanism for school funding.

Prioritise a quality ECEC strategy for all

The learning and well-being of children in the early years of their lives shape their prospects for the future in critical ways. Chile should continue its trajectory of expansion of access to ECEC with priority given to children in the lowest quintiles of income or living in rural areas. Expansion of access to ECEC should be implemented in a way that ensures high-quality learning opportunities for the youngest Chileans.

Crucial to achieving high levels of educational equity and quality in Chile is the integration of existing elements of ECEC provision into a coherent, system-wide strategy to enhance the quality of the learning and well-being of the youngest Chilean children. As

a fundamental aspect of this strategy, the country should ensure that its promise to respect cultural diversity becomes ingrained in the everyday activities of ECEC centres.

Cultivate leadership from the middle

The creation of local education services (Servicios Locales de Educación) represents an important step to developing the basic infrastructure of capacity-building and support for school improvement. In the short term, substantial time and resources should be invested in defining with as much clarity as possible the envisioned role of SLEs, attracting the most highly qualified candidates and establishing basic structures and routines of support and capacity-building for schools. In the middle to longer term, the priority should shift to establishing routines for organisational learning and improvement at the SLE and ministry level. Developing system coherence by simplifying the provision of support services to schools should also be a priority.

Note

1. The National Socio-economic Survey (Caraterización Socioeconomica Nacional, CASEN) is a household survey conducted across the country at all governance levels and in both urban and rural areas by the Ministry of Social Development (Ministerio de Desarrollo Social), which used to be the Ministry of National Planning and Political Economy (Ministerio de Planificación Nacional y Política Económica, MIDEPLAN).

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Chapter 3

Strengthening the quality of teaching and school leadership in Chile

Teachers are the most important factor influencing student achievement. What is the best way to prepare them to face constantly evolving educational needs in an increasingly globalised world? Chile's new Education Law 20.903, which created the new System of Teacher Education and Professional Development (Sistema de Desarrollo Professional Docente), is an opportunity for Chile to support teachers to improve professionally and augment the impact they have on student learning. The following recommendations aim to provide guidance on ways to improve the new teacher education and professional development system and its implementation by: 1) engaging teachers in the reform process; 2) completing the review of the Good Teaching Framework and developing professional standards; 3) reviewing how initial teacher education and in-service training is delivered; 4) promoting and providing high-quality professional development opportunities for all teachers and school leaders, and; 5) developing a strong professional cadre of school leaders and principals.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

Teachers are the most important factor influencing student achievement. They have more direct impact on student learning than budgets, curricula, inspection and accountability systems, or governance. Among OECD countries, the large number of reforms promoted in recent years to help improve the teaching profession shows that countries are increasingly making teachers a priority (OECD, 2015a). The challenge shared by education systems within and beyond the OECD area is to find ways to better support teachers in a context that is continuously changing. Because of new technologies and a changing world, demands on teachers have become increasingly complex (Schleicher, 2016):

> Today's teachers need to prepare students for jobs that have not yet been created, to use technologies that have not yet been invented, and to solve social problems that have not arisen before. Teachers have to do more than transmit educational content: they have to cultivate students' ability to be creative, think critically, solve problems and make decisions; they have to help students work better together, by developing their ability to communicate and collaborate; they have to build students' capacity to recognise and exploit the potential of new technologies; and they have to nurture the character qualities that help people to live and work together. (Schleicher, 2016)

School leadership is also critical for improving student outcomes. Through formal and informal contributions, school leaders influence the motivations and capacities of teaching staff, as well as the school climate and environment. Expectations for schools and school leaders are currently increasing in order to adapt education systems to the needs of contemporary society (Pont, Nusche and Moorman, 2008).

Therefore, attracting, developing and retaining high-quality teacher and leadership workforces is critical for the future of schooling. The Chilean government should aim to develop universal policies that cater to the evolving nature of learning and of the teaching profession. Chile's schools should recruit highly qualified graduates, offer continuing professional development and ensure career advancement, as well as attractive working conditions and salaries (Schleicher, 2011).

In the lead-up to Chile's entry into the OECD in 2010, and in the years following, the Ministry of Education (MINEDUC) has worked with the OECD to identify and tackle issues affecting the quality of Chilean schools. These issues have included the important role of school leadership, the initial preparation and professional development of teachers, and opportunities for improvement through teacher evaluation and assessment. The 2004 OECD review of Chilean education, and other OECD work on the quality of teacher education and teaching practice in Chile carried out since then have studied teacher evaluation, teacher careers and, more recently, the effective use of school resources in Chile. Both the 2004 review and recent OECD work have found that Chile has taken significant action and made significant progress in reforming the education system (OECD 2004; Santiago et al., 2013; Toledo Figueroa and Wittenberg, 2014; Santiago et al., 2017). This process is ongoing.

This chapter provides comments and proposals in relation to the improvement of the quality of the teaching profession as a whole in Chile. The OECD recognises that Chile's teacher workforce, as in other countries, is highly differentiated. This means that teachers have different roles and different pay according to where they teach and the demands placed on them. The workforce is structured this way in order to address the specific needs of, for example, the education level taught (e.g. early childhood education, primary

education or even vocation and training), the characteristics of the student population (e.g. the share of students with special needs), or the school in which teachers work (e.g. size, location or socio-economic background). Because teachers have different roles, responsibilities, pay grades and needs, the government should tailor support to the multitude of teacher experiences. Therefore, the OECD strongly supports efforts to build and further develop a core national system of teacher professional development. The OECD also encourages the Ministry of Education to stay true to this framework while developing additional and more specialised approaches for different teaching experiences.

All teachers, regardless of the sector they work in, should have access to high-quality initial teacher preparation courses and practical training. Teachers should also have access to relevant, timely continuing professional development opportunities which have been developed and assessed against a nationally agreed-upon set of professional standards. All teachers should also expect to be assessed against this nationally agreed set of professional standards. These standards should underpin the national profession of teaching, and encourage and support career development. Service in the teaching profession should be conditional to some degree on teachers' abilities to conform to these standards.

The new System of Teacher Education and Professional Development (Sistema de Desarrollo Professional Docente) aims to give impetus and authority to the teacher quality agenda in Chile. It was implemented by the Education Law 20.903 (MINEDUC, 2016a) (see Box 3.1). The new system responds to many OECD recommendations, which is a positive development. It aims to build on previous initiatives developed and implemented over the last ten years to provide teachers with an integrated vision for the teaching profession in Chile.

The new System of Teacher Education and Professional Development clearly addresses many of the concerns expressed by the OECD. It offers more than its title implies, as the system provides an overarching framework with a plan for the next 10 years (2016-2026). The framework and plan aim to raise the quality of initial teacher preparation, improve coursework and better teaching practices, among other goals. The new system commits to developing and supporting teachers from entry in the profession to the end of their careers. It also commits to developing and supporting teachers through continued professional development. The system develops a career and new pay structure for teachers, and promises to increase the value of the role of teachers and the teaching profession in the community. Moreover, it promises to include teachers in the development of the future education system of Chile (see Box 3.1). The new system also incorporates early childhood teachers into the broader teacher system. Previously, early childhood teachers were not deemed a part of the system, and therefore they did not have the opportunity to partake in professional development or support. Further discussion on early childhood can be found in Chapter 2.

In some ways, the recommendations delineated in this review come a little early, as the review is being written at the same time as some of Chile's planned reforms are being developed and announced. It is expected that it will take some time for these reforms to be fully implemented. Despite this fact, the OECD review may in fact be helpful in providing some guidance and commentary on the implementation of the most recent reforms identified.

This chapter therefore acknowledges the changes being made by the Chilean government, and notes some possible gaps or areas which might still require attention after publication of this review. This chapter identifies specific ways in which those

changes might be supported and achieved for the benefit of all. Finally, it seeks to encourage continued commitment to the pursuit of enhanced quality of teaching in Chilean schools.

Box 3.1. The New System of Teacher Education and Professional Development (Sistema de Desarrollo Profesional Docente)

General objectives:

The general objectives of the new System of Teacher Education and Professional Development are:

- to dignify the teaching profession, support teacher practices and enhance their value and important role in society for the generations to come
- to contribute to the construction of an inclusive system where quality education is a right for everyone.

Specific objectives:

The specific objectives of the new System of Teacher Education and Professional Development are:

- to promote and guarantee the quality of initial teacher training
- to strengthen the teaching profession
- to support teachers throughout their entire careers
- to generate a new model of in-service teacher training
- to promote collaboration in the system and the development of learning communities at all levels.

Source: MINEDUC (2016a), "El CPEIP en la Reforma Educacional: Políticas y ámbitos de acción" [The CPEIP in Educational Reform: Policies and areas of action], Centre for Improvement, Experimentation and Pedagogical Research (CPEIP), Ministry of Education of Chile, Santiago.

The key question addressed in this chapter is, how can Chile consolidate the teaching and school leadership professions so they can better promote student learning and are seen as high-status professions in Chile? The description and analysis below considers the situation at the time of the visit to Chile by the OECD review team in March and April 2016. The review acknowledges, when possible major, related education policy developments which may have taken place after this visit.

Strengths and challenges

The Chilean teaching and school leadership systems have several strengths.

Strengths

Chile's vision aims to combine continuity and improvement of policies.

Over the period 2004 to 2014 there have been a number of initiatives that support the improvement of the quality of education in Chilean schools. These initiatives include the introduction of the Good Teaching Framework, (Marco para la Buena Enseñanza) (MINEDUC, 2003), the Good School Leadership Framework (Marco para la Buena Dirección) (MINEDUC, 2005), the creation of the National Council of Education (CNED, 2012) and the Agency for Quality Education (Agencia de Calidad de la Educación, 2011), and, earlier, of the System for Teacher Performance Evaluation (Sistema de Evaluación del Desempeño Profesional Docente, 2003).

The new System of Teacher Education and Professional Development goes beyond the structural reforms implemented to date, aiming to bring together and build on the initiatives developed and implemented over the last ten years. This effort to capitalise on present and previous efforts to promote an organised view of improvement can be of great value to the implementation of the new System of Teacher Education and Professional Development

A larger share of Chilean teachers reported in TALIS that they are satisfied with their jobs.

The great majority of Chilean teachers (94.6%) reported on the OECD Teaching and Learning International Survey (TALIS)[1] that they were satisfied with their jobs. A majority of Chilean teachers (78.9%) also reported that the advantages of being a teacher clearly outweighed the disadvantages. 83.8% said they would still choose to work as a teacher if they had to decide again. These rates are above TALIS' averages (OECD, 2014). About 13.9% of Chilean teachers reported regretting that they had decided to become a teacher. This proportion is slightly above the average of 9.5% of teachers in TALIS who said they regretted joining the profession (OECD, 2014).

A majority of teachers follow initial teacher preparation programmes.

TALIS 2013 used the International Standard of Education of 1997 (ISCED-97) to define the education levels attained by the principals and teachers surveyed. This ISCED classification defined tertiary-type A education as ISCED level 5A and tertiary-type B education as ISCED level 5B. According to this classification, tertiary-type A education programmes (ISCED 5A) are largely theory-based, but are not exclusively offered at universities. They aim to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements. These programmes have a minimal cumulative theoretical duration of three years, although they typically last four or more years. Tertiary-type B education programmes (ISCED 5B), in contrast, are typically shorter than tertiary-type A programmes (with a minimum duration of two years full-time equivalent at the tertiary level). Although tertiary-type B programmes may include theoretical foundations, they focus on practical, technical or occupational skills for direct entry into the labour market (OECD, 2014 and 2012).

A large majority of teachers at lower secondary level in Chile (81.1%) reported having a university-level degree (ISCED 5A) as their highest level of formal education completed, while 17.9% reported having completed a teacher education or training programme type ISCED 5B. These figures place Chile behind its peers for university-level degrees. On TALIS, 89.5% of teachers on average report having a university degree as their highest level of education, while only 7.1% report attaining an ISCED level 5B diploma. That said, Chile's proportion of well-educated teachers remains high, with only 0.5% of teachers surveyed with a qualification below ISCED level 5 (OECD, 2014).

School leadership in Chile has been the object of reforms to improve its quality.

The Chilean government has prioritised efforts to strengthen school leadership in recent years. The Teacher's Code has required that school principals in municipal schools be hired through a public competition, and have teacher qualifications and at least five years of teaching experience, as well as some training in school administration (Santiago et al., 2013). The selection system for principals was modified in 2011 under the Quality

and Equality of Education Law. The modifications required that principals be hired through a competitive examination akin to that used for Chile's High Public Service (Santiago et al., 2013). The new law also changed requirements for school principals around training and experience, strengthening training requirements and somewhat relaxing experience requisites.

Challenges

Chile also faces challenges to its efforts to strengthen teaching and school leadership.

Chile has an ageing teaching force, which can be an opportunity.

The promotion of teaching as a valued role within the community will not just benefit teachers already in the system; it will benefit Chile's future. Chile needs more teachers, and needs to attract high-quality candidates to the profession.

Chile, like other countries, faces an ageing workforce. There is high demand for more teachers and younger teachers in Chile. TALIS (2013) reports that the typical teacher in lower secondary education in Chile is a 41-year-old woman. This typical teacher reports having 15 years of teaching experience, and having completed teacher education or a training programme. While the typical teacher in Chile is female, the proportion of women to men in the teacher workforce is below the TALIS average (62.8% of teachers in Chile are female, in comparison to the TALIS average of 68.1%) School leaders in Chile are ageing as well. Lower secondary principals have, on average, 25 years of experience working as a teacher and 11 years of experience as a principal. These figures are higher than the TALIS averages of 21 teaching years and 9 years as a principal. Chile had more than double the average proportion of principals above the age of 60 among TALIS countries in 2013. 30.2% of principals in Chile were 60-years-old or older, versus 15% of principals on average among TALIS countries.

This high age range of teachers and school principals may pose potential challenges for teacher renewal at schools in the coming years, as Chile will face a wave of retirements. At the same time, this generational shift offers an opportunity. With a new generation of teachers and school leaders, Chilean education authorities have the chance to define new systems and strategies to prepare and support teachers facing the new demands of education today. The Chilean government should consider the following: 1) national and internal evidence of good teaching and school leadership practices; 2) the knowledge and experience of the current teaching staff; and; 3) a vision of where the education system should be in the coming years.

From the perspective of society, the status of the teaching profession appears currently low.

The status and social recognition that teachers receive from Chilean society could be improved. Evidence shows a low public esteem for the teaching profession in Chile. One 2011 opinion poll found only 47% of respondents felt teachers should be proud of their profession, while in a survey of upper secondary students, 66% of respondents declared

that teaching was the career with the lowest social standing (MINEDUC, 2017a). A study from 2010 (Ávalos and Sevilla, 2010) found 80% of teachers reporting that social recognition of their profession was medium to low. Just 33.6% of Chilean teachers reported feeling that their profession was valued by society, according to TALIS (MINEDUC, 2017a; OECD, 2014).

There is a perception of a lack of qualified teachers to deliver instruction.

In national survey results published in 2014, Chilean principals reported a lack of qualified teachers as hindering the quality of school instruction. Just 63% of school principals at public municipal schools reported believing that their teachers were very well-or well-prepared to teach, compared with 71% at government-dependent private schools and 95% at government-independent private schools (Weinstein and Hernández, 2014). School principals ranked "strengthening teachers' initial education" as the most important factor in improving education quality (Weinstein and Hernández, 2014). Challenges in teacher quality preparedness appear to be more acute in public municipal schools, rural schools and schools with a large population of disadvantaged students (Santiago et al., 2013; 2014).

Chilean teachers also participate less in continuous professional development activities, according to self-reports.

In Chile, once teachers begin teaching in the classroom, they do not need to satisfy specific requirements to stay in the profession. Chilean teachers do not need to satisfy requisites for registration as teaching professionals or probation processes, and comparatively few engage in ongoing professional development activities.

New teachers generally do not benefit either from formal induction processes (i.e. organised arrangements for supporting and monitoring teachers at the start of their careers). Principals report that 60% of lower secondary education teachers attend schools where there are no formal induction programmes; the TALIS average is 34.2%. Only 64% of lower secondary education teachers in Chile participate in informal induction activities. The TALIS average is 76.5% (OECD, 2014). Chilean lower secondary school principals report that 74.3% of teachers work at schools where there is no access to a mentoring system for teachers. This is the highest figure in TALIS, where the average is just 25.8% (OECD, 2014).

Additionally, Chilean teachers reported participating in professional development activities in the 12 months prior to TALIS 2013 at much lower rates than the TALIS average. 72% of Chilean teachers at both public and private schools reported participating in professional development during that period, as compared to 89% of public school teachers and 86% of private school teachers on average in TALIS. Chilean teachers currently decide with full autonomy whether they want to participate in professional development, a practice that is less common among OECD countries (OECD, 2014).

Chilean teachers who report having participated in formal induction programmes are 2.5 times more likely to participate in three or more different types of professional development activities. This figure is higher than in any other TALIS country. Three-quarters of teachers identified the cost and the lack of incentives as barriers to participating in professional development, compared with respective TALIS averages of

44% for high cost of professional development activities and 48% for lack of incentives to participate in professional development activities (OECD, 2014).

School leadership in Chile has been seen as an "end of career" position.

Serving as a principal in Chile generally represents the final stage in a teacher's career, hence its regulation under the Teacher's Code has offered limited possibilities for further advancement (MINEDUC, 2017a).

Chile had the second highest proportion of principals in TALIS (25%) who reported ISCED 5B level programmes as their highest level of education. The TALIS average for principals reporting ISCED 5B level programmes as their highest level of education was just 3.9%. 92% of principals among TALIS participating countries reported having completed longer ISCED 5A programmes (OECD, 2014). Yet, a higher proportion of Chilean lower secondary education principals said they had completed training, programmes or courses on instructional leadership, school administration, principal or teacher training and education than the TALIS average (OECD, 2014). Other data indicate that the large majority (95%) of school principals in Chile had an education degree in 2014. According to the same data, different shares of school principals had a specialisation in school administration, management or leadership depending on the type of school they worked in (83% of public municipal school principals, 75% of government-dependent private school principals and 62% of government-independent private schools) (MINEDUC, 2017a; Weinstein and Hernández, 2014).

As of 2010, Chile's higher education institutions (IPs and universities) offered 78 different training programmes for school principals and leadership teams of at least one year (MINEDUC, 2017a). These programmes are highly inconsistent in terms of quality due in large part to a lack of state regulation. Many of these programmes often promote very traditional methodologies with significant weaknesses in the area of pedagogical leadership (MINEDUC, 2017a). Few of these programmes are adapted to serve teachers interested in applying for leadership posts (MINEDUC, 2017a).

In terms of ongoing participation in professional development, 23.5% of lower secondary principals in Chile reported that they did not participate in any professional development in the preceding 12 months, over double the TALIS average of 9.5% (OECD, 2014). A high proportion of school leaders said a lack of incentives was a barrier to participating in professional development in Chile (58.9% of Chilean school leaders named incentives, compared to the 35.4% TALIS average). High proportions of Chilean school leaders also said professional development was too expensive (53.7%, compared to the TALIS average of 29.9%), and conflicted with the work schedule (50.7%, compared to the TALIS average of 43.1%) (OECD, 2014).

Schools operate at different levels of autonomy and capacities.

OECD evidence suggests that institutional autonomy can translate into better performance, as well as better capacity to meet student needs (OECD, 2013) in certain specific contexts. These include contexts where school capacity exists (through good teachers, school leaders and positive learning environments), and adequate accountability mechanisms are implemented (through evaluation and assessment practices).

In principle, it would appear that the structure of Chile's education system would make schools relatively autonomous. PISA 2015 does indicate that Chilean schools have

more autonomy in general compared to the OECD average, as measured by an index of school autonomy derived from the PISA survey of school principals (OECD, 2013). However, Chile had some of the greatest variability among OECD countries in this autonomy index (OECD, 2013). The most socio-economically advantaged schools, private schools, city schools and upper secondary schools report above average autonomy, while lower secondary schools, public municipal schools and rural schools reported below-average autonomy (OECD, 2013).

The autonomy of a Chilean school is not only based on the relationship of the school to the Ministry of Education, but also to the school's *sostenedor*, which holds an intermediary role relative to MINEDUC. The vast majority of Chile's 4 934 private *sostenedores* administer just one school, while 73% of the 584 that administer more than one school administer just two, which could explain why so much decision power is concentrated at the school level in the private sector. In contrast, the median public municipality administers 13 schools. These figures tell a different story as well. Because private school administrators tend to administer very few schools, there is less contact and collaboration among administrators of different schools. This in turn also increases segmentation in the education system. Chile has the highest proportion of principals (18%) in TALIS who report never or rarely collaborating with principals in other schools (OECD, 2014).

International evidence on regional and territorial governance identifies poor capacity and co-ordination across governance levels as structural challenges contributing to regional and territorial inequities (OECD, 2015b) in Chile. From the school perspective, a majority of school principals (from public and private schools) in a 2014 poll reported that they did not perceive municipalities as contributing to improving the education system (Weinstein and Hernández, 2014). For MINEDUC, municipal management brings the challenge of co-ordinating 346 municipalities that are all autonomous and heterogeneous, with mayors that may have misaligned perspectives on quality and equity in education or political motives (see Chapter 2). Municipal operation of schools also generates inequities, as municipalities differ in terms of capacity to provide education and social programmes, and also differ, notably, in terms of fiscal resources. Revenue per capita of the richest 10% of municipalities in Chile is more than twice as high as revenue per capita of the poorest 10%, even after fiscal equalisation. This is because property taxes are municipalities' primary revenue source and property values are generally lower in poorer areas (Toledo Figueroa and Wittenberg, 2014).

The OECD review team formed the impression, based on different discussions with stakeholders in Chile and previous study of the system, that the very real challenges of social and economic divisions in the community are reflected in the capacities and quality of the schools themselves. Teachers spoke of the different expectations and teaching experiences in the public municipal schools versus the private ones. The government-independent private schools and, until recently, the government-dependent private schools, seem to have been able to provide better-quality learning environments than public municipal schools. Government-independent private schools and government-dependent private schools have also attracted students who have wealthier parents and homes. In contrast, some public municipal schools have been overwhelmed by enrolments of large numbers of students from less privileged and vulnerable backgrounds. These schools have also struggled to provide adequate support to disadvantaged students with special needs. These conditions challenge teachers, who feel they need more preparation and support. As a result, some teachers are more easily attracted to the private sector.

As discussed in Chapter 2, the new funding arrangements promoted through the Inclusion Law may lead to changes in the student population at schools. These changes are an opportunity to reflect on how teachers and school leaders at all school types can improve their practices to cater to significant and diverse student needs.

Recommendation 3.1

Promote the role of the teacher and the profession of teaching as key to the future of Chile, and actively include teachers in the ongoing process of education reform.

Summary

Urgent action must be taken to improve the status of teachers in Chile in schools and in the community more broadly. Teachers play an important role in the lives of young people around the globe. Teachers are vital to student skills development, student preparation for future employment and active participation in the community. Chile needs good teachers. The government must make stronger efforts to support and develop the profession of teaching, as well as to promote teaching as an attractive career path. Teachers must be encouraged to participate in the education reform process.

Context

The new System of Teacher Education and Professional Development commits to developing and supporting teachers throughout their careers. It seeks to "dignify the teaching profession, support their practice and enhance their value and important role in society for the generations to come" (MINEDUC, 2016a). This new system aims to give teachers and those who aspire to be teachers the opportunity to demonstrate their commitment to teaching. The funding package will require teachers to take an active role in both their own professional development and the development of their school and educational communities.

The OECD views the new System of Teacher Education and Professional Development as an opportunity to make a significant difference in the quality of teaching and therefore schooling in Chile. The focus on teacher preparation and professional development together with the link to salary and career progression are important to important to strengthen teaching as a profession in Chile. As such, the new system can foster pride in teaching as a profession, and recognition of the value of teaching.

However, the implementation of the new system will need to be carefully managed. There will be supporters and detractors, enthusiasm and possible cynicism. The implementation of the broader school reforms has provoked notable tensions. As this report was being prepared, a climate of angst with regards to the reforms pervaded the political environment in Chile. The implications of this set of reforms for school owners, the municipal authorities, the schools and teachers themselves, mean that these reforms cannot be imposed by administrative or management practice. The system itself must be a central feature of the profession of teaching.

The OECD believes that teachers, who are the backbone of the school system, could be included further in the development and implementation of the educational changes sought in Chile as a part of the strategic process explained in Chapter 2. When

interviewed by the OECD review team, some Chilean teachers expressed the view that "change was being done to them". At the same time, they said that they would welcome the opportunity to be a part of the process. These same teachers talked passionately about their students, their present life conditions, their schooling, their opportunities and their futures. Incorporating them into the strategic process would benefit both the process and the teachers themselves.

It was a pleasure to witness real-life examples of educational success in Chile's schools. The OECD review team watched a member of a school leadership team re-connect with a former student who clearly recognised the impact the school had on his ability to get a job. The school leader was clearly pleased to see the former student's success, despite earlier difficult life circumstances.

Evidence shows that teachers tend to report feeling proud of their profession, while they believe society tends to value it less. TALIS 2013 findings show that more than 95% of teachers in Chile reported overall satisfaction with their jobs, yet only 34% of them believed that teaching was a profession valued by society.

Asking teachers in Chile what would make them feel more valued elicited a common range of replies including: more respectful and positive relationships with governing and administrative bodies, parents and society generally; more information about the reform agenda at the school and teacher level; less administrative burden and more time for teaching and classroom preparation; greater opportunities for professional development, both formal and informal; more support for the challenges arising in the school environment, for example, socio-economic family circumstances stemming from cultural differences, unemployment, drugs and violence; and better pay and conditions.

International evidence

A statement from ILO/UNESCO points that, "Teaching should be regarded as a profession: it is a form of public service which requires of teachers expert knowledge and specialised skills, acquired and maintained through rigorous and continuing study; it calls also for a sense of personal and corporate responsibility for the education and welfare of the pupils in their charge" (ILO and UNESCO, 1966).

Young people need to be motivated to become teachers. Their own experiences of teachers in school inform their career choices. Chile's Centre for Improvement, Experimentation and Pedagogical Research (CPEIP) has indicated that it would be looking to develop and run an appropriate recruitment campaign in the media. This is a good step, but the OECD believes that a more holistic communication strategy is required. Such a strategy would also encourage public respect for the profession of teaching and recognition of the value of teachers. Furthermore, it would communicate to society what teaching in Chile is about, and why it is important. All stakeholders, the Ministry of Education, CPEIP, teachers themselves and the community would need to contribute to the planning and implementation of such a strategy. The Ministry of Education would also need to recruit strong public support for it from all levels of government.

In its annual drive for the recruitment of teachers, the government of the **United Kingdom** embarked on a strong media campaign: "Get into Teaching - Your Future; Their Future" (October 2015). This type of campaign could serve as a good model for Chile. The campaign highlighted the experiences of some of the top teachers in the United Kingdom, who explained why teaching is an attractive career option.

One of top teacher put it thusly: "The job satisfaction that comes with teaching is hard to beat. It gives you the chance to inspire the next generation and make a lasting difference to young people's development. It's also a career that's full of opportunities for you to discover and hone a range of new skills. As a teacher, you'll learn to be a brilliant mentor, manager and consultant".

As a part of making the profession more attractive, the Chilean government should focus on building capacity, ensuring open dialogue, and engaging teachers as stakeholders. In order to do this, the government should develop mechanisms that include teachers along with other relevant stakeholders and voices normally involved in governance processes. As education authorities implement regular monitoring mechanisms, voices beyond the most vocal or technologically savvy should also be incorporated. Building the capacity of stakeholders, such as teachers, to assume their roles and responsibilities also involves fostering adequate knowledge of educational policy goals and consequences. It also requires that stakeholders feel ownership of the process, and a willingness to make change and implement the reform (Burns and Köster, 2016) (see also Chapter 2).

Indeed, evidence shows that involving teachers in reforms can bring other benefits to the profession. In almost all countries and economies participating in the TALIS study, the extent to which teachers report that they can participate in decision-making processes has a strong positive association with their likelihood of reporting that they perceive teaching as a valued profession in society (Schleicher, 2016).

Countries have put in place different types of educational consultative mechanisms and policy-making bodies to engage with stakeholders. General consultation processes through targeted consultations are useful to "help stakeholders engage, own and commit to policies, understand unintended consequences of a policy and better shape implementation" (Schleicher, 2016). Many countries have also implemented teaching councils. Teaching councils serve as a forum for policy development in which teachers and other stakeholders participate. They also serve as a mechanism for setting standards and improving quality during the different stages of teachers' professional pathways. For example, among other functions, the Teaching Council in **Ireland** establishes procedures for exchanging information with teachers, organisations involved in education and the public (Schleicher, 2016).

Body of the recommendation

To help strengthen the attractiveness of the profession, Chile needs to transmit a clear vision to teachers and also to society of what teaching entails and why it is important for Chile's future. Teachers and school leaders should have a say in the future of their professions. They should also be able to contribute their opinions regarding teacher and school-leader preparation, their continuing careers and the standards against which they expect to be assessed. Professional teachers should have a voice and be given the opportunity to contribute to the development of curriculum and teaching tools. They should be able to share their professional expertise and knowledge with educational authorities for the benefit of students. The new system proposed by CPEIP appears to offer this type of partnership through collaboration (see also Santiago et al., 2017).

While communication campaigns are useful mechanisms for fostering dialogue with teachers on how to improve the profession, there are other more collaborative methods for creating exchange. Teachers, other related stakeholders and the government can

engage through collaborative, targeted and evidence-based exchanges at different moments of decision-making. These exchanges can be organised based on participants' roles, different levels of responsibilities and capacities. To make these meetings more productive, and to avoid creating unnecessary overload for teachers, these collaborative exchanges need to be:

- Situated clearly in the context of a national vision (see Recommendation 2.1), and targeted to specific objectives related to it.
- Evidence-based, both in terms of research findings and everyday experiences of teachers at schools.
- Considerate of different school contexts, roles, teacher career stages and capacities in the profession. The Ministry of Education should seek feedback accordingly, making decisions that take into account the views of those best situated to participate in each specific exchange.

Recommendation 3.2

Complete the review of the Good Teaching Framework and develop professional standards that will define the new teacher career structure and meet expectations for a high-quality teacher workforce in Chile.

Summary

While implementing the new System for Teacher Education and Professional Development, CPEIP should ensure that ongoing reviews of the Good Teaching Framework at the time of drafting this report are concerned with evaluating whether it remains relevant and current. CPEIP should assess whether the Good Teaching Framework can stand alone in supporting the development of a high-quality teacher workforce in Chile, or whether a coherent, aligned set of professional standards is required to better support: the new teacher career structure, the expectations of professional development, teacher evaluation and the education standards expected of initial teacher education programmes and the teaching profession itself.

Context

In the past, in examining the challenges for Chile in reforming its education system, the OECD noted that "Chile can strengthen the teaching profession by better defining what teachers can expect as professionals throughout their careers and providing adequate conditions that allow and motivate teachers to improve" (Toledo Figueroa and Wittenberg, 2014).

The new System for Teacher Education and Professional Development sets a broad framework for teacher training and teacher development (see Box 3.1). It provides a timely opportunity to review the Good Teaching Framework in the context of the new strategy to enhance teacher quality and teacher education in Chile. This is an opportunity for the teaching profession to become more clearly defined, and for Chile's government to envision what a high-quality teaching workforce should look like in the context of the country's future education system. It is also an opportunity to determine what this vision means for teachers as they evolve in their careers.

The Good Teaching Framework

In 2003, the Good Teaching Framework (Marco para la Buena Enseñanza, 2003*)* outlined a set of standards expected of a good teacher in Chile at the time. The Ministry of Education began conducting a revision and consultation process of this framework in 2016. The framework sets out criteria best practices for teachers in four domains: preparation for teaching, creation of an environment favouring the learning process, teaching that allows the learning process of all students and professional development. The framework delineates four elements of teacher appraisal: portfolio, self-assessment guidelines, interview by a peer evaluator and a third-party reference report. The framework also describes expectations based on each criteria that teachers should fulfil (Annex 3.A).

The Good Teaching Framework has provided a good basis and frame of reference for teachers in Chile regarding what is expected of them. That said, it may now be time to complete the review of the framework to reflect the changing nature of teaching, the greater use of technology, and the challenging demands of teachers in the school and the community (see also Santiago et al., 2017).

The OECD review carried out in 2013 proposed that the Good Teaching Framework could benefit from some adjustments in terms of level of detail and alignment of criteria (see Santiago et al., 2013). The OECD also commented then that the Good Teaching Framework did not feature in all initial teacher education programmes, nor was it commonly used in schools to underpin professional discussion.

In its original form, the framework alone is not enough to promote teacher improvement as a continuous process. It can inform teachers of expectations of their performance, and aims to do this based on different types of evidence. That said, the framework does not inform or provide a career structure, or a structure for professional development or renewal.

Clarifying the teaching career in Chile

Chile had not established a clear career structure for teachers. Progression to advanced teacher, principal or school leadership has been based on years of experience. Many teachers have stayed at the same level throughout their careers.

The new reforms tackle some of these missing elements. A new explicit career structure for teachers in Chile is set out in the new System for Teacher Education and Professional Development. It comprises three required levels of initial, early and advanced teaching and two voluntary levels, called Expert Level 1 and Expert Level 2. Teachers will be able to progress through the five levels, each of which demonstrates progressive professional development and experience achieved through a system of recognition of teacher professional development. Progression to the next level will mean the possibility of assuming new responsibilities and receiving a higher salary.

It will be crucial for the objectives and criteria of the Good Teaching Framework to be complementary to and supportive of the proposals delineated in the new teacher career structure. It is also vital that the Good Teaching Framework complement and support the principles of strengthened teacher preparation and continuing professional development set out in the new System of Teacher Education and Professional Development. The coexistence of these two structures is essential.

International evidence

The development and implementation of professional standards can be a useful framework for professional discussion among policy makers, teachers, school leaders, teacher educators, teacher organisations, professional associations and members of the public.

Professional standards for teachers make explicit the expectations of what a teacher does and is expected to do. They can provide systemic coherence and consolidate the vision of what the country considers to be a good teacher. Professional standards describe a common set of competencies that good teachers are expected to have or develop throughout their careers. They are an opportunity for members of the profession to link research and practice further, building a collegial understanding of long-term goals, means and accountability based in practice. Furthermore, this shared understanding of what constitutes a good teacher can help to better align classrooms, schools and system-level organisations, while providing the necessary resources to teachers to better support student learning (OECD, 2010; Kleinhenz and Ingvarson, 2007; Toledo Figueroa, Révai and Guerriero, 2017). In addition, professional standards are an expression of what a profession stands for – its objectives, its expectations of members in meeting those objectives, the career path and the level of commitment members of the profession make to the community they serve.

Some countries and economies, like **Australia** and **Scotland** (UK), for example, have sought to link professional standards to career progression. The Australian Institute for Teaching and School Leadership's (AITSL) National Professional Standards for Teachers describe what is expected of teachers across the four career stages: Graduate, Proficient, Highly Accomplished and Lead (AITSL, 2016). The General Teaching Council for Scotland (GTC, 2012) goes further. The GTC has developed an overarching career-long standard or nest of standards which regulate the career path from provisional registration as a teacher to full registration, career-long professional learning, middle leadership and then full school leadership (see Box 3.2).

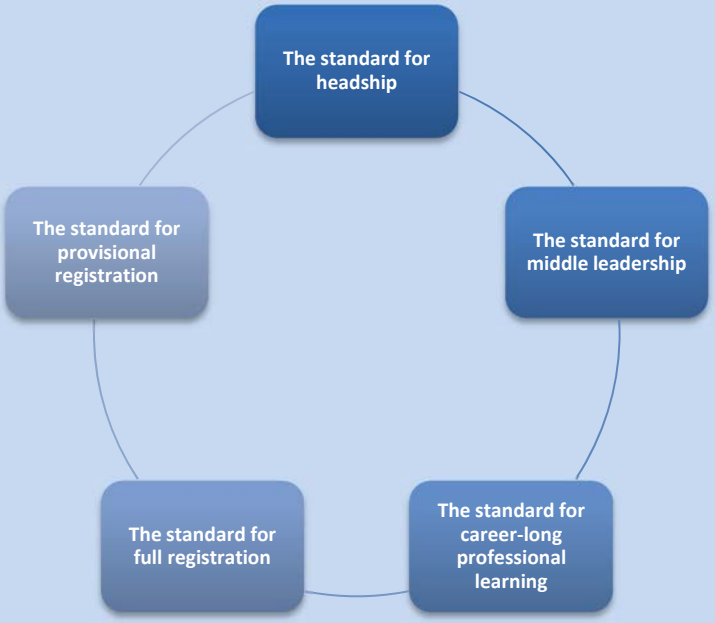
In addition, Australia, Singapore and New Zealand have drawn up a companion set or integrated collection of documents and instruments that use standards in an interconnected way to outline the public face of the profession, to enhance the provision and quality of initial teacher education courses, to inform career pathways and professional development, and to support teacher assessment and evaluation.

Australia's AITSL also provides teachers with a suite of standards and principles together with related examples of good practices and supporting resources to achieve a high-quality teacher workforce. Some examples of these resources are: the Australian Professional Standards for Teachers; the Australian Professional Standard for Principals; the Accreditation of Initial Teacher Education Programs Australia: Standards and Procedures; Australian Teaching Practice and Development Framework; and the Australia Charter for the Professional Learning of Teachers and School Leaders (AITSL, 2016).

The Chilean government could use some of these standards and resources as relevant examples to prepare an integrated system of support of its own. In crafting these standards, the government should define what the objectives are for teachers at different points of their careers, how teachers can achieve these objectives and why they should do so.

Box 3.2. The Standard of Scotland (UK) for Career-Long Professional Learning: Supporting the development of teacher professional learning (December 2012)

Scotland's Standard for Career-Long Professional Learning describes the advanced professional knowledge and pedagogical expertise that registered teachers should develop and maintain as they continue to progress as educators. The standard provides an opportunity for teachers to progress, enrich, develop and enhance their practice, expertise, knowledge, skills and professional values. It aims to support teachers as they develop as reflective, accomplished and enquiring professionals who are able to engage with the complexities of teaching and learning, the changing contemporary world of their learners, and the world beyond the profession and its institutions, in order to enhance learning experiences for all learners.



Source: GTC (2012), *The Standard for Career-Long Professional Learning: Supporting the development of teacher professional learning,* The General Teaching Council for Scotland, www.gtcs.org.uk/web/FILES/the-standards/standard-for-career-long-professional-learning-1212.pdf (accessed 28 August 2017).

Body of the recommendation

National professional standards can define a career path and the expectations at each stage (for example, at starting, mid-career or senior teacher stages). National professional standards can also provide a benchmark for personal ambitions and self-assessment, as well as a transparent benchmark for evaluation. They can also provide a framework for professional development opportunities.

Chile may want to give some thought to developing level standards which support the new career structure set out by the new System for Teacher Education and Professional Development. Such level standards could delineate expectations for each of the five

proposed educator levels. They could also introduce transparent expectations of what is expected at each level, and what is required to ascend to the next one. New standards would help establish not only a framework for increased salary for teachers, but also a ladder for professional development, informed evaluation and career opportunities. These standards would need to align with the Good Teaching Framework.

Additionally, in moving towards implementation of the new System for Teacher Education and Professional Development, MINEDUC may want to give further consideration to more detailed sets of supporting principles and structures required to achieve the desired outcomes. MINEDUC may also want to think about how the various component parts might interact. The ministry will need to carefully consider:

- What a good teacher looks like in Chile, and what sort of teacher Chile wants for the future. The ministry will also have to define what is expected of teachers in their practice in the classroom and in the development of their professional knowledge.
- The qualities it wants future educators to have and their preparation to enter the teaching workforce.
- How it can support first-time teachers to succeed, grow and stay in the profession.
- The professional development needs of the workforce already in place, a workforce which has not had regular or informed access to high-quality professional development opportunities.
- Who will lead and shape the teacher workforce.
- How to work on the profession together with other stakeholders, students, parents, universities and teacher education providers, municipal authorities, school owners, and business and industry.

Recommendation 3.3

Review how initial teacher education and in-service training is delivered to ensure a nationally consistent, high-quality teacher workforce.

Summary

To help new teachers succeed in the profession, the Chilean government needs to review the provision of initial teacher education programmes through university education faculties and other providers. The government needs to ensure that these programmes closely align and are consistent with the Good Teaching Framework and any national professional teaching standards. It also needs to ensure that these programmes deliver a high-quality and well-prepared teacher workforce. Professors at institutions that grant teaching certificates should be required to have closer contact with schools, and to support and mentor their teacher trainees in their teaching practice and first year of schooling. Institutions that teach educators should also be asked to regularly revise their programmes to make them current and relevant to the schools their graduates work in, and to reflect national education priorities.

Context

The Chilean government has taken numerous steps to strengthen initial and ongoing teacher training, which is also a priority under its National Teaching Plan. In 2008 the government launched its Programme to Promote the Quality of Initial Teacher Training (Programa de Fomento de la Calidad de la Formacion Inicial Docente, PFID). The programme set standards for initial teacher training, created a fund to encourage institutions to improve their programmes, supported job placements for new teachers with stronger induction processes and assessed the qualifications of trained teachers to help them improve their skills (MINEDUC, 2016a).

However, teachers interviewed by the OECD review team indicated that they generally felt their initial teacher education programmes prepared them for teaching, but did not prepare them for the realities of the classroom or the challenges of teaching students from diverse socio-economic backgrounds. These testimonies aligned with the national and international evidence mentioned earlier in this chapter of teacher and school principal perceptions of Chilean teacher preparedness. It was also the impression of the OECD review team that the contents and modalities of the preparation offered in universities was sometimes outdated and could benefit from a closer revision of relevance and quality.

In aiming to strengthen the teaching profession, the new System for Teacher Education and Professional Development commits to promoting and guaranteeing the quality of initial teacher education. It also commits to generating a new model of in-service teacher training.

These commitments will be most relevant to new and aspiring teachers. That said, such commitments are also likely to be welcomed by current teachers and school leaders who have themselves graduated from initial teacher education training programmes and have felt vulnerable or ill-prepared to enter the classroom.

Attracting good candidates to the profession

Historically, teaching in Chile has not been a highly competitive profession. In order to become a teacher, candidates have not always needed to attain high scores on the PSU university entrance exam. Lax standards for teachers thwart the hopes of parents, students and Chilean society. Parents in Chile want to give their children the best opportunity for success in life. The government wants to ensure Chilean children acquire the skills that will allow them to fulfil the needs of the Chilean economy in the future. None of this is possible without good teachers. In order to achieve these goals, teaching needs to be seen as a prestigious and selective profession.

Until now, entry into teacher training in Chile has not involved selective requirements. Prospective teachers need only demonstrate a secondary school diploma and a certain grade point average. On average, teacher training candidates obtain low scores on the PSU university selection test (Santiago et al., 2013).

The new System of Teacher Education and Professional Development for Chile, however, imposes new requirements. The new system requires students wishing to enter teacher education programmes in 2017 to: 1) have scores of 500 points on the PSU university selection test or; 2) be in the top 30% of students seeking entry to universities or; 3) have had access to a MINEDUC-approved higher education programme. The Ministry of Education has also proposed to raise the bar of entry over the next six years (see Table 3.1).

Table 3.1. Entrance into initial teacher education programmes

Year	Ranking of university selection test (Prueba de Selección Universitaria, PSU) OR	Ranking of eligible students seeking entry into university OR	Ranking plus PSU points OR	Have achieved access to higher education recognised by MINEDUC
2017	500	Top 30%		X
2020	550	Top 20%	Top 40% with 500 points	X
2023	550	Top 10%	Top 30% with 500 points	X

Source: MINEDUC (2016a), "El CPEIP en la Reforma Educacional: Políticas y ámbitos de acción" [The CPEIP in Educational Reform: Policies and areas of action], Centre for Improvement, Experimentation and Pedagogical Research (CPEIP), Ministry of Education of Chile, Santiago.

Provision of initial teacher education

The 1991 Teacher's Code of Education Professionals, which governs the training and selection of teachers in the municipal sector, initially established that higher education institutions were responsible for the training of education professionals. A 2014 decree of the Comptroller's General Office, however, specified that only universities can fulfil this role (MINEDUC, 2017a). Still, 14 professional institutes, 23 CRUCH universities (16 state and eight private institutions) and 32 private universities offered 1 256 programmes in the teaching area in 2015. In fact, from 2000-2008, the number of institutions offering teacher training grew by 53.8% in Chile. In addition, the number of programmes increased by 196%, with most of this growth taking place at private universities. In 2015, little more than half (51%) of teacher training programmes were duly accredited (MINEDUC, 2017a).

Universities that deliver teacher education programmes determine whether or not they want to provide teaching experience (supervised or guided) to their students. This means that initial training for many future teachers may not include practical experience. Chile was one of only three jurisdictions in PISA 2015 that did not require the completion of practicums in pre-service training to teach in primary, lower secondary or upper secondary education (OECD, 2016).

After graduation, there are no additional requirements for teachers to begin delivering classes (such as passing competitive examinations or a standardised test). The 2012 *Inicia* evaluation of students graduating from teaching programmes found high proportions of students had unsatisfactory knowledge or written communication skills deemed below the required level. This was especially true among pre-primary teachers (see Table 3.2).

Table 3.2. Summary of achievement levels by cognitive skills in pedagogical knowledge test, Inicia evaluation (2014)

Pedagogical knowledge test	Students number	Cognitive skill (average achievement) (%)		
		Knowing	Understanding	Analysing and using knowledge
Preschool	377	59.9	66.3	68.5
Primary	876	66.9	69.9	74
Secondary	1 434	57.3	68.3	62.4
Total	2 687	60.8	68.5	67.1

Source: MINEDUC (2017a), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

In 2006 Chile required the compulsory accreditation of all undergraduate programmes leading to the teaching profession (primary education teacher, secondary education teacher, special education teacher and preschool teacher). This requirement was mandated by legislation, (Law 20.129) and via the establishment of the National System for Education Quality Assurance in Higher Education. By 2015, however, only 51% of teacher training programmes had been accredited.

Under the new System of Teacher Education and Professional Development, the Centre for Improvement, Experimentation and Pedagogical Research commits to promoting and guaranteeing the quality of initial teacher training. Law 20.903 states that only accredited universities can offer teaching programmes and can give a professional teaching degree. Additionally, accreditation will be required of the teaching programmes themselves. The government will need to enforce this process while effectively monitoring the content and structure of programmes for quality and impact.

In addition, there does not appear to be a formal requirement linking the initial teacher education courses to the Good Teaching Framework. In essence, this means there is no effective nationally recognised structure which can currently define or guarantee the training of a high-quality teacher workforce. Moreover, following the reforms, teacher education providers themselves do not appear to have reached out to their own graduates who are new teachers. These providers do not appear to have reached out to schools in their areas either, to assess the efficacy or usefulness of their teacher education programmes. Commentary by teachers indicated that there was little connection between the teacher education providers and schools, but that a professional partnership of this kind would be welcomed.

Practice teaching

The provision of and responsibility for teaching practice and teaching experience during initial education programmes appears to be disconnected from both initial teacher education programmes and the school context.

Over the course of consultations, different actors reported to the OECD review team that the organisation of practice teaching placements is currently undertaken by the university. At the moment of drafting this report, evaluation of practice teaching placements amounted to mere recognition of participation in a placement programme – meaning students received no real evaluation, just a tick in the box. Universities gave little or no feedback to student teachers. In some cases at present, student teachers are filling gaps of need rather than being given guidance or pedagogical advice.

This leaves host schools with the responsibility of guiding and "supervising" student teachers. Host schools are often underprepared for incoming student teachers. They have little or no knowledge of the pedagogical training received by students, the level of achievement to date or the level or kind of practice student teachers need to meet course requirements.

Of course, this is not the case for all schools where principals and experienced teachers have mentored and supported student teachers. However, mentoring of student teachers by experienced teachers and principals should be the norm, not the exception.

Mentor teachers at schools seem to receive no training or guidance from universities on how the teaching practice could be used to develop teaching skills. Mentor teachers report that they rely on and react to their own past experiences. Greater contact with universities could better support these teachers in providing a quality and relevant practice teaching experience. This could benefit the student teacher, but also the mentor and the school.

The current situation leaves a triangle of unmet expectations on the part of the student teacher, the school and the university.

Beginning a teaching career – classroom ready

It was not possible for the OECD to ascertain how teacher education providers, schools, municipal authorities and owners in Chile know that their teachers are classroom ready. The new System of Teacher Education and Professional Development seems to assume that the training provided in initial teacher education is sufficient to start practice. The proposal that teacher education students be assessed in their penultimate year of study needs further exploration.

Induction for first-year teachers

Teacher preparation cannot end when teaching students leave university. Induction into the profession, professional practice, the school culture and understanding the teaching environment and socio-economic makeup of the school are key to the future success of the teacher, as well as the students for whom he or she is responsible. The opportunity to learn and to grow in confidence as well as pedagogical knowledge and experience will underpin the new teacher's commitment and resilience in his or her first few years of teaching.

There is currently no general system of induction programmes in Chile. When teachers arrive at schools to commence their teaching careers, first-time teachers may be lucky enough to be guided or mentored by experienced principals, teachers or groups of teachers. Again, as was the case with regards to the lack of organised practice teaching, this is fortuitous rather than planned. While well-meaning, this mentoring may only last for the first term or year. It is not an organised form of professional development.

The OECD review team was pleased to note that between 2017-2022, Chile will introduce the Induction System for Beginning Teachers as part of the System of Teacher Education and Professional Development (see Box 3.3).

Box 3.3. A New induction system for beginning teachers

CPEIP proposes a new induction system that has the following characteristics:

- It will seek to facilitate the insertion of the beginning teacher in the education community, as well as facilitate progression in their career.
- Induction will take place in the first or second year of professional practice and will last for up to 10 months.
- The hours allocated for this process will be funded by MINEDUC.
- Induction will be for training purposes and will not have a certifying character.
- The main mechanism will be mentorships conducted by a qualified teacher, trained for this purpose.
- Institutions classified as high-performing can develop their own process of induction after signing an agreement with the Ministry of Education.
- The new system will be applied in areas of priority from 2017 until 2022.

Source: MINEDUC (2016a), "El CPEIP en la Reforma Educacional: Políticas y ámbitos de acción" [The CPEIP in Educational Reform: Policies and areas of action], Centre for Improvement, Experimentation and Pedagogical Research (CPEIP), Ministry of Education, Santiago.

International evidence

Raising the bar of entry into the teaching profession has been a challenge shared across countries. Increasingly, countries are requiring potential candidates to pass an examination, or demonstrate they possess the communication skills and motivation to teach and gain entry to teacher education programmes. The premise is that good candidates are more likely to be good teachers.

The screening process of two of the world's highest-performing education systems, Singapore and Finland, has attracted significant attention in the international context. Both countries place emphasis on the "academic achievement of candidates, their communication skills and their motivation for teaching" (Barber and Mourshed, 2007). This may be an area that CPEIP could develop further.

In **Australia**, the AITSL has explicitly linked initial teacher education with what is expected of a teacher upon completion of an initial teacher education programme. Graduating from such a course means meeting the National Professional Standards for Teachers. In addition, initial teacher education programmes must undergo an accreditation process (see Box 3.4).

Teacher education courses are accredited against a set of nationally agreed standards and procedures which "draw on the expertise and vision of teacher educators, employers of teachers, those in the teaching profession, in schools and early childhood settings and the broader education community, and embody the ongoing sector-wide commitment to driving improvement in teacher education … They also represent a collective sense of accountability and acknowledge that evaluation of initial teacher education is a shared responsibility" (AITSL, 2015).

Box 3.4. Elements of national accreditation of initial teacher education in Australia

The Australian national accreditation system for initial teacher education programmes has three integrated elements:

- The Graduate Teacher Standards, which are the graduate career stage of the Australian Professional Standards for Teachers, and make explicit the knowledge, skills and attributes expected of graduates of nationally accredited programmes.
- The Program Standards, which make explicit what is required of high-quality initial teacher education programmes that give confidence the Graduate Teacher Standards will be achieved.
- The Accreditation Procedures, which set out a nationally consistent process to accredit programmes, including the establishment and composition of accreditation panels, assessment of programmes by these panels, reporting accreditation decisions and mechanisms for achieving national consistency.

Source: AITSL (2015), *Accreditation of Initial Teacher Education Programs in Australia: Standards and Procedures*, Australian Institute for Teaching and School Leadership (AITSL), Melbourne.

Some research highlights the need for brokering partnerships between schools and universities that provide teacher education (Montecinos, Walker and Maldonado, 2015). This research found that university-based practicum supervisors and school administrators need to work across institutional boundaries to have a shared understanding of the role of practicums and work. In so doing, both parties can "reduce the distance between the school and universities, and develop common knowledge". Universities can benefit from accessing real-world, in-context opportunities. These opportunities can help inform research and allow university programmes to test new models of teaching. School-university partnerships also benefit school leadership, as schools can gain access to research and expertise which can inform best practices and support school improvement. Furthermore, such partnerships could have wider benefits for the development of education policy and schools in Chile (Ávalos and Bascope, 2014).

Induction programmes at the beginning of teachers' careers can also bring long-lasting benefits to education systems. More immediate benefits include strengthening and fostering new teachers' confidence to share their new ideas and enthusiasm in schools. Induction programmes can also help prevent teachers from leaving the profession within the first few years. Positive experiences at the beginning of teachers' careers can also improve teachers' long-term effectiveness later on (OECD, 2005). Induction programmes exist in around two-thirds of OECD countries. The OECD (2014) found that teachers in Chile who report having participated in induction programmes are 2.5 times more likely to report participating in three or more different types of professional development. This figure is higher than in any other TALIS country.

Body of the recommendation

The OECD believes that there would be significant benefit to reviewing the structure and quality of initial teacher education programmes offered at universities in Chile. All university initial teacher preparation courses should produce teachers who can meet a nationally agreed-upon set of professional standards, like the Good Teaching Framework. This would not prevent universities from diversifying their provision of courses to help address schools' different teacher qualification needs depending on their specific contexts. It also would not prevent universities from offering different pedagogical experiences. Setting strong standards for initial teacher education courses would enable healthy competition between universities for the best teacher candidates. Such measures would help ensure a high-quality teaching system that provides a high-quality education experience for Chile's students.

In view of the shortage of teachers, the Chilean government may also want to give some thought to alternate pathways into teaching. By adding shorter pedagogical courses to existing graduate qualifications or expertise, for example in STEM subjects, Chile may gain access to more prospective teachers.

Student teaching practice should be an integral part of the initial teacher education programme. Student teaching practice gives the teacher candidate the opportunity to put professional and pedagogical knowledge into practice with appropriate guidance and supervision.

University academics from teacher preparation programmes should also be required to observe, guide and supervise the student teacher at school during the teaching practice period. There needs to be a clear link between the evaluation of a prospective student's teaching practice and the pedagogy this student learns at university. That way, the teacher

education provider can ensure that the student teacher uses the knowledge and skills acquired at his or her programme during real-world teaching practice.

The CPEIP may wish to give further consideration to how the teaching practice element might be better designed and integrated into the overall initial teacher education programme. CPEIP may also want to examine how teaching practice might be used to better facilitate relationships between schools, university providers, teachers and students.

Chile could follow the example of Australia's teacher employing authorities, which require first-year teachers to meet graduate standards that support them as beginning teachers. Australia's teacher employment authorities make an assessment of a prospective teacher's "pre-service teacher performance" (AITSL, 2015). They do this using "evidence that is collected from within a programme in relation to a pre-service teacher's performance; and evidence of graduate outcomes; that is evidence that is collected following completion of a programme in relation to the achievements of a programme's graduates" (AITSL, 2015).

The Chilean government could also require that teachers obtain a license or registration in addition to the teacher education qualification. This is done in several countries and economies, like Australia, Canada, Ireland, Japan, New Zealand and Scotland (UK).

Recommendation 3.4

Help teachers to develop by promoting and providing high-quality professional development opportunities for all teachers and school leaders throughout their careers.

Summary

All teachers and school leaders should have access to recognised, high-quality professional development opportunities which support and enhance their professional knowledge and professional practice. Professional development needs to be based in pedagogy and evidence-based research. Professional development programmes have to be able to respond to individual teacher and school needs, and support career advancement. These programmes should inform and support teacher evaluation, self-assessment and salary payment.

Context

The new System of Teacher Education and Professional Development provides significant additional funding for the development of a new career and pay structure for all teachers. In general, teachers in Chile will see a 30% increase in salaries under the new system. But an increased salary, while very welcome, is not the only factor that will improve working conditions for teachers and teaching quality. Teachers in Chile work 1 146 hours a year in primary and secondary education. These figures are well above the OECD averages of 776 working hours in primary school, 694 in lower secondary and 644 hours in upper secondary education (OECD, 2016). Chilean teachers reported on TALIS that they worked 29 hours a week. According to this report, Chilean teachers' workweek included 27 hours spent only on teaching. Such a schedule leaves little time for other activities, such as planning lessons, teacher collaboration and correcting student work (OECD, 2014). The new system seeks to guarantee professional development opportunities (see Box 3.5).

Box 3.5. Professional development opportunities for all teachers

The new System for Teacher Education and Professional Development guarantees:

- free and relevant professional development for all teachers who are in the SDPD
- course and training activities provided by the CPEIP or in collaboration with accredited universities or not-for-profit providers
- some scholarships for more intensive training
- local teacher development committees which will prepare local training plans using local knowledge and information to ensure training is relevant to the local school and regional needs.

Source: MINEDUC (2016b), "Sistema de Desarrollo Professional Docente: Ley 20.903" [Professional Teacher Development System: Law 20.903], prepared by the Centre for Improvement, Experimentation and Pedagogical Research (CPEIP), Ministry of Education, Santiago, www.leychile.cl/Navegar?idNorma=1087343.

In talking to Chilean teachers and school principals, the OECD review team heard that while teachers had access to some opportunities for professional development, they were concerned about cost, relevance and quality. These claims correspond to evidence gathered by the OECD in TALIS, as mentioned earlier in this chapter regarding barriers to undertaking professional development activities (see also Santiago et al., 2017). While many educators undertook courses at their own cost, they did not believe that the courses would lead to career advancement.

Professional development has also tended to be ad hoc and largely administrative in nature in Chile. There does not appear to have been a plan or required framework for professional development with regards to career structures or school plans. This is not surprising since there were no clear standards or stated expectations for career progression. Often the professional development courses provided did not appear linked to teacher or school needs. Indeed, evidence from TALIS shows that teachers in Chile decide more often with full autonomy to take on professional development, which is less common among OECD countries (OECD, 2014). From our exchanges with different actors in the system, it also appears there was no evaluation of teacher success or how the course undertaken supported or developed a teacher's career. Teachers told the OECD review team that quality assurance mechanisms, where they were in place, reflected a quantitative survey of completion - simply ticking a box.

A number of teachers indicated that they were pleased to be involved in professional development activities when they worked at a school where the principal or a senior teacher led them in reflective practice or learning together. These opportunities were clearly valued in these schools. Such moments of reflection brought the teachers and support staff together, and allowed them to work as a unit to meet the individual needs of their school community. A promising development from the new System of Teacher Education and Professional Development is that it plans to establish collaborative communities of learning.

Teacher evaluation and appraisal

Teacher appraisal "has as its main purpose to help improve teaching and thus the students' results" (OECD 2010). Teacher appraisal makes a judgement and provides feedback about teachers' competences and performance to help them identify how to

improve. It typically aims to support teachers' professional development and career development, and serves to hold teachers accountable for their practice. The Good Teaching Framework became the basis for the evaluation of all teachers in Chilean public municipal schools in 2004. The Good Teaching Framework mandated that teachers be evaluated every four years after their first year of teaching.

The teacher performance evaluation system known as System for Teacher Performance Evaluation (Sistema de Evaluación del Desempeño Profesional Docente) in public municipal schools was the result of a strategic agreement between the Ministry of Education, the Chilean Association of Municipalities and the Teachers' Association (Colegio de Profesores).

The following instruments and information sources are used in the process (Santiago et al., 2013):

1. Self-evaluation (10% of the score): Based on a structured questionnaire with no open-ended questions, organised according to the four domains of the Good Teaching Framework to help teachers reflect on their own practice and encourage them to review the GTF.
2. Peer evaluator interview (20% of the score): With a duration of about an hour, based on a structured and pre-established, standardised set of questions asked by a peer who received training for this purpose.
3. Third-party reference report (10% of the score): Based on a structured questionnaire to be answered by both the school director and the Head of the Technical-Pedagogical Unit of the school, covering a range of domains of the teacher's professional activity.
4. Teacher performance portfolio (60% of the score): Consists of a standard set of pedagogical materials to be prepared by the teacher, and a video recording of a class.
5. Teachers are evaluated based on reference standards established by the Good Teaching Framework.

The System for Teacher Performance Evaluation has been mandatory since 2004 for all classroom teachers in public municipal schools. It has also been used as a reference point for many teachers in government-dependent private schools (Santiago et al., 2013). Teachers are evaluated as having Outstanding, Competent, Basic or Unsatisfactory performance (MINEDUC, 2017a). Teachers who obtain unsatisfactory results are first asked to leave the classroom temporarily and work on professional development with a coach teacher (MINEDUC, 2017a). Those who maintain unsatisfactory performance are supposed to be removed from the school system. The 2011 Quality and Equality Law also permitted school principals to propose the termination of the 5% lowest performing school teachers, should they receive poor evaluation. Under the current regulations, results of teacher evaluation show only a small fraction of teachers (around 1%) have obtained unsatisfactory results since 2011 (MINEDUC, 2017a).

Teacher evaluation in Chile does not include school visits, although other agencies, such as the Agency for Quality Education and the Superintendence, can carry out visits for quality assurance purposes (see Chapter 1). The general perception of practices monitoring quality in schools by the teachers the OECD team visited was that quality assessment of teachers or schools still focused mostly on accountability and quantitative

reporting (for example, they administered surveys of how many students attended the schools, took information on attendance patterns and noted the numbers of fire extinguishers in the building and the application of health and safety rules).

Teachers did not perceive a link between teacher evaluation, professional development and career development. Teachers indicated they did not receive feedback or guidance on career development or needs for performance improvement unless there were significant issues to address. In the absence of a progressive career structure, there was no incentive to undertake professional development or to stretch knowledge and practice.

The new career structure, as proposed in the new System of Teacher Education and Professional Development, will see the five career levels linked to a new salary scale. These career levels include three compulsory levels (Initial, Early and Advanced), as well as two additional facultative levels (Expert I and Expert II) (Santiago et al., 2017). The structure will also mandate requirements for the professional development necessary to move on to the next level. This underscores the need for a strong and coherent teacher evaluation scheme or programme.

The transition to the new structure began in 2016, with first new salary payments in 2017. Teachers who have already been assessed according to the MINEDUC assessment tools will be advised of the level at which they fall, as well as their 2016 performance rating.

Teachers who have not been assessed to date or are not currently in the public system will be given the opportunity to enter, and will be able to apply in the next round and receive increased salaries beginning in 2018. Voluntary admission will be accepted until 2025 when the new system becomes the norm. However, teacher appraisal schemes are not just for career and performance management. They can also be used to recognise and reward effective teaching. Rewarding excellence is another way of recognising the extra effort that many teachers make in their daily work. It is also a way to draw attention to the career itself.

The Chilean government has imposed different financial incentives to reward teachers who perform well. For example, the National System for Performance Evaluation (Sistema Nacional de Evaluación del Desempeño, SNED) provides incentives and awards to teachers and education assistants in the best schools in each region. Schools are compared only with other schools of similar characteristics within a region and winning schools can represent up to 35% of all schools in that region (MINEDUC, 2017b). Additionally, the Pedagogical Excellence Allotment (Asignación de Excelencia Pedagógica, AEP) has delivered bonuses to teachers based on superior performance. The AEP was increased under the 2011 Quality and Equality of Education Law (Ley de Calidad y Equidad de la Educación, LCEE). At this time, the government also linked the AEP to how many disadvantaged students teachers taught. The government also introduced incentives by way of compensation or an additional allowance scale to teachers choosing to work with more vulnerable students.

International evidence

Professional development for teachers is compulsory at every level in about three-quarters of OECD and partner countries. A few countries (e.g. Korea, Poland, Portugal and Spain) have made professional development mandatory for teacher promotions or salary increases (OECD, 2016). Australia and the United Kingdom require evidence of

professional development for teachers to maintain their registration or certification to practice as a teacher.

According to international evidence, school-embedded professional development that involves teacher collaboration on activities within the school is usually considered to be the most effective modality of professional training. A challenge for all countries is promoting more training of this type, as non-school embedded professional development is negatively associated with the impact identified by teachers on changes to their practice (Schleicher, 2016).

Sweden provides an example of a relatively recent effort to introduce professional development that is more relevant to the realities of teachers and schools. The in-service training for mathematics (Matematiklyftet) and reading (Läslyftet) involves a variety of actors such as universities, teachers and school leaders to create learning communities by providing materials and support (see Box 3.6).

Box 3.6. In-service training for mathematics (Matematiklyftet) and reading (Läslyftet) in Sweden

Sweden has identified the lack of continuous training of its teaching workforce as a major challenge. It has therefore introduced training in effective teaching methods through collaborative learning, with new "boost" programmes, the most significant collaborative learning programmes ever developed in Sweden. These research-based programmes represent an investment of more than EUR 28 million.

As part of these efforts, Sweden has introduced two "boost" programmes called the Matematiklyftet and the Läslyftet. Both are based on research evidence. All teachers in mathematics can participate in Matematiklyftet (an in-service training about mathematics). About 35 000 teachers in compulsory and upper secondary schools (three out of four teachers) have participated in Matematiklyftet since its launch. Starting in 2015, teachers of Swedish have been able to participate in Läslyftet (2015-19), an in-service training about literacy, which also covers pre-school teachers.

The Matematiklyftlet also includes study programmes for school principals and tutors in mathematics. The material used is produced in collaboration with over 20 universities and colleges around Sweden, and is available on a specific website. The materials on the website are open source and are structured into year groups and types of schools. All materials follow a four-part structure. First, teachers prepare materials individually using the resources provided to them. Second, teachers meet and discuss what they have read and plan a lesson. Third, teachers teach the lessons in their own classrooms. Fourth, teachers meet again in order to evaluate and discuss experiences from their lessons. Weekly discussion meetings focus on didactic questions and are moderated by mathematics tutors, who are trained by national authorities.

During the programme's duration, teachers exchange learning materials, ideas, experiences and enter in professional dialogue. In addition, the programme fosters collaboration in teaching and enhances team building among the teachers in the group. School principals are also integrated in the training. Considering teachers' workload, a good organisation of the meetings is key.

Evidence for Matematiklyftet has shown that the teacher education model (e.g. based on collegial conversations with the support of a supervisor and didactic support materials) is an important factor of success for this policy initiative. Teachers reported feeling more aware of their role, communicating better in the classroom and managing to better shape their teaching based on students' different needs.

Source: OECD (2017), *Education Policy Outlook: Sweden*, OECD, Paris, www.oecd.org/edu/Education-Policy-Outlook-Country-Profile-Sweden.pdf.

Body of the recommendation

The Chilean government should take a consistent, planned approach with regards to providing access to high-quality, relevant professional development opportunities to teachers. These opportunities should support teachers in their current roles and school environments, as well as enhance pedagogical and subject knowledge.

It will be imperative to ensure professional development opportunities are delivered by accredited institutions and trainers, and are pedagogically-driven. These opportunities should both respond to the professional development needs of teachers and give them opportunities for future career development. It is also important that professional development links to the new career structure.

This is an opportunity to review, incentivise and support radical change in initial teacher education programmes and ensure they align with the new Good Teaching Framework. Criteria used can refer, for example, to:

- Actual content of the curriculum taught to future teachers.
- How this curriculum is delivered (whether the programme's pedagogy is updated, if it challenges student teachers and makes them grow as professionals for learning).
- What benefits it creates already for the community (whether the programmes have a research component for future teachers, or whether the teaching practicum is connected both to the personal development of the student teacher and the overall improvement strategy of the school.

According to the new legislation, teachers are only assessed in the year before they end their degree (rather than the last year). If they underperform, there is no assessment later on to find out if they have improved. Quality assurance mechanisms need to be included at regular intervals, particularly to provide closer support and monitoring for underperforming students.

In-service training and professional development also needs to be modernised and structures set up so that teachers get the right training that corresponds to their schools' needs. Such measures will help teachers develop their own perspectives on longer–term professional growth. High-quality, modernised teacher training will also help teachers effectively put learning into practice by ensuring that they seek for constant exposure to good practices, constant practice and constant feedback, as explained in Chapter 2. Some characteristics of adequate initial and continuous training systems can be summarised as follows (Musset, 2010):

- It is context specific and responsive, meaning it takes into account the character, status, attitudes and political and administrative relations in education systems.
- It envisages teacher education as a continuum providing different types of knowledge to teachers (e.g. subject matter and pedagogical knowledge).

- It is flexible, catering to and adequately training teachers with different profiles, but also candidates from other professional backgrounds that could enter the profession.
- It capitalises on collegial learning by fostering mentorship or mandating peer review for systematic feedback.

The creation of a teacher career path that aims to be linked to professional improvement is a very positive effort that Chile needs to continue. As there has been no explicit career path or structure in Chile to date, pay raises and differentiation have been linked to length of experience or allowances paid for additional tasks or responsibilities undertaken. Some teachers have received pay raises for taking on the roles of head teacher in pedagogy or technical tasks, additional management responsibilities or even taking on the role of director. These additional duties need to be seen as part of a structured career path or professional progression. It should also be possible for teachers to undertake these tasks for one or two years and then step down (see the following recommendation on school leadership).

Recommendation 3.5

Develop a strong professional cadre of school leaders and principals to drive teacher quality and school improvement in Chile

Summary

There is an urgent need to develop a strong set of professional standards, a career structure and professional development opportunities for principals and school leaders in Chile. The Good School Leadership Framework (MINEDUC, 2005), under review when the OECD review visit took place, needs to be used as a foundation to establish the leadership profession as related to, but still different from teaching. Efforts to change the school leadership profession should follow the Good School Leadership Framework in tandem with the new System of Teacher Education and Professional Development. The provision of training also needs to be more systematic, and depend less on the individual capacity of school leaders to access it.

Context

The Ministry of Education acknowledges that "the Chilean school system does not have a leadership career as such" (MINEDUC, 2017a). At the same time, job satisfaction appears high among principals. In a survey carried out in 2014, 94.7% of school principals agreed that they liked being principals and 96.6% of school principals agreed that they liked working in their schools. Principals surveyed also reported feeling generally supported by *sostenedores* and MINEDUC (Weinstein and Hernández, 2014).

The Teacher's Code has defined the role of school directors, principally to "direct and lead the institutional educational project" (Santiago et al., 2013). Moreover, it specifies that public municipal schools are responsible for managing their school administration and finances. Other members of school leadership teams include heads of technical-pedagogical units (UTPs) in charge of curricular activities, and general inspectors responsible for student admission, staff and class management, and student discipline

(MINEDUC, 2017a). Chile's schools and *sostenedores* retain considerable discretion in defining school leadership, which seems to generate a school leadership workforce with varied qualifications, pedagogical skills and career incentives (e.g. salaries and career pathways) (Santiago et al., 2013).

The responsibilities of principals are clearly shaped by the leadership team structure in Chile. Notably, principals appear to be less occupied with administrative tasks than peers in other countries. Among TALIS countries, Chilean principals in lower secondary education reported spending the least time on administrative and leadership tasks and meetings (34% of principals spent time on these tasks, as compared to the TALIS average of 41%) (OECD, 2014). Less than one-quarter of principals reported a shared responsibility in deciding on budget allocation within their school, considerably less than the TALIS average of 47% (OECD, 2014). Principals and teachers who met with the OECD review team were also generally satisfied with the way the school leadership teams managed their schools, and, in some, cases made room for professional development activities. They did not, however, seem to feel connected in any way to the broader education agenda or reform process.

A vision of the school leadership profession in Chile and careers structure

The Good School Leadership Framework (Marco para la Buena Dirección) was launched in 2005 but only put in place in 2014. It provides a description of the skills and competencies needed for school leadership in Chilean schools, and serves as a reference for professional development of school leaders. It covers four areas: leadership, curricular management, management of the school environment and coexistence, and resource management. Each of these areas includes a set of criteria on which professional development can be focused (OECD 2015b).

MINEDUC also introduced its Principal Training Plan (Plan de Formación de Directores) through the 2011 Quality and Equality of Education Law to raise the quality of both beginning and experienced school leaders (Weinstein and Muñoz, 2012). The programme has granted scholarships to attend one-year programmes identified by MINEDUC, including master's degrees. Between 2011 and 2014, 2 969 acting and new school leaders received scholarships through the programme (MINEDUC, 2017a).

However, this framework has not been used to inform teacher career structure, professional development plans, evaluation processes or salary scales. In the absence of a school leadership career path, there is no related salary structure in place. Principals currently receive incentive allowances in addition to their teacher salaries for undertaking the position of principal or additional work which might be related to running of the school. Principals agreeing to lead schools in areas of high socio-economic disadvantage, with high numbers of students with disabilities and schools in rural areas have been able to attract higher allowances relative to salaries of teachers.

CPEIP advised that a new framework be developed and subsequently launched in July 2016 as part of a broader school leadership strategy (see Box 3.7). This framework was expected to focus on school leadership practices of: building and implementing a shared vision, developing professional capabilities, leading the teaching and learning processes, managing the school coexistence climate and school community involvement, and school development and management. The framework will also provide guidance on personal capabilities, skills and professional knowledge expected of school leaders.

Box 3.7. Improving school leadership in Chile

A new policy for good management and school leadership is being developed to improve the school leadership profession using an integral approach. This policy is based on five key points:

1) Definition of responsibilities and faculties of the leadership role: through an updated Good Leadership Framework, and a definition of the leadership career.
2) Selection of school leaders from the best candidates by modifying selection processes, and providing guidance in the selection and composition of leadership teams.
3) Development of school leadership capacities through training and induction of school leaders, developing tools and support materials for the implementation of the Good School Leadership Framework, direct support to schools and other tools.
4) The creation of school leadership centres to do research, innovate, provide training, disseminate information and support policy implementation.
5) Improvement of the relevance and legitimacy of initiatives targeting school leaders through regional consultation bodies on school leadership, research on composition of leadership bodies and identification of potential school leaders.

Source: MINEDUC (2016c), "Política de Fortalecimiento de Liderazgo Directivo Escolar" [*Policy for Strengthening School Leadership*], MINEDUC, Santiago, https://liderazgoescolar.mineduc.cl/politica-fortalecimiento-del-liderazgo-escolar-2/.

Training of principals and school leaders

Since 2004, a host of legislative and regulatory changes have sought to clarify and strengthen the role of school leadership, notably in terms of engagement with pedagogy (Santiago et al., 2013; MINEDUC, 2017a). Responsibilities have been considerably clarified and in fact expanded. School principals have in turn gained greater discretion in hiring their senior management team (deputy principal, inspector general and the head of the technical-pedagogical unit). School principals also have more power to layoff poor-performing teachers.

Law 20.501, enacted in 2011, requires principals in the municipal sector to hold a professional diploma or degrees and have at least three years of teaching experience in an educational institution. Professional candidates with no pedagogical training are also allowed.

The Ministry of Education (MINEDUC, 2016c) quotes a survey in 2010 which found Chile has 78 training programmes directed at school principals and school leaders that last one year or longer. Nearly all of these are privately run; there has been no evaluation of them.

The Principal Training Plan implemented by the CPEIP has provided scholarships for principals to attend additional training. A total of 2 969 acting and new school leaders received these scholarships between 2011 and 2014. The scholarships are available for those courses approved or run by CPEIP. That said, again, there has been no formal evaluation of the Principal Training Plan or the quality and the impact of the leadership programmes offered.

Principals commented to the OECD review team that leadership courses that are offered are expensive, and tend to focus on management and organisational training.

These courses often also focus on accountability mechanisms in the school. They are not based in pedagogy and do not promote new ways of managing change. Rather, they review existing school situations and support acting or new school leaders. They are passive in nature.

International evidence

Leading change

School leaders are crucial to the performance of schools, teacher quality and effectiveness, and student outcomes. Thus, school leaders must understand their roles, be able to articulate the vision for the school and be able to lead in its implementation. School leaders must also be empowered to undertake and actively lead and support change. They should be part of the solution.

The OECD report, *Improving School Leadership* (Pont, Nusche and Moorman, 2008), found that "school leadership can make a difference to student outcomes by creating the right environment for teachers to improve classroom practice and student learning". The report identifies four core responsibilities of school leadership:

1. Supporting, evaluating and developing expertise of teachers by: managing the curriculum and teaching programme; teacher monitoring and evaluation; supporting teacher professional development; and supporting collaborative work cultures.
2. Goal setting, assessment and accountability.
3. Strategic financial and human resource management.
4. Working beyond school borders: other schools, school councils and parents.

A number of countries and economies have developed professional standards or published expectations for school leaders including: The National Professional Standards for Headteachers in England (UK), the Ontario School Leadership Framework, the Australian Professional Standard for Principals and the Leadership Academy in Austria.

The National Professional Standards for Headteachers in **England** (UK) are very explicit and to the point. They are used to "assist in the recruitment of headteachers and in performance management processes". They give a reference on what is expected of a head teacher (see Box 3.8).

Box 3.8. The core purpose of the director

The core purpose of the director is to provide professional leadership and management for a school. A director aims to promote a secure foundation from which the school can achieve high performance in all areas. To gain this success a director must provide leadership around instruction, effective management of teaching and learning, and the use personalised learning to realise the potential of all pupils. Directors must establish a culture that promotes excellence, equality and high expectations of all pupils.

Source: Department for Education and Skills (2004), "National Professional Standards for Headteachers", London.

The National Professional Standard for Headteachers was closely linked to and supports the National Professional Qualification of Headteachers (NPQH) in England (UK). Similarly, to identify potential school leaders, **the Netherlands** has developed leadership "taster" courses (Pont, Nusche and Moorman, 2008). One example of such a course is Orientation towards Management, a brief training given by the Association of School Leaders for the Sectoral Board for the Education Labour Market (a fund of employers and employee organisations in the educational sector). School boards, upper school managers and leaders of schools are asked to select candidates from their own schools. These candidates first take part in an information session where they fill in a survey form that provides some insight into their leadership talents and affinity for leadership. They then participate in a two-day training course which covers various leadership topics. After this, candidates draw up a personal development plan based on a competence analysis. Orientation towards Management then moves on to further training for candidates who are interested and suitable.

Body of the recommendation

3.5.1. In light of the current reforms, prioritise the update of the Good School Leadership Framework, and build on it to establish school leadership as a related, but still separate career from teaching.

School leadership and teaching are intimately linked. School leadership is key to helping improve the quality of teaching at schools by influencing teachers' motivations, and continuously shaping school environments that foster teaching and learning. It is preferable for school leaders to have previous experience as teachers before becoming school leaders.

However, school leadership and teaching should still be seen as separate professions, with different sets of skills needed. A good teacher may not necessarily be a good school principal. Therefore, in the context of the current reforms to the teaching profession, the Chilean government needs to give priority to the continued updating of the Good School Leadership Framework. It will be really important for the new leadership framework to interact and work closely with the new System of Teacher Education Professional Development. The complementary and distinctiveness of roles and career progressions needs to be made clear by building on these frameworks. School leadership responsibilities should be defined through an understanding of the practices most likely to improve teaching and learning.

This clarity of career perspectives is particularly important given that school leadership in Chile is an ageing profession, with an average age of 53.7 years old. Chile needs to plan actively for leadership succession. While keeping the bar high as to whom can enter the leadership career, more proactive efforts need to be made to identify potential talent in the teaching body to become school leaders. This could be done in a manner similar to the Netherlands' taster courses explained above. The government could also provide opportunities to teachers who would like to try out leadership tasks and continue exploring their interests and talents.

3.5.2. Continue efforts to ensure that school leaders have e more equitable access to quality professional development opportunities.

The Chilean government should take the update of the Good School Leadership Framework as a good opportunity to reflect on how to strengthen learning opportunities for school leaders. These learning opportunities should not be personally costly to teachers, and should be relevant and useful to teachers given real-life situation in their schools. A screening of how the current offer of courses aligns with the new framework would be advisable.

School leaders also need to have collaborative learning opportunities with leadership teams in other schools. As explained in Chapter 2 as well, these opportunities are key to helping school leaders reflect on common challenges and share knowledge. Such collaboration also gives leadership teams the chance to share powerful pedagogical practices that will help them to not only overcome these challenges, but also set new, higher expectations for their schools (see Recommendation 2.1 in Chapter 2).

Targeted, collaborative learning opportunities can also give school leaders the chance to build on their knowledge of the system and their schools to explore how to adapt reforms during their implementation, to make them more pertinent to the needs of local contexts. Principals and school leaders can take an active role in leading reform implementation at the school and regional levels. They should be seen as an essential link between the national agenda, the school and the classroom, as they can fill an important knowledge gap.

Well-informed and trained school leaders can soften the perceived blunt instrument of implementation wielded by the Ministry of Education and mid-level administrations. They can provide information to the ministry and local education services on what implementation looks like in the classroom and at the school. At the same time, they can convey the national vision to teachers, parents and students.

Conclusions

This chapter recognises the significant reform efforts undertaken by the Ministry of Education to date, and the current spotlight now being placed on enhancing teaching and teacher quality in Chile. The commentary and recommendations outlined seek to support the implementation of the reform agenda. The report also suggests ways in which the goals of the new System for Teacher Education and Professional Development can be achieved.

The OECD strongly supports the Chilean government's focus on developing and strengthening the teaching profession, supporting teaching practice and giving greater recognition to the role of teachers in the community. However, it is imperative that teachers and school leaders are part of the reform process. They must play a key role in shaping, supporting and implementing the high-quality education system which will deliver high-quality schooling to the young people of Chile.

A national vision

The new System of Teacher Education and Professional Development (Education Law 20.903, April 2016 (MINEDUC, 2016b) provides an opportunity to reinvigorate and restate the national vision of education reform for Chile.

During the implementation process, the Chilean government should foster sustained stakeholder engagement, and craft a communication strategy that articulates Chile's educational vision. This vision should be shared by all. It should bring together all education stakeholders, including teachers and school leaders, parents, students, owners, and administrators, in support of the common cause of a high-quality and relevant education system.

Recognise, strengthen and promote the role of teachers

Attracting, growing and retaining a high-quality teacher workforce is a priority for Chile.

The new System of Teacher Education and Professional Development is a new commitment to teachers. It goes beyond teachers at schools and includes early childhood education and care teachers. It proposes providing support for teachers throughout their careers, from entry into initial teacher education programmes, as well as from beginning teacher to advanced teacher status. It also provides a new career structure with commensurate pay and conditions, opportunities for professional development and support within schools.

The Chilean government needs to promote, respect and value the role of the teacher in the community, and make the career of teaching an attractive one that draws the very best candidates. These candidates should be motivated and qualified to inspire the young people of Chile. A centrally-driven communication campaign, developed through consultation with teachers to promote the value of teaching and to encourage more young people to consider a teaching career, would go a long way to achieving this.

National professional standards for teachers

The Good Teaching Framework has provided a sound basis and frame of reference for teachers in Chile, so the OECD welcomes efforts to review and refresh it to meet the changed and changing nature of teaching; the challenging demands of teachers, schools and communities; and the expectations of the new System Teacher Education and Professional Development.

The new System of Teacher Education and Professional Development outlines a more comprehensive view of the teaching career. The Good Teaching Framework cannot meet the varying objectives of that system alone. A coherent, aligned set of professional standards would better inform and support the quality of initial teacher education programmes. Such professional standards could better delineate teacher positions and progression through the new career structure. They could also mandate rigorous and developmental teacher evaluation procedures, relevant and high-quality professional development, public awareness, and measures to ensure the sustainability of the teaching profession.

Strengthen initial teacher education

The OECD supports the Chilean government's efforts to require higher competitive scores for entry into initial teacher education programmes. However, attention also needs to be paid to the quality of those teacher education programmes, so the requirements of accreditation of universities and teaching programmes set by the new System of Teacher Education and Professional Development are enforced. At present, there is no national framework to guarantee the outcomes or quality of those courses. Teacher educators do not face any requirements to take responsibility for the preparation of their students either. Practice or in-service teaching, as well as induction programmes, are currently serendipitous rather than the norm. The proposed programmes for practice teaching and induction must be centred in pedagogy and strongly linked to high-quality teacher preparation in terms of knowledge, skills and professional practice.

Professional development

The new System of Teacher Education and Professional Development guarantees free and relevant professional development for all teachers in the public education system. It is imperative that the range of courses offered respond to the needs of the individual teacher and school environment, seeking to support both pedagogical practice as well as the management procedures which ensure the safety of children in schools. High-quality professional development programmes linked to both career structure and national professional standards will support informed teacher evaluation and career advancement.

School leadership

There is an urgent need to develop a strong professional team of school leaders and principals to drive teacher quality and school improvement in Chile. This team of school leaders should be tasked with leading and implementing change at the school and regional levels. The absence of a career structure, professional development opportunities and a support system in Chile hold back the well-intentioned goal of school improvement and student achievement. Principals and school leaders have been the missing link in the reform process in Chile.

Note

1. The OECD Teaching and Learning International Survey (TALIS) began in 2008 in 24 countries, focusing on lower secondary education. TALIS 2013 covers 34 countries and enables them to conduct the survey in their primary and upper secondary schools as well. The following countries participated in TALIS 2013: Australia, Austria, Belgium (Flemish Community), Brazil, Bulgaria, Canada (Alberta), Chile, Croatia, Cyprus*, the Czech Republic, the United Arab Emirates, Denmark, Estonia, Finland, France, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Malaysia, Malta, Mexico, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Singapore, the Slovak Republic, Slovenia, Spain, Sweden, Turkey, the United Kingdom (England) and the United States. All countries are included in the TALIS average, except for the United States.

*Note on Cyprus:

Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Annex 3.A The Good Teaching Framework (Marco para la Buena Enseñanza)

Domains	Criteria	Examples of descriptors
A. Preparation for Teaching	The teacher should be prepared to: 1. Master the subjects taught and the national curricular framework. 2. Know the characteristics, knowledge and experiences of his/her students. 3. Master the didactics of the subjects or disciplines taught by him/her. 4. Organise the objectives and contents consistently with the curricular framework and the characteristics of particular students. 5. Use assessment strategies that are consistent with the learning objectives, the subject taught, and the national curricular framework, and allow all students to show what they have learnt.	The teacher: • Knows and understands the core principles and concepts involved in the subject(s) or disciplines taught by him/her. • Knows the different perspectives and new developments in the subject(s) or discipline(s) taught by him/her. • Understands the relationships between the contents taught by him/her and the contents taught in other subject(s) or discipline(s). • Knows the relationships between the contents of the sub-sector taught by him/her and the reality. • Masters the principles of the curricular framework and the focus of the sub-sector taught by him/her.
B. Creation of an environment favouring the learning process	The teacher should be prepared to: 1. Create an environment dominated by values such as acceptance, equality, trust, solidarity and respect. 2. Show high expectations about the learning possibilities and development of all of his/her students. 3. Create and keep consistent regulations about classroom coexistence. 4. Create an organised working atmosphere and make available the spaces and resources required by the learning process.	The teacher: • Uses different strategies to keep and maintain an organised working environment. • Structures the spaces in a flexible way and consistently with the learning activities. • Uses the resources in line with the learning activities and makes them available to students in a timely way.
C. Teaching that allows the learning process of all students	The teacher should be prepared to: 1. Communicate the learning objectives is a clear and accurate way. 2. Design challenging and consistent teaching strategies that are relevant for the students. 3. Treat the classroom contents with the right conceptual focus and using terms that students are able to understand. 4. Optimise the time available for teaching. 5. Promote the development of thought. 6. Evaluate and monitor the process of understanding and the appropriation of contents by the students.	The teacher: • Uses the relevant strategies to evaluate the achievement of the learning objectives defined for a class. • Uses feedback strategies allowing the students to become aware of their learning achievements. • Reformulates and adapts the teaching activities in connection with the evidence gathered from the students' learning experiences.
D. Professional Responsibilities	The teacher should be prepared to: 1. Reflect systematically about his/her teaching skills. 2. Build a professional and team relationship with his/her peers. 3. Take up responsibilities regarding student counselling. 4. Promote respect and carry out co-operation actions with his/her students' parents and guardians. 5. Manage updated information relevant to the teaching profession, the educational system and the current policies.	The teacher: • Evaluates the degree of learning expected from the students. • Analyses critically his/her teaching practices and is prepared to reformulate them based on the students' learning results. • Identifies his/her own learning needs and is willing to meet them.

Source: MINEDUC (2003), "Marco para la Buena Enseñanza" [The Good Teaching Framework], Ministry of Education of Chile, Santiago, http://archivos.agenciaeducacion.cl/biblioteca_digital_historica/orientacion/2003/marcobuenaensenanza_2003.pdf.

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PART 3: BUILDING THE SKILLS THAT CHILE NEEDS: VOCATIONAL, TECHNICAL AND HIGHER EDUCATION

Chapter 4

Improving higher education and research in Chile

Positioned at the nexus of knowledge creation, education, innovation and economic growth, universities and other higher education institutions must play a key role in the transformation of Chile's economy. This chapter reviews the evolution of higher education in Chile from 2004 to present, as well as the proposals in recent reform packages. The OECD recommends in this chapter that Chile: 1) identify a system-level vision and strategy for higher education; 2) establish an effective infrastructure to steer the higher education system; 3) strengthen equity in access to high-quality higher education, and; 4) strengthen the quality and relevance of higher education.

Introduction

Higher education has a crucial role to play in Chile's national development. Universities and other higher education institutions are positioned at the nexus of knowledge creation, education, innovation and economic growth. These institutions are therefore essential to building and maintaining the human and cultural capital that Chile needs to transform its economy by moving away from dependence on primary goods towards a diversified system that fosters social inclusion (Boulton and Lucas, 2008).

The government of Chile must provide the legislative framework that will enable the country's higher education system to develop. In July 2016, the government presented a wide-ranging higher education reform package to Congress, interrupting a period of relative immobility in higher education legislation and strategy since the last significant changes in 2005. The reform proposal has five core objectives: 1) consolidate the higher education system; 2) guarantee quality of education and uphold public confidence; 3) advance equity and inclusion; 4) specifically strengthen state higher education; and 5) improve technical and vocational education. Reactions from legislators and other stakeholders to the initial proposal were mixed. Lawmakers have brought forward amendments, so it is not possible to be sure what form the final legislation will take at the moment of the drafting this report.

This chapter reviews the evolution of Chilean education from 2004 to present, as well as the reform proposals under discussion in Congress at the moment of the preparation of this report. The chapter aims to look at major policy developments in higher education in Chile that took place before the modification to the reform bill (*indicación sustitutiva*) which was sent to Congress by the Ministry of Education in April 2017. This chapter focuses in particular on recommendations surrounding four key questions:

1. Is there a coherent system-wide vision for higher education in Chile, and how it can better meet the needs of the country?
2. How should Chile's higher education system be steered to deliver on social, economic and cultural goals?
3. Is Chile's higher education system equitable and accessible?
4. Does Chile's higher education system deliver instruction that is relevant and of high quality?

The OECD finds that Chile benefits from a rich pool of talented instructors, researchers, administrators and students in higher education who are dedicated to the country's academic, social, economic and cultural development. Nevertheless, higher education in Chile has not succeeded in developing or actualising a coherent vision of the system's role in society and its appropriate structure. Previous reforms have not succeeded in achieving this either. Atomised and isolated actors, ideological conflicts and an imperfect market (in terms of providers) have continued to drive the system's evolution. The result has been insufficient quality and entrenched inequities, with great consequences for many students and for Chilean society as a whole.

This chapter acknowledges that the Chilean government's current reforms represent important efforts to address many of these deficiencies and bring its higher education institutions together in a unified system. To attain the high performance that it seeks, the Chilean government must pursue further steps to create a coherent, shared vision of the higher education system, with a special emphasis on equitable access and improved student learning. The government must also back this vision with an effective architecture for steering the higher education system.

Strengths and challenges

Strengths

Many of the necessary elements for a strong higher education system exist in Chile.

Higher education is highly regarded among the Chilean people.

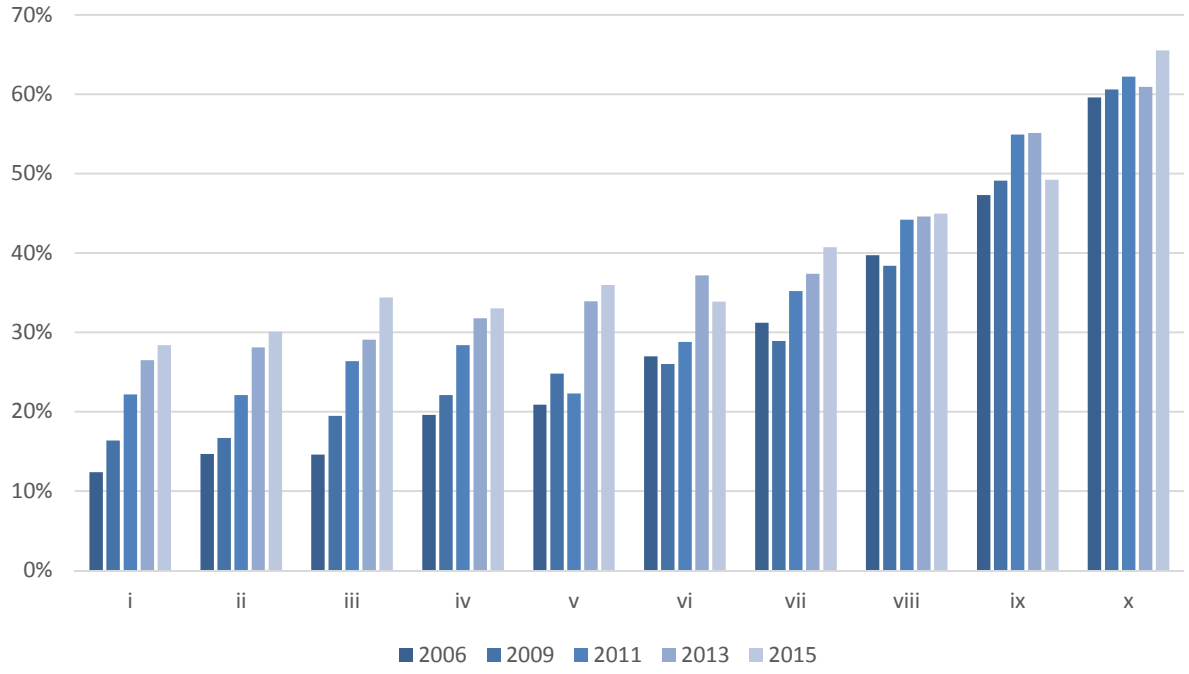
There is little question that higher education is a priority for Chileans. The sector's evolution, and its role as an agent of social mobility, are the subject of open and passionate public debates, including widespread student protests – most notably in 2011. Chile's government has been motivated to introduce sweeping proposals for new investments and other policy changes. Meanwhile, very high levels of private spending on higher education also demonstrate that Chilean students and families believe higher education is a good investment. International studies indicate that private funds can help to build a higher education system's infrastructure and thereby increase participation; this has clearly been the case in Chile (OECD/The World Bank, 2009).

Considerable increases in participation, including among disadvantaged sectors of society.

Access to higher education in Chile has improved substantially in absolute terms. Between 2005 and 2013, the number of tertiary education students in Chile rose by 78.6%, the highest increase among all OECD countries (OECD, 2016a). In addition, the tertiary gross enrolment ratio almost doubled from 44.8% to 86.6% between 2004 and 2014 (UIS-UNESCO, 2016).

As shown in Figure 4.1, the highest growth in participation since 2006 has been among students from lower socio-economic backgrounds. Further evidence indicates that the increase in enrolment has been highest among graduates from government-dependent private schools. Enrolment in higher education by these students jumped 168.7% between 2007 and 2016. In 2016, 28.1% of students enrolled in higher education came from public municipal schools, 49.4% came from government-dependent private schools and 10.6% came from government-independent private schools (MINEDUC, 2017a). The proportion of Chilean higher education students between the ages of 18 and 24 who identify as having indigenous backgrounds also increased from 16.6% in 2006 to 31.3% in 2015 (MINEDUC, 2017a).

Figure 4.1. Tertiary education participation among 18-24 year-olds by income decile (2006-2015)



Source: Data provided by MINEDUC, from Ministry of Social Development (2015a), "Encuesta de Caracterización Socioeconómica Nacional (CASEN)" [National Socio-economic Characterization Survey], Social Observatory, Santiago, http://observatorio.ministeriodesarrollosocial.gob.l/casen-multidimensional/casen/casen_2015.php (accessed 17 September 2017).

A system that is relatively inclusive of women.

Chile's higher education system has come to include relatively large numbers of women in studies and research. This is especially noteworthy in light of the country's persistently high levels of gender inequity, as described in Chapter 1.

The number of women enrolled in undergraduate programmes grew by 132% from 2004-2016, which is more than 7.2% per year. Men's enrolment grew by 96% during that same period, or 5.7% per year. In 2016, women even represented a majority of higher education students in technical training centres and universities (CFTs), while they reached parity (49.8% of enrolment) at professional institutes (IPs) (CNED, 2017). In 2016, for the first time, women also represented a majority of graduate students in Chile, up from 48.6% of enrolment as recently as 2004 (MINEDUC, 2017a).

Women also play a stronger role in Chile's university research than in many other areas. The OECD estimates that 22.4% of Chilean research publications are produced by women. That figure is considerably lower than parity, but it is a higher rate than prominent research leaders like the Netherlands, the United Kingdom, Canada and Germany have (OECD, 2015). Chile also has a higher share of women (39.3%) among doctoral graduates in science and engineering than the OECD average of 34.4% (OECD, 2015).

Nevertheless, trends in programme enrolment also indicate growing programme segregation in Chile by gender, with men highly concentrated in technology programmes and women disproportionately concentrated in health and, to a lesser extent, education. Chile had some of the lowest shares of women among tertiary graduates in the sciences and in engineering, manufacturing and construction among OECD countries. These graduates included individuals with short-cycle tertiary, bachelor's or equivalent, master's or equivalent and doctorate degrees (Table 4.1) (OECD, 2016a).

Table 4.1. Ratios of female to male graduates in sciences, engineering, manufacturing and construction (2013)

Programme	Chile	OECD Average
Sciences	0.3	0.7
Engineering, manufacturing and construction	0.2	0.3

Source: OECD (2016a), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Another challenging area has been empowering female leadership within institutions. CFTs have performed significantly better than other institutions, whereas universities have an especially long way to go (see Table 4.2).

Table 4.2. Women as a percentage of higher education institution leaders (2013)

Institution	Rector (%)	Heads of study programmes (%)
University	5.1	22.6
IP	25.6	32.7
CFT	28.6	47.4

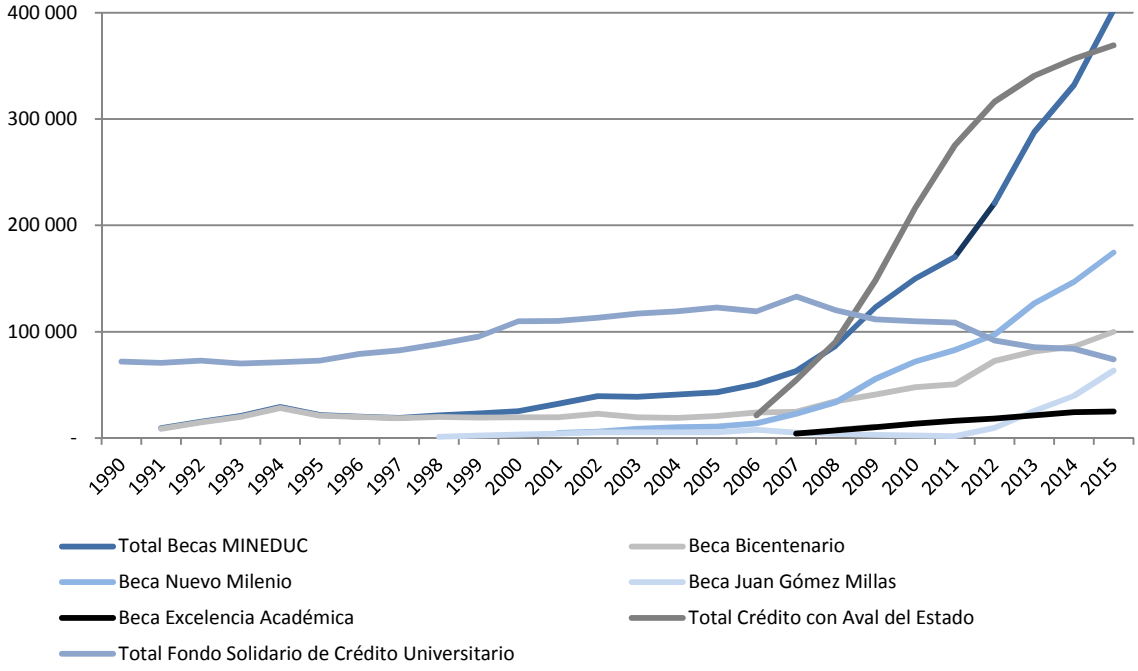
Source: MINEDUC (2017a), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of Educational Policies in Chile from 2004 to 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

Greatly expanded, need-based student financial aid.

As noted in Chapter 1, relative to gross national income per capita, Chile's tuition fees are more than double those of any other OECD member country. Moreover, this observation arguably understates the significance of these fees, given that Chile is the most unequal society in the OECD. Therefore, many Chileans earn considerably less than the national average. The Chilean government has identified the removal of financial barriers to higher education as a policy priority, and has invested heavily in a range of grants, scholarships and loans to support students in need.

MINEDUC's total inflation-adjusted spending on financial aid in the form of loans and scholarships increased by 865% from 2004-2015 (MINEDUC, 2017a). Scholarship spending (not including JUNAEB scholarships) specifically rose 1 351%. The number of recipients of MINEDUC student financial aid increased by 429% from 2004-2015, equal to 16.6% per year (see Figure 4.2).

Figure 4.2. Evolution in the provision of student financial aid mechanisms in Chile



Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Building upon this growth, the Chilean government launched its highest profile initiative, the free tuition Gratuidad programme, in 2016. Gratuidad first permitted students from the bottom five deciles of family income to study without paying tuition fees at 30 participating universities. The government expanded the programme in 2017 to include six not-for-profit CFTs and six not-for-profit IPs, along with the two new state universities. In the first year, 139 000 students benefitted from Gratuidad. This figure was projected to rise to approximately 250 000 in 2017, including 95 000 students at CFTs and IPs. So far, beneficiaries have been concentrated in the third and fourth deciles, followed by the fifth decile, according to internal MINEDUC statistics. Students participating in Gratuidad in 2016 came from families with average incomes equal to USD 3 042 per year (MINEDUC, 2017b).

The largest growth in financial aid was initially in the State Guaranteed Loan System (Crédito con Aval del Estado, CAE). This meant that many more students received loans than non-repayable grants. Scholarship growth came somewhat later, followed by Gratuidad. MINEDUC projects that the share of aid in the form of loans fell from 53% to 40% between 2015 and 2017, with scholarships now making up 35% of financial aid, and Gratuidad 25% (MINEDUC, 2017b).

The immediate effect of these changes is that many lower-income Chileans can more easily cover the costs of attending higher education. The shift in emphasis from repayable to non-repayable assistance should also help to address the debt challenges of disadvantaged students.

Importantly, however, these financial aid programmes and especially Gratuidad represent a policy decision on how to allocate available resources across the education spectrum. They could also have mixed long-term consequences. How to ensure that further financial aid developments in fact strengthen equity and quality as intended is a key area of focus later in this chapter.

Top-ranked universities by regional standards.

Chilean universities perform very well in international rankings by regional standards. In the 2016 QS Latin America rankings, Chilean universities occupy 15 of the top 100 spots, four of the top 20 spots, and the Pontificia Universidad Católica de Chile is third overall (QS University Rankings, 2016). In global rankings, Chile has the strongest presence relative to its population (measuring presence by the number of institutions that qualify for the rankings) of any Latin American country (see Table 4.3).

Table 4.3. Latin American institutions in global rankings per 10 million population

Country	Academic Ranking of World Universities	QS Global	Times Higher Education World University Rankings
Year	**2017**	**2018**	**2018**
Institutions ranked	**800**	**1000**	**1000**
Argentina	0.68	3.65	0.23
Brazil	0.63	1.06	1.01
Chile	2.23	6.14	7.26
Colombia	0.21	2.06	1.03
Costa Rica	-	4.12	2.06
Cuba	-	0.87	-
Ecuador	-	1.22	-
Mexico	0.16	1.10	0.24
Peru	-	0.94	0.31
Puerto Rico	2.93	2.93	-
Uruguay	-	5.81	-
Venezuela	-	1.58	0.63

Sources: World Bank (2016), "World Developmment Indicators", *Databank World Bank*, http://databank.worldbank.org/data/reports.aspx?source=2&series=VC.IHR.PSRC.P5&country (accessed 22 September 2017); THEWUR (2017), "Times Higher Education World University Rankings 2018", *Times Higher Education* (database), www.timeshighereducation.com/world-university-rankings/2018/world-ranking#!/page/2/length/10/sort_by/rank/sort_order/asc/cols/stats (accessed on 22 September 2017); ARWU (2017); Academic Ranking of World Universities 2017 (database), www.shanghairanking.com/ARWU2017.html (accessed 22September 2017; QS World University Rankings (2016), "Latin America", *Top Universities* (database), www.topuniversities.com/university-rankings/latin-american-university-rankings/2016 (accessed 22 September 2017).

This positioning reflects in part strong working relationships between research centres and research-intensive universities, as noted in recent OECD work on science, technology

and innovation in Chile (OECD, 2016b). Many of these research centres consistently perform above the world average. This is true in particular of centres supported by the National Commission of Scientific and Technological Research (CONICYT), which funds two programmes: The Fund for the Financing of Research Centres in Areas of Priority (Fondo de Financiamiento de Centros de Investigación en Áreas Prioritarias, FONDAP) and, since 2010, the Programme of Associative Research (Programa de Investigación Asociativa, PIA).

Challenges

Notwithstanding these strengths, the Chilean higher education system has significant weaknesses.

Skills among tertiary graduates remain low by international standards.

Chilean tertiary education graduates have some of the lowest skill levels among OECD countries that participate in the Survey of Adult Skills (a product of the OECD Programme for the International Assessment of Adult Competencies, or PIAAC), as noted in Chapter 1 (OECD, 2016c). Chile had the lowest literacy results among the participants of the Survey of Adult Skills, with the vast majority of tertiary-educated Chileans who were assessed unable to read dense or lengthy texts. Chile also had the third lowest share of tertiary-educated adults with higher-level (Levels 2 or 3) problem solving skills in technology-rich environments. There is little indication of improvement in skills since the 1990s. Chilean non-tertiary graduates obtain similarly low results in the Survey of Adult Skills, as do 15-year-olds in PISA (see also Chapter 5).

Inequities in access to higher education and study success persist.

Providing access to any form of higher education still remains a significant challenge in Chile, especially among Chileans from lower socio-economic backgrounds. As shown in Figure 4.3, Chileans from the bottom six deciles were roughly half as likely to participate in tertiary education in 2015 as Chileans from the highest decile. Tertiary education participation rates for Chileans from the bottom six deciles ranged between 28% and 36% in 2015, while participation for Chileans in the highest decile was 66%.

There is also considerable regional diversity in the proportion of the 18-24 year-old population enrolled in tertiary education. Coverage is below 20% in the administrative regions of O'Higgins and Aysén, but in excess of 40% in Arica and Parinacota, Bío Bío, the Santiago Metropolitan Area, and Valparaíso (MINEDUC, 2016b). The higher education participation rate of indigenous Chileans also remains less than 80% that of non-indigenous Chileans (MINEDUC, 2017a). Many students have received help to overcome barriers to tertiary education access through loans, but this has resulted in high levels of student debt. In Chile, loan debt is also often concentrated among students who pursue low-quality programmes that provide limited return on investment.

These financial barriers are the overwhelming focus of public discourse, but students from disadvantaged backgrounds face numerous other non-pecuniary barriers as well. In the National Socio-economic Characterisation (CASEN) household survey, only 17% of young people from families in the bottom income decile indicated that financial reasons explained why they were not participating in higher education (De Gayardon and Bernasconi, 2016). Failure to complete high school or pass qualifying examinations was the most common reason cited. The challenges that students face in earlier levels of

education, which we discuss in other chapters of this report, also have critical impacts on their access to higher education.

Student attrition remains high.

First-year retention rates improved across all types of higher education institutions from 2011-2015 in Chile, but entrance into higher education does not guarantee that students will complete a study programme successfully. Chile's first-time graduation rate for bachelor's degrees or equivalent was 33% in 2014, below the OECD average of 36%. That said, the first-time graduation rate for short-cycle tertiary education was 22%, above the OECD average of 11% (OECD, 2016a).

Students face particular difficulties moving from upper secondary school to higher education. University teachers expressed to the OECD review team that the greatest challenge students face is at entry. First-year retention rates vary considerably by institution, but are systematically lower for CFTs, IPs and non-CRUCH private universities (Table 4.4). Retention of first-year students in technical programmes averaged 65.1% in 2014 (MINEDUC, 2017a).

Table 4.4. First-year undergraduate student retention rates by institution type (2015)

Institution type	Average (%)	Change 2011-2015 (%)
CFT	65.7	+4
IP	67.6	+3.5
Universities	77.2	+2.2
State universities	77.9	+1.7
G9 universities	82.1	+2.1
Other universities	74.7	+1.6

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education] (database), www.mifuturo.cl/index.php/estudios/estructura-compendio.

As in many other higher education systems, it is widely suspected that Chilean students from less socio-economically advantaged families drop out more often (OECD/The World Bank, 2009). IPs and universities have generally higher retention rates among students from government-independent private schools. The retention rate at IPs was 67.7% and 82.1% at universities for students from government-independent private schools in 2014. The lowest retention rates were among students from public municipal schools (66% at IPs and 74.5% at universities). Retention is higher among HS graduates (72.8%) than TP graduates (68.8%). In technical tertiary programmes, however, TP graduates have slightly outperformed HS graduates since 2010. In terms of gender, men have lower retention rates (67.4%) than women (73.1%), and men take longer to complete their degrees across all institution types, which is also common across most OECD countries (OECD, 2016a).

A 2008 MINEDUC study identified three main causes of attrition: lack of vocation, economic factors and low academic performance (OECD/The World Bank, 2009). In addition, attrition levels partly reflect institutions' difficulties in accommodating student populations that are increasingly diverse in terms of socio-economic status, educational and cultural backgrounds, and special needs. Growing numbers of national and foreign students at Chilean universities also have maternal languages other than Spanish.

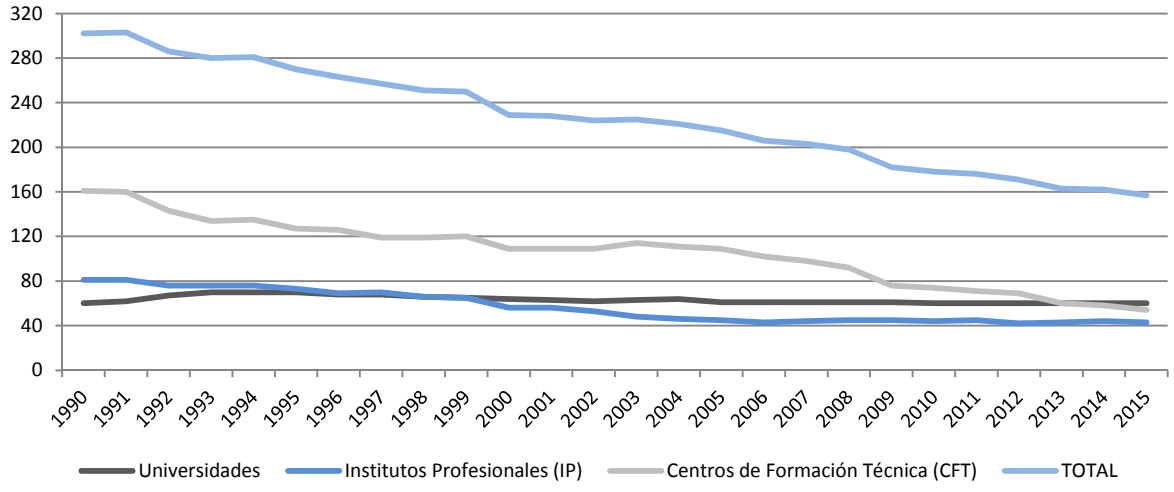
Chile has experienced a proliferation of higher education offerings without strategic co-ordination.

Historically, the Chilean government has played a very limited role in the governance of the higher education system. Instead, Chile has pursued an extreme market ideology that has resulted in limited co-ordination and standards.

Chile's higher education system became atomised under the military dictatorship of 1973-1990, and especially in the 1980s. In 1981, the government broke up Chile's two state universities (the Universidad de Chile and the Universidad Técnica del Estado), which had enrolled 65% of all higher education students. The government also shifted from direct public financing of institutions to deregulated tuition fees supported through scholarships and loans. It also allowed for the creation of new, private higher education institutions with little or no regulation. This led 40 universities, 78 IPs and 161 CFTs to open on a private basis between 1980 and 1990 (OECD, 2004).

After the dictatorship's end, the government introduced the National Education Council or CNED (then known as Higher Council of Education, CSE) licensing process in 1990 to regulate the entry of new higher education institutions into the system (OECD, 2013). The number of higher education institutions has steadily fallen since (see Figure 4.3). Consolidations have occurred overwhelmingly among CFTs and, to a lesser extent, IPs, while the number of universities in 2015 was the same as in 1990 (MINEDUC, 2017a).

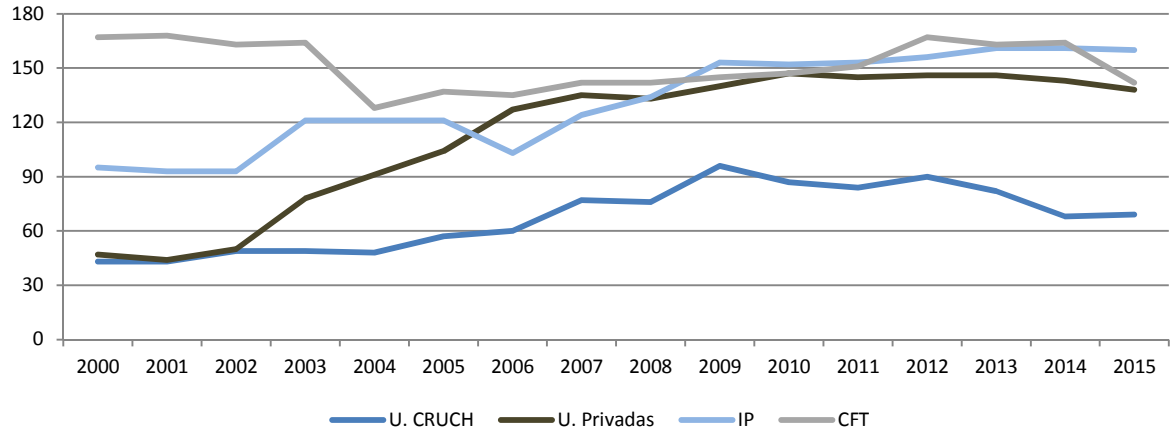
Figure 4.3. Number of higher education institutions in operation (1990-2015)



Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education] (database), www.mifuturo.cl/index.php/estudios/estructura-compendio.

Yet, licensed institutions retained full autonomy to grow, and so system growth shifted from the introduction of new institutions to the proliferation of campuses under single institutional umbrellas (OECD, 2013). The number of higher education campuses reached 398 in 2013, with a greater concentration in key urban areas, such as the Santiago Metropolitan Area, the Valparaiso region and the Bío Bío region (MINEDUC, 2017a). Non-CRUCH private universities and IPs have been especially active in introducing new campuses (see Figure 4.4).

Figure 4.4. Number of higher education campuses in operation (2000-2015)



Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education] (database), www.mifuturo.cl/index.php/estudios/estructura-compendio.

The case of the Universidad del Mar (see Box 4.1) illustrates how this growth in campuses could lead to serious problems in a context of weak institutional governance and inadequate external oversight. Recognising the recent nature of these events, Chile still faces an uphill battle to develop a higher education system that fully deserves the confidence of the public and can deliver on its promise to promote economic, social and cultural development.

Box 4.1. The Universidad del Mar Closure

The Universidad del Mar incorporated as a private, not-for-profit university in 1989, and began operations in 1990. It obtained full institutional autonomy in 2002, including the authorization to grant all types of academic degrees independently. It was also tasked with the obligation to make an appropriate and responsible use of faculty, and to overcome various institutional weaknesses identified during the authorisation process. The university grew rapidly in the subsequent years. Between 2002 and 2007 it opened 13 additional campuses and increased its enrolment from 2 900 to 22 388 to become the fifth largest university in Chile, despite being unaccredited.

Complaints of low-quality education and financial mismanagement began to draw attention in 2007, and culminated in the university's rector denouncing mismanagement and resigning in 2012. The Ministry of Education decided to conduct a formal investigation of the University del Mar, and determined that the institution had violated its statutory objectives and committed several infractions. The University del Mar's system of administrative, financial and academic institutional management was not coherent or consistent with the internal structure of the university. The institution did not conduct evaluations of any type to ensure students received a minimum quality of education. Also, it did not comply with the contractual obligations it had towards instructors, paying them late or otherwise owing remuneration, health or social security contributions. This had direct consequences on the quality of education, as protesting instructors refused to wrap up classes or deliver grades. In 2012, the Ministry of Education therefore ordered the cancellation of the institution's legal status and the revocation of its official recognition by 28 February 2018. Subsequently, the institution went into bankruptcy. In 2016, the university, its former president and the National Accreditation Commission's (CNA) former president were found guilty of bribery and associated crimes. In particular, the CNA president accepted favours in exchange for supporting the Universidad del Mar's successful accreditation in 2010 after failed attempts in 2005, 2007 and 2008.

Box 4.1. The Universidad del Mar Closure *(continued)*

Students in the midst of their degrees were left in very difficult circumstances. The Ministry of Education has had to mobilise resources to ensure continuity of education for those students affected. It has managed the reorientation of Universidad del Mar students towards other institutions. It has also sought to ensure that these institutions adequately recognise the students' credits, and has provided resources for receiving institutions to develop remedial plans when necessary. The Universidad del Mar was asked to collaborate with the Ministry of Education in the closing process of the institution and to supervise the normal development of teaching activities and examinations in the interim. Court procedures relating to the collapse of the university continue, including efforts on the part of the university's creditors to reclaim students' debts.

Sources: OECD/The World Bank (2010), *Higher Education in Regional and City Development: Bío Bío Region*, Chile, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264088931-en; MINEDUC (2017a), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of Educational Policies in Chile from 2004 to 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago; Library of the National Congress of Chile (2013), "Decreto que cancela la personalidad jurídica y revoca el reconocimiento oficial a la Universidad del Mar" [Decree that cancels the legal personality and revokes the official recognition to the Universidad del Mar], Ministry of Education of Chile, Santiago, www.leychile.cl/Navegar?idNorma=1048624 (accessed 16 September 2017); CNED (2017), "Proceso de Examinación Egresados Universidad del Mar (UdM)" [Examination Process of the Graduates of the University of the Sea], National Council of Education (CNED), www.cned.cl/ProcesExamin/aspx/index.html (accessed 16 September 2017).

Quality is very uneven across institutions and study programmes.

In any context, the considerable increases in tertiary education participation that Chile has experienced would create quality challenges. Compounding this, however, most growth in Chile has taken place at non-CRUCH private institutions, which are generally considered lower quality (MINEDUC, 2017a; 2016b). Whereas enrolment increased 40.3% at CRUCH universities between 2004 and 2016, it rose by 120% at other private universities, 266.4% at IPs and 125.7% at CFTs.

While all CRUCH institutions were accredited under Chile's quality assurance system in 2016, this was true of just over half (20 out of 35, or 57%) of Chile's other private universities, and less than half of IPs (17 out of 43, or 40%) and CFTs (18 out of 54, or 33%) (MINEDUC, 2017a, 2016b; internal government information, 2017). A majority of students at CFTs and IPs attend institutions with weaker or no accreditation, and almost one in ten higher education students attend non-accredited institutions overall (Table 4.5). Retention of first-year students in 2014 was 72.2% at accredited institutions as opposed to just 53.7% at unaccredited institutions, meaning that basically half of all first-year students at unaccredited institutions dropped out. Institutional accreditation has expanded rapidly in Chile. The proportion of accredited higher education institutions rose from 11.5% in 2005 to 54% in 2014 (MINEDUC, 2017a). However, programme-level accreditation has remained very limited. Only 28% of programmes and courses that enrolled students were accredited in 2014 (MINEDUC, 2017a).

Table 4.5. Enrolment at universities, CFTs and IPs by level of institutional accreditation (2016)

Level of accreditation	Universities (%)	CFTs and IPs (%)
Accredited for four years or more	40	21
Accredited for less than four years	12	18
Without accreditation	4	5
Total	56	44

Source: MINEDUC (2017a), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of Educational Policies in Chile from 2004 to 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

Historically, disadvantaged Chileans who enter higher education have been concentrated in lower-quality institutions (OECD/The World Bank, 2009). Over 90% of students in many of the Universidad del Mar's programmes came from public municipal schools and government-dependent private schools (UDM, 2016). In addition, students from the lowest quintile are more likely to attend CFTs and IPs, according to information from MINEDUC. This ends up reproducing social inequities.

More limited financial resources, as shown in figures from Chapter 1, are almost certainly a key factor in the lower performance of IPs and CFTs. Fees at these institutions are less than half those at universities, but these fees financed more than 90% of IP and CFT expenditures in 2013-14. This is because their relative share of direct public funding was limited.

Chilean universities' research performance is modest by international standards.

Despite their strong performance compared to other Latin American countries, Chilean universities have a limited presence in the higher levels of global rankings. Chile obtains its strongest results in the QS World University Rankings, with 11 institutions qualifying and two universities in the top 250 (Pontificia Universidad Católica de Chile at 170th and the Universidad de Chile at 209th). Chile performs less well in the Times Higher Education World University Rankings and especially the Academic Ranking of World Universities. Chile has six universities in the Times Higher Education World University Rankings that rank no better than 400th, and only two universities in the Academic Ranking of World Universities ranking between 301st and 500th. In addition, Chile's percentage of publications among the 10% most cited was the seventh lowest in the OECD from 2003-2012, at 9.4% (OECD, 2015).

Chile's higher education institutions could strengthen their ties to the development of the regions in which they are located, as well as national development, especially in terms of research and service. In research, for example, only 2.9% Chilean small and medium enterprises (SMEs) and 8.4% of large firms reported collaborating on innovation with higher education or research institutions in a 2010-12 OECD survey (OECD, 2015). This survey included 25 OECD member countries and Brazil. On average, 14.6% of SMEs and 36.8% of large firms reported collaborating on innovation with higher education or research institutions in this survey.

Nevertheless, Chile has some cases of strong ties between higher education institutions and regional development activities. The OECD study in Bío Bío noted a number of such activities, while the PIA has also helped to promote valuable partnerships (OECD/The World Bank, 2010).

Recommendation 4.1

Develop a system-level vision and strategy for higher education.

Summary

Chile needs to ensure that the higher education system is strategically co-ordinated so that resources are used effectively, public goals are attained and individual learners and researchers are supported so that they can fulfil their potentials. The first step must be "to develop a comprehensive and coherent vision for the future of tertiary education to guide future policy development over the medium and long term", as the OECD argued in its 2009 review. In the absence of this vision, policy reform initiatives, however well intentioned, are unlikely to fulfil their potentials.

Context

Since the end of the military dictatorship, Chile's democratic governments have sought to provide greater leadership to the higher education system, but without challenging the dominance of the market approach of providers. In 1997, the Chilean government identified major policy directions for higher education for the first time, establishing an explicit prioritisation of quality and equity objectives, as well as regional relevance and internationalisation. Nevertheless, insufficient convergence between the development of Chilean higher education and the country's broader economic, social and cultural objectives has persisted.

Higher education in Chile has largely remained without systemic goals and co-ordination, despite the presence of overarching bodies like DIVESUP, the CNED and the CNID, as well as the broader quality assurance system. The market has been compartmentalised, with high levels of formal control mechanisms, but asymmetric legal and economic framework conditions and uneven levels of capacity. Transparency has been lacking as information provided to stakeholders is often incomplete and obsolete. There have been pronounced time lags and important distortions in how government and other actors endeavour to address these challenges. Lawmakers have made many proposals for regulatory and policy changes, but these proposals have often been driven by relatively short-term political imperatives or ideological divisions. Such efforts have also been made without sufficient real consultation with business and industry on priorities for programmes and research at the national or local levels. This incoherence across various dimensions has led to market failures.

These challenges seem to stem from the absence of a shared vision for the higher education system. As observed during the review visit, actors have not clearly understood where they should fit within the system, or what the system is ultimately striving to achieve in the medium to long term. Chile's 2016 higher education reform bill (under discussion in the Chilean Congress during the preparation of this report) proposed a number of steps to address these issues.

The first article of the Reform Law identified the following goal for the higher education system:

> The generation and development of knowledge, as well as its application and communication according to current societal challenges; cultivation of science, technology, innovation, arts and humanities; linking to the community and the promotion of culture in diverse manifestations, all in order to contribute to

> social, cultural, scientific, technological, economic, and sustainable progress in regions and the country as a whole, within the framework of a democratic State of Law. (MINEDUC, 2016c)

In the same way, it pursues a holistic preparation of individuals by providing them with equitable learning opportunities and conditions for lifelong learning that is relevant and of high quality, so as to permit them to participate actively in the various dimensions of social life and contribute to meeting the needs of the country at the local, regional and national level (MINEDUC, 2016c).

This goal reflects a strong emphasis on higher education institutions' contributions to regional and national development. This emphasis is further magnified through the identification of several system principles: 1) institutional autonomy; 2) quality; 3) diversity in institutional educational missions; 4) inclusion; 5) academic freedom; 6) articipation in governance; 7) relevance; 8) respect and promotion of human rights; 9) transparency; and 10) training pathways and connections.[1]

The reform bill defines the higher education system as the aggregate of public organisations and services with responsibilities relating to higher education, as well as higher education institutions. It is structured as a system of mixed provision, including institutions created by law and those recognised officially by the state. These can be divided into two subsystems: the university system and the technical-professional system (principally comprised of IPs and CFTs). The reform also identified guiding principles and a specific mission for state higher education institutions: to fulfil the state's responsibility to promote the development of education at all levels; to stimulate scientific research, technology, and artistic creation; and to protect and grow the country's patrimony. It also provided a definition of technical-professional training, and plans to create the Technical-Professional Training Advisory Council (Consejo Asesor de Formación Técnico Profesional). This advisory council would be responsible for preparing a national strategy for technical-professional training every five years, with clear guiding objectives. The committee has already convened and begun its work. The Minister of Education is the chairperson. The council must include ministers of state with relevant responsibilities, representatives from employers, worker organisations and higher education institutions, and experts in the field.

The Reform Law initially also distinguished between the roles of universities, IPs and CFTs to reinforce differentiation between institutions, underscore the importance of institutional relevance to society and facilitate connections (particularly among IPs and CFTs).

International evidence

Higher education is currently undergoing a period of significant change around the world. The traditional (Humboldtian) model of higher education governance viewed the university as a "learned republic" owned and governed by its community of teachers and elite students (Kristensen and Kjærgaard, 2003). This paradigm served elite higher education systems very well, but is ill-adapted to the strategic co-ordination of a mass higher education system and the needs of contemporary societies. Today, mass higher education systems have much wider societal responsibilities as most people in developed countries attend tertiary-level study programmes at some point in their lives (Liburd, 2013). Moreover, society invests more publicly and privately in the higher education system than the individuals of the "learned republic" (that is, students and professors). Society therefore claims accountability from universities, and even some control.

At the same time, institutional autonomy is increasingly regarded as a prerequisite to good performance (Easterman and Nokkala, 2009; Easterman, Nokkala and Steinel, 2011). As has been previously observed (Boulton and Lucas, 2008), "there has been widespread recognition of the value of university autonomy in permitting institutions to act decisively and flexibly in response to need or opportunity, and where state control is recognised as having been a barrier to development". This autonomy cannot mean freedom from accountability, though.

The challenge is to ensure autonomy and accountability are not trade-offs but go hand in hand. This has been especially important with respect to public funds, and often the introduction of conditional funding has accompanied the transfer of authority to institutional leaders (De Boer et al., 2015).There is no single model of system governance that can be labelled as ideal. Effective governance must strike a creative balance between the regulation of the state, the drivers of the market and the interests of the academic community. The "triangle of co-ordination" exemplifies this ideal within the specific context (Clark, 1983).

These challenges provide the backdrop for much of our analysis in this chapter. The higher education systems that best tackle these challenges will also do the best job of fostering advanced human capital, knowledge and innovation.

Many jurisdictions around the globe have initiated important long-term system-planning exercises in recent years to help determine the best approach to navigating this new environment. These processes involve engagement with stakeholders from across the system as an essential step towards developing an overall vision that parties can not only support, but use as guiding frameworks for their decision-making. In many cases, how each institution is situated within the higher education landscape, as well as their internal and external efficiency, have been key areas of focus. This has resulted in a host of measures promoting greater strategic collaborations or institutional mergers.

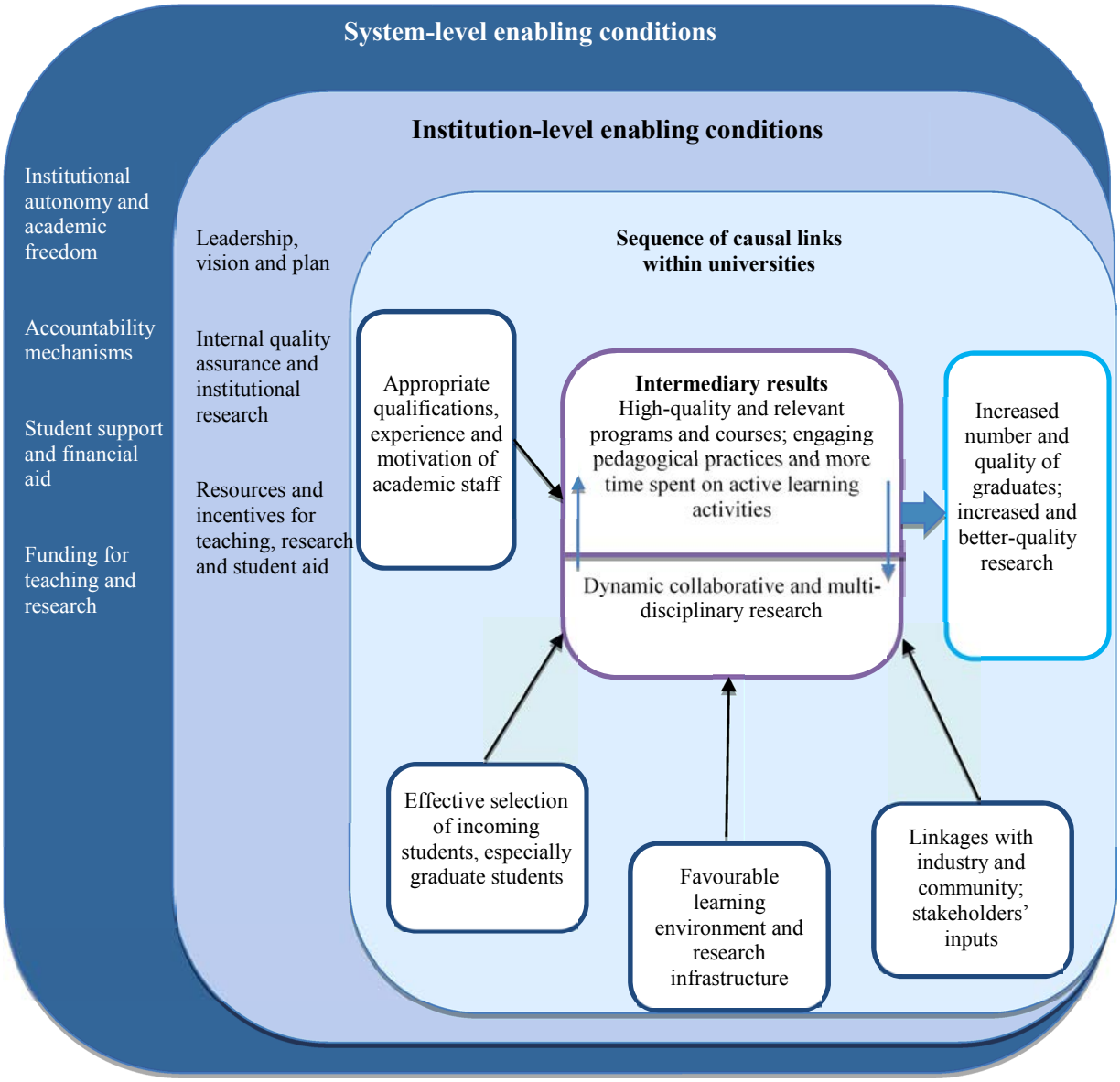
Since 2011, the development of **Ireland**'s higher education system has been guided by the National Strategy for Higher Education to 2030. The strategy identifies ambitious objectives relating to teaching and learning, research and engagement. It then proposes structural reforms to ensure these objectives are achieved, including in areas of system governance and financing. The strategy was developed by a Strategy Group with representatives from higher education institutions, student organisations, industry and government from Ireland but also from overseas. The Strategy Group received over 100 submissions from stakeholders. Ireland's National Strategy for Higher Education to 2030 also involves regular dialogues with higher education institutions and monitoring of the system's performance. Performance assessment is based on the targets institutions set themselves according to their: distinctive missions, national priorities and agreements with the Higher Education Authority (HEA).

Similarly, in 2005 **Denmark** established a Globalisation Council to advise on a strategy for Denmark in the global economy (Warming and Holm-Nielsen, 2009). The council includes 26 representatives from all sectors of society including the prime minister and four other ministers. It participated in 14 retreats to meet with stakeholders and hear from international and Danish experts before releasing a strategy that identified 350 measures to reform education and research programmes, and improve framework conditions for growth and innovation. Specific initiatives in the field of education and research included: bringing together elite science and consolidating a smaller number of

stronger research-intensive universities; doubling the number of PhD students; ensuring 50% of each year's graduating high school cohort completes higher education; and increasing co-operation between research scientists and industry.

A higher education strategy helps to develop a theory of change. Figure 4.5 provides an example of a theory of change that according to the literature and international experience would lead to better graduates and research, provided that the system-level enabling conditions are favourable (Salmi and Holm-Nielsen, 2014). Box 4.2 describes the elements of a tertiary education ecosystem that can generate the kinds of enabling conditions needed for this theory of change to be successful (Salmi and Holm-Nielsen, 2014).

Figure 4.5. Theory of change for producing more and better-qualified graduates, and more and higher-quality research



Source: Salmi, J. and L. Holm-Nielsen (2014), "Theory of Change and Methods for Evaluating NORHED", in *Evaluation Series of NORHED Higher Education and Research for Development*, No. 4/14, Norad, Oslo.

Box 4.2. Tertiary education ecosystems

Higher education institutions do not operate in a vacuum. To understand the determinants of their performance, it is essential to take into account key forces at play at the level of the tertiary education ecosystem within which universities and other institutions evolve.

The tertiary education ecosystem includes the following key elements: 1) the overall political and economic macro-environment; 2) the national higher education vision and strategy; 3) the governance and regulatory framework that shapes institutional autonomy; 4) the quality assurance framework; 5) financial resources and incentives; 6) collaboration between high schools and tertiary education, and among the various types of tertiary education institutions; 7) the economic, social and cultural characteristics of the geographical location, which determines institutions' ability to attract scholars and students; and 8) the available digital and telecommunications infrastructure. These forces can have facilitating or constraining effects.

The dimensions of the tertiary education ecosystem that most systematically influence the situation of individual higher education institutions are 1) governance, particularly with respect to the degree of institutional autonomy and academic freedom enjoyed by higher education institutions; 2) the accountability measures in place that are linked in one way or another to performance measures of higher education institutions (based on quality assurance and accreditation, assessment of learning outcomes, labour market results and research assessment); and 3) the funding available for research and teaching, especially for public universities that are heavily dependent on state resources.

Source: Salmi, J. (2011), "The Road to Academic Excellence: Lessons of Experience", in *The Road to Academic Excellence: The Making of World-Class Research* Universities, World Bank, Washington, DC.

Body of the recommendation

Chile is seeking to move from an unplanned higher education system driven by a combination of tradition and market forces to a mixed system with many autonomous actors and a strong guiding role for government. This transition must emerge from a common vision that encompasses various goals, and a broad strategy forged to achieve those goals. Such a vision would ideally guide the development of laws, regulations, funding streams and other policy measures, gearing them towards medium- to long-term success.

The development of such a vision has been recommended in numerous past reports. The OECD/The World Bank 2009 review of Chile's higher education system (OECD/The World Bank, 2009) recommended that Chile's central government commission pursue periodic strategic planning exercises. The review recommended that such exercises closely involve institutions to assess whether the system as a whole is producing the needed technical and professional competencies, paying proper attention to access and equity, conducting enough high-quality research relevant to society and the economy, and providing value for public resources overall. The OECD report on Bío Bío (OECD/The World Bank, 2010) recommended that the Chilean government develop a regional human capital development system to define region-wide goals, policies and priorities extending from primary to tertiary education. Finally, a 2008 World Bank report had a very similar message about the need for national consensus in Chile on innovation strategy.

A strategic vision for higher education in Chile should be developed in organised, evidence-based and transparent consultation with stakeholders across the higher education sector and society more broadly. Stakeholder engagement is critical to ensuring that the plan meets current and future needs, and fosters shared ownership.

This process of reflection and consultation must define the priorities of Chile's higher education strategy. Certain broad elements are essential: improved quality (acquisition of knowledge and competences) and relevance (which would allow the acquisition of skills needed to modernise the economy); greater equity and access; adaptation to demographic trends and regional differences; internationalisation; and flexibility to respond to shifting demands.

The vision should consider in particular what mix of institutions will best serve Chile's needs. There is no single correct way of organising a mass higher education system, however diversification is widely considered a prerequisite for efficiency. Individual institutions must play distinct roles. Massification will continue to introduce students with more diverse needs into institutions, so the system must offer programmes for academically elite students as well as students seeking more rapid transitions into the workforce. Societal demands also vary geographically, as does the capacity of communities to support different institutional activities.

At the university level, no country of Chile's size can realistically support more than half a dozen research-intensive institutions that have the basic level of research capacity needed for this type of institutions. These research-intensive institutions could reach this critical mass of research capacity by dedicating half or more of their financial resources (and a similar share of staff time) to research in order to produce world-leading research in a few areas, and world-class research across a wide range of disciplines. A larger number of other universities could complement the research-intensive institutions and produce world-class research in a few areas. The system could also include a number of primarily teaching institutions, some narrowly specialised and others focused on broader ranges of disciplines (technical, professional, business and management, teaching) (see Chapter 1). All universities should pursue research in collaboration where appropriate. That said, Chilean educational authorities could put greater emphasis on delivering high-quality relevant instruction at universities that are not research intensive.

Across all types of higher education, continuously strengthening a culture of quality, as well as upholding a threshold for quality, administrative capacity and efficiency is essential. As quality assurance mechanisms become more developed and integral to daily operations in Chile, they will require the primary attention of a critical mass of professional staff. Unfortunately, only a few institutions at best have this staff in place. Thus, this will present a special challenge to smaller institutions. Staffing issues will likely lead to further consolidation of Chile's private higher education institutions over time.

Chile's strategic vision for higher education must also consider how institutions should relate with one another. All institutions should be required to take on system responsibilities, especially the few research-intensive universities. Creating pathways to connect further upper secondary, technical, professional and university education is critical.

Finally, in developing such a vision for the system it is important to learn from other countries, and to take global trends into account. While Chile has imported external models of private higher education, the public policy debate on higher education seems to pay relatively little attention to what is happening beyond the country's borders. As noted by the earlier OECD Quality Assurance Review (OECD, 2013), "the world outside Chile

is changing fast and Chile needs to reflect on its place in the international higher education landscape too – one where global providers will seek business; where Chile's services can be offered to other countries, and where online education may rapidly become pervasive".

Recommendation 4.2.

Establish an effective steering infrastructure.

Summary

Once a clear national vision has been established to define the societal purposes of Chile's higher education system, the financing, governance and management practices required to accomplish this vision need to be put in place. This steering infrastructure in Chile's mixed system should seek to guide the operations of the market, but resist the temptation to over-regulate. Successful higher education reforms will require a mix of market-based and state-driven incentives, as well as regulations (Canton et al., 2001). Institutional leadership must be appropriately accountable externally (to society, funders and others), as well as internally (to faculty, staff and students).

Context

An effective higher education system requires strong institutions. The challenge in strategic governance of a higher education system is to balance system strategy and institutional accountability with institutional autonomy.

The proposed higher education reform defines the principle of autonomy as follows:

> The system recognises and guarantees the autonomy of higher education institutions, understood as the power to determine and pursue institutional goals and projects within the framework established by the law. Institutions must exercise their autonomy responsibly, and towards the goals and principles of the higher education system, the public good and the development of the country and its regions. (MINEDUC, 2016c)

In other words, institutions can determine their own activities autonomously, but must do so in ways that are consistent with the overall system's goals. The Chilean government has proposed, put in place and plans to evolve a number of mechanisms to achieve this.

System-level steering agents

The system actors in Chilean higher education, including within the quality assurance system, are described in Chapter 1. To date, DIVESUP has been the primary agent in higher education strategy, while the CNA has exercised strategic leadership intermittently using its power over accreditation. In general, the CNED has not played a strategic role in the sector. The 2016 proposed higher education reform would introduce a number of mechanisms to facilitate system steering.

A new Sub-Secretariat for Higher Education would replace DIVESUP with greater statutory authority. The sub-secretariat would be the principal guarantor of the system, responsible for introducing higher education policies, co-ordinating implicated state organisations and administering state policies and programmes where appropriate. The sub-secretariat would include separate university and professional-technical education divisions.

Based on the Reform Law, four different bodies would make up the Higher Education Quality Assurance System, modelled on the compulsory education system (see Chapter 1):

- The sub-secretariat would be responsible for co-ordinating the public organisations in the system through the development of an institutional co-ordination plan outlining commitments, objectives and measures to achieve these, in addition to areas requiring "special co-ordination".
- The CNED would maintain its current responsibilities relative to appeal procedures.
- Initially the CNA was to be replaced with a new Council on Higher Education Quality, but this change was later withdrawn. The latest proposal at the moment of drafting this review was to reform the composition of the CNA to reduce conflicts of interest (MINEDUC, 2017b). The government is in the process of prohibiting private accrediting agencies.
- The new Higher Education Superintendency (Superintendencia de Educación Superior) will follow the model of the Education Superintendency (again functionally decentralised with an independent legal status), and be responsible for: auditing higher education institutions and their affiliates in terms of respect for basic norms; compliance with conditions of official recognition of higher education institutions (MINEDUC will still oversee the initial granting of official recognition); legitimate use of resources; academic commitments and student enrolments; monitoring the institutions' financial viability; and ensuring that institutions are fulfilling other responsibilities.

On the research and innovation side, prior to 2017, the government made limited strides in terms of steering higher education research and innovation. This year, however, the government introduced legislation to create a Ministry for Science and Technology and a National Research and Development Agency (Agencia Nacional de Investigación y Desarrollo, ANID) (President of the Republic, 22 February 2017). The new ministry would aim to overcome the "incapacity of the country to take on strategic initiatives", as described in a 2015 report by the Presidential Advisory Commission on Science for the Development of Chile. The ministry would take on strategic initiatives by providing policy leadership and co-ordination to the various agents within the higher education system. The ANID would be responsible for executing policies set by the ministry, and for replacing CONICYT. In developing a national science, technology and innovation strategy that adopts a long-term outlook to guide policy-making, the legislation also envisions the creation of a National Council of Science Technology and Innovation for Development, which would displace the CNID. A 2008 World Bank report welcomed the formation of the CNID, as well as the Inter-Ministerial Committee on Innovation, as important steps towards creating a more cohesive and better-governed national innovation system. In practice however, the CNID's mission and composition has changed several times since its creation. Finally, the new legislation envisions an Inter-Ministerial Committee that would be responsible for developing a national policy on science, technology and innovation. While these changes will influence the research and innovation environment in which higher education institutions operate, MINEDUC will retain primary responsibility for the system.

Higher education institutions themselves can perform steering functions, with state institutions holding a particularly important position in this respect given their closer ties

to higher-level authorities. In this respect, the creation of fifteen state CFTs, and two new state universities in particular, will significantly reshape the system across Chile's administrative regions.

In terms of institutional representation, the Chilean government has no single interlocutor that represents higher education institutions collectively. CRUCH has been the primary negotiating counterpart, but represents only a subset of institutions. CRUCH's exclusion of many private universities has become less and less justifiable over time. In addition, many decisions discussed by the government with CRUCH also have important implications for CFTs and IPs (OECD/The World Bank, 2009). Non-CRUCH private institutions have engaged in discussions with the government through other channels. Private universities were heavily involved in negotiations shaping Gratuidad, while CFTs and IPs confer with the government through their own associations, as well as via some as members on the Advisory Council on Technical-Professional Training. Nevertheless, this overall structure remains inequitable, and is not conducive to effective co-ordination across the whole system.

The 2016 reform package proposed the creation of a network of state higher education institutions (Red de Instituciones de Educación Superior Estatales). This network would focus on aligning institutions with national and regional policies, promoting the exchange of best practices and stimulating the creation of joint programmes and research teams. The Sub-Secretariat for Higher Education would provide technical support. This network may facilitate engaging with state universities on issues of specific relevance.

Institutional governance and management

The current reform acknowledges the importance of senior administrative bodies of higher education institutions. The administrative leaders within Chile's institutions and agencies are crucial to the steering of the higher education system. They face increasing challenges in terms of the sheer size of budgets, campuses, staff complements and enrolments. In addition, these administrative leaders also face greater complexity in all aspects of their operations such as making line management more efficient, transparency and communication requirements, and diversity in languages and cultures. Considering these challenges, traditional academic leadership and elected or politically appointed management are not enough anymore. Administrations need to become professional organisations led by highly qualified and specialised leaders who can also provide continuity across election cycles.

The performance of institutions depends a great deal on the abilities of their personnel to perform, but the OECD review team observed various ways in which leaders and other administrators could be better prepared. Career pathways are not clear for many administrative roles, and there appear to be few structures to support professional development of administrators in Chile. Many positions are occupied by political appointees without regards to their professional insight and knowledge.

Officials also often serve for shorter terms, depending on political cycles. They therefore face challenges in accumulating experience and developing expertise that can be used in these roles. Many institutional leaders also have inadequate infrastructure supports in terms of policy guidelines, and information and communications technology (ICT). State institutions are also restricted by cumbersome civil service controls and regulations.

Chile's reform identifies participation in governance as a key principle for the higher education system. This indicates that higher education institutions should promote and respect the responsible participation in institutional governance of all "estates" (e.g. faculty, students and other staff). In 2015, Law 20.843 removed the prohibition of students and staff of higher education institutions from participating in institutional governance.

A proposal that was initially part of the larger reform, but has since been separated out, would further specify the composition of boards of directors (*consejos directivos*) of state universities. Previously, external parties have had little role in institutional governance. This new proposal changes that. Boards would have nine members, including the rector as board chair, two representatives of academics elected in the same fashion as the rector, two representatives of the collegiate body and four appointees of the President of the Republic. Terms of board members would be for four years, except the collegiate body representatives' terms would be for just two years and subject to renewal only once, while rectors would also be given two consecutive term limits. The universities would also be required to establish a collegiate body – apart from the board of directors – focused on advancing the university's development plan, particularly in terms of academic study. This collegiate body would be elected and comprised of two-thirds academics, though it would also include representatives from all the estates at the university. Boards of directors have been responsible for approving programmes of study, study plans and academic certifications in Chile. This has been identified as a problem because it has placed these bodies in conflict with their institutions in terms of issues like autonomy, collegiality and academic freedom (Rock and Rojas, 2012).

Institutional licensing and accreditation

One of the key instruments for steering higher education in Chile is institutional licencing and accreditation. Unfortunately, the quality assurance system has been hampered by weaknesses introduced when the original implementing bill was passed by Congress in 2006 (OECD, 2013). The principal message from the OECD 2013 Quality Assurance Review was that SINAC-ES needed a thorough overhaul.

The Universidad del Mar case has been emblematic of insufficient transparency and conflicts of interest in institutional accreditation (Unidad de Coordinación de Cierre y Reubicación UDM, January 2016) (see Box 4.1). Other private universities or their staff are also currently involved in criminal investigations associated with accreditation processes. Another challenge is that standards for accreditation have been insufficiently adapted to Chile's diversity of institutions and programmes. The need to address the particularities of vocational training at IPs and CFTs is discussed in greater length in Chapter 5.

In December 2014, Chile passed Law 20.800 to establish processes for the closure of higher education institutions. This law responded to the government's experience with the withdrawal of Universidad del Mar's license. According to Law 20.800, the provisional administrator's objective is "to safeguard the right to education of students, ensuring the continuity of their studies and the proper use of all resources of the institution of higher education" (Article 1). According to this law, the Ministry of Education will be entitled to investigate those institutions of higher education that could be in danger of "a) failure to fulfil its financial, administrative or labour commitments; b) failure to comply with the academic commitments made with its students; c) serious infraction of its statutes or social deed, as appropriate" (Article 3, Paragraph 2).

The 2016 higher education reform package and its subsequent revisions propose multiple steps to strengthen Chile's quality assurance system pursuant to its goal of guaranteeing education quality and upholding public confidence. Many elements of the reform align with the recommendations of the 2013 OECD Quality Assurance Review.

Accreditation would become mandatory for all higher education institutions, including IPs and CFTs. Institutions unaccredited for over 16 months would have their licenses revoked, forcing them to close. In addition, before the 16-month mark these institutions would not be permitted to enrol new students or receive public funds, including indirect funds received in the form of financial aid for their students. According to the reform, certain degree programmes (*carreras*) at accredited universities would also require accreditation and initial authorisation from the CNA to be introduced. These degree programmes include doctoral programmes and professional degrees of medical surgeons, as well as teaching degrees in compulsory and pre-school education (including special and TP education).

Institutions could be accredited at three different levels, depending on their performance. They could also obtain provisional accreditation if they only meet three-quarters of the requirements corresponding to the lowest level of accreditation. Full accreditations will last for seven year terms, while provisional accreditations will have a duration of three years. Institutions will not be eligible for consecutive provisional accreditation or three provisional accreditations in a period of 24 years. Institutions with lower levels of accreditation would face new restrictions on their activities. Whereas institutions with the highest accreditation would need only to inform the government of new programmes or campuses, those with lower levels of accreditation would require government permission to expand programmes. Institutions with provisional accreditation would not be permitted to introduce new programmes, open new campuses or increase the numbers of seats in their programmes.

Finally, Chile's higher education reform envisions the development of stricter standards and criteria for accreditation through collaboration with the different quality assurance bodies in consultation with higher education institutions. These standards and criteria should include elements relating to service as of 2025, and the production of knowledge, creative works and innovation as of 2035-2040 (MINEDUC, 2017b).

System financing

Adequate and sustainable funding is the essential complement to effective system steering.

Conditional public higher education funding to 2015

Going back to 1990 and particularly since 2008, there has been an ongoing trend to make direct public funding of higher education institutions in Chile conditional by making funds either competitive or tied to specific activities. In 2015, conditional funds represented 41.6% of all direct government funding to higher education institutions, compared to 30% in 2004. The MECESUP programme in particular includes performance agreements, which require institutional improvement plans and enhance accountability and transparency (OECD/ World Bank 2010).

Yet, the fact that Chile's higher education system is largely financed through private sources has limited the capacity of the government and its associated actors to use conditional financing to steer the system. Conditional funds comprise a modest

proportion of total revenues for CRUCH universities once tuition and the AFD (Aporte Fiscal Directo) are considered. Conditional funds are even less significant for other private institutions, even though practically all the direct public funds they receive are conditional. Of course, much of the public funding these institutions receive is indirect through student scholarships and loans, but institutional accreditation institutions place few conditions on these funding streams. (Students of course have conditions around income and academic performance, but this only shapes institutional behaviour to a limited extent.) The Chilean government has imposed no policies to tie student graduation rates to institutional financial obligations under the CAE (OECD/World Bank, 2010).

Steering mechanisms that are not carefully designed can introduce perverse incentives. The AFI, for example, appears to have established an incentive against recruiting disadvantaged students through its support for students based on performance only in the PSU (OECD, 2013).

The Universidad del Mar case highlights the challenge of enforcing conditions that can imply significant financial and academic impacts on institutions and their students. Institutions can risk becoming "too big to fail" when checks and balances are not implemented early on.

Reforms in funding for instruction since 2015

Significant changes to system financing were introduced by the 2016 Reform Law, revolving in large part around the free tuition (Gratuidad) programme. These changes would considerably expand conditional public funding for Chilean higher education institutions.

Gratuidad was launched in advance of the larger reform package. Under its original terms and proposed reforms, a host of requirements make Gratuidad a conditional institutional funding stream that is relevant to steering. Under the Higher Education Reform Law, institutions would have to pursue the following access-related policies to be eligible for the programme:

- Participate in the recently created Common System of Access to Higher Education Institutions (Sistema Común de Acceso a las Instituciones de Educación Superior, SCAIES), which will have two governance committees – one for universities and one for IPs and CFTs.
- Apply equitable access policies approved by the Sub-Secretariat for Higher Education.
- Create programmes to support persistence among vulnerable students, and thus move towards having at least 20% of total higher education enrolment be comprised of students from the country's four lowest income deciles.
- Achieve institutional quality assurance accreditation for at least four years.

The programme established a 2.7% limit on first-year admissions growth for funded seats at participating institutions. However, the 2016 higher education reform also proposed to adjust this limit based on level of institutional accreditation, the type of institution and regional higher education coverage.[2] Subsequent measures allow growth beyond 2.7% tied to the PACE programme or other strategic and regional development arrangements between MINEDUC and institutions (MINEDUC, 2017c, 2017b).

Funding through Gratuidad is delivered to institutions based first on newly regulated tuition fees set nationally by MINEDUC. MINEDUC sets these fees in response to the advice of an expert commission. These fees should account for institutions' full material and human resources costs, as well as indirect costs like annualised infrastructure investments. Cost calculations are to be updated annually based on the consumer price index (CPI), and every five years based on a more fundamental review (MINEDUC, 2017b). Under current rules institutions are permitted to charge non-subsidised students 120% of the regulated tuition to those in the seven lower-income deciles, and 160% of the regulated tuition to those from deciles eight and nine. Fees are not regulated for students from the top decile or for international students. In case these ceilings are not effective (that is, if they exceed the actual tuition), institutions will not be able to increase their tuition by more than the variation of the CPI plus 2%. These ceilings had an immediate effect on certain prestigious private institutions that charged higher tuition before entering the Gratuidad programme (De Gayardon and Bernusconi, 2016). Ultimately, enrolment is the key dynamic determinant of financial resources made available to institutions participating in Gratuidad. Other forms of government funding could introduce dynamic conditionality based on different performance measures such as degrees granted or graduate employment outcomes.

Chile is proposing to finance Gratuidad partly through a reallocation of previous funding streams. The AFI is being eliminated. The reform initially would have also reduced the AFD, but this decision was later reversed. The current proposal would maintain the AFD (MINEDUC, 2017b). The original reform would also have introduced new funds for state institutions to help them fulfil the role outlined for them in the Reform Law (with conditions placed on implementing the reform's institutional governance measures). Further details on revisions to these measures are pending.

The government aims to maintain its other financial assistance programmes in addition to Gratuidad, with various conditions relevant to institutions. Students from the seventh income decile and below would be eligible for scholarships if their institutions fulfil the following requirements: quality assurance accreditation, participation in the Common Access System and non-profit status. Students would remain eligible for loans to attend all higher education institutions up to the ninth decile, including at institutions that do not fulfil the requirements for their students to receive scholarships.

Reforms implemented or proposed since 2015 would also make funding conditional on an institution's non-profit status. This requirement is based on the idea that profit-driven behaviour distorts an institution's academic mission. Yet some private universities clearly continue to derive financial benefits from their activities, even though it is illegal for them to make profits. In 2009, the OECD argued that restrictions on profit making may be leading institutions to behave less transparently, with significant potential consequences (OECD/The World Bank, 2009).

Research funding

A recent OECD report (OECD, 2016b) highlights various challenges posed by Chile's system for research funding. The system is overly complex in its operation, and it has a large number of different funding programmes despite the fact that there is very little evaluation of research impact.

The concentration of research funding and performance within a narrow set of research centres has likely contributed to Chile's strong research performance relative to regional peers. It is a rational strategy, given Chile's relatively low investment in research

as indicated in Chapter 1. The regional CONICYT programme that seeks to better distribute research activities by supporting programmes outside the major metropolitan centres is consistently low performing. This is probably due to the fact that regional centres are not positioned alongside strong research universities (OECD, 2016a).

CONICYT research centre funding uses five-year funding terms. Research centres can renew this funding for an additional five years, but must apply to a different programme after these ten years elapse. While in line with international practice, for Chile, this ten-year drop-dead date makes it difficult to recruit and retain good research personnel at regional centres.

Chile's reform programme also initially proposed new research funding for institutions tied to participation in Gratuidad and performance measurement. This research funding was financed through a reallocation of funds from the AFD. MINEDUC subsequently backtracked from this idea, however, vowing to maintain the AFD, and abandoning its proposed new research funding stream. Under the latest proposal, research costs are to be included in calculations for determining the base tuition values, at least on a temporary basis. This will in turn help to determine the amount of public funds needed to support Gratuidad. Details remain unclear; however, it appears this measure would not directly connect this research funding to institutional performance.

Transparency

Information is crucial to informing the government's decision-making process and other system steering agents, as well as the decisions of other institutions, students, parents and employers. Students in secondary school especially lack reliable information about the quality and relevance of courses. These students are also targeted by considerable advertising that may in many cases be misleading. The 2016 higher education reform would establish new requirements for transparent reporting in quality assurance, admissions processes and other elements of the system. Three initiatives especially aim to strengthen the system's transparency, each falling under the sub-secretariat.

The first initiative would aim to strengthen the National Higher Education Information System (Sistema Nacional de Información de la Educación Superior, SIES). The reform focuses especially on strengthening the collection, validation, updating and regular dissemination of information provided by institutions and other actors to inform public policy, institutional management and the public. This includes information on enrolment, staffing, resources and infrastructure. It also includes information on institutions' legal statuses, partners and leadership, and details of institutional property and financing, including audited financial statements.

The SCAIES is the second transparency initiative. It aims to provide more detailed information to students on programmes and admissions processes, guided by principles respecting student choice, institutional autonomy and the diversity of programme offerings. Participation would be mandatory for institutions that receive public funds, and voluntary for additional institutions. SCAIES is accompanied by greater expectations for transparent and objective admissions processes at all institutions.

The last initiative is the National Qualifications Framework (Marco Nacional de Cualificaciones, MNC), which has been under discussion for a long time. The MNC would seek to create a common system of degrees, diplomas and other certifications. The

goal would be to grant graduate profiles greater transparency and coherence so they can be understood by employers and other education institutions. As currently proposed, the MNC would fall under the supervision of the Sub-Secretariat of Higher Education.

International evidence

In recent years, many educational jurisdictions around the globe have adopted new legal frameworks and other significant governance reforms. According to the OECD (2008a), "the trend has been for a reduction of direct state control of tertiary education in most OECD countries, less involvement in the running of tertiary education institutions on a day-to-day basis, and the introduction of new forms of supervision and influence through accountability mechanisms". Many European countries have granted independent legal statuses to their higher education institutions, especially universities. Consistent with these changes, countries have adopted important policies to improve institutional governance and management, institutional licensing and accreditation, system financing, and transparency.

Institutional governance and management

A further effect of the massification of higher education is that institutions have become much larger. They have many thousands of students, staff and faculty, expansive and expensive facilities, and vast budgets from highly diversified funding sources. Such complex organisations require professional management by highly qualified individuals operating within effective organisational structures.

The OECD (2008a) observes the following main effects stemming from both this greater institutional complexity and increased autonomy across higher education systems:

1. A strengthening of the power of executive authorities within institutions, increasingly being appointed for their leadership and management qualities in addition to the traditional academic leadership skills.
2. A concomitant loss of power and influence by existing collegial bodies.
3. An increase in participation on governing bodies by individuals external to the institution, which has strengthened the leadership of tertiary education institutions.

European countries have made special efforts to resolve the trade-off between collegiality and managerialism at the university level without sacrificing the former. In a report on the issue presented to the Swedish government (Bremer, 2015), it is argued that collegiality is a "fundamental component of the management of universities". This report also recommended that Sweden strengthen and clarify the roles of both academic collegial management and line management (rector, deans, heads of department and more), and avoid sacrificing one to the other. In less developed higher education systems, such as Chile's, the further serious challenge is that administrations are often not professional and empowered.

Notwithstanding their often similar challenges, higher education systems around the world have many different governance and management structures. Of greater interest, however, are the mechanisms that they use to establish, maintain or enhance the effectiveness of those structures.

Strengthening governance structures

One tool governments can use to shape institutional governance is governance codes. In **Scotland** (UK), the Scottish Code of Higher Education Governance offers a set of main principles supported by guidelines and examples of good practices to guide institutions. Scottish institutions must either "comply or explain" their adherence or non-adherence to this code. The principles include: institutional autonomy, financial accountability and efficiency, active stakeholder participation, guarding against potential conflicts of interest, maintaining and observing clear statements of authority and responsibility throughout the institution, and matching such authority and responsibility with accountability to key internal and external stakeholders. The Scottish governing body in a higher education institution determines its overall strategic direction and sets institutional values, whereas the senior team of administrators is responsible for the operational management of the institution (OECD, 2016d). The avoidance of a prescriptive set of rules is one way in which the code has tried to reflect the diversity of higher education institutions in Scotland (UK) in terms of governing instruments, traditions and strategic missions.

Ireland has developed a similar governance code through a partnership between the national government and higher education institutions. The code outlines appropriate procedures and controls in the form of principles and best practices that are periodically updated. These again are intended not be prescriptive but to serve as a reference point for each institution to interpret according to its unique circumstances and structure (OECD, 2016d).

The Netherlands provides another interesting case study for approaching institutional governance. The country has a binary higher education system that includes Universities of Applied Sciences (Hoger Beroeps Onderwijs, HBOs) roughly equivalent to Chile's IPs and CFTs, as well as research universities (OECD, 2008a). Both types of institutions are autonomous, public and rely primarily on government funding, though they also charge tuition. Institutional governance is shaped by legal requirements and a governance code (VSNU, 2013). Each institution must have an executive board and a board of trustees. The executive board is responsible for management, and has three members including the rector. The board of trustees supervises and advises the executive board, by: appointing members of the executive board; approving governance and management regulations; approving the budget, annual and financial reports, and the institutional plan; and more. The board of trustees may include between three and five members who must have no direct interest in the university. They may not receive personal financial remuneration from the university or an associated corporate entity other than that as a trustee, although one member is appointed on the nomination of the university council or staff council. Appointments are made by the Minister of Education, who must take into account the gender balance "as much [...] as possible" (VSNU, 2013). This model could be particularly relevant to Chile's IPs and CFTs, as it makes institutions particularly responsive to external guidance and stakeholder involvement (De Boer and File, 2008).

Finland has granted its universities much more autonomy in recent years, and has adjusted institutional governance to a more managerial model, while still maintaining more elements of collegial governance than in many English-speaking countries (Ahola et al., 2014). The government has separated universities from the state, and let them become autonomous legal entities or foundations. At the same time, these universities remain publicly funded. Finland is currently replicating this process with its polytechnic

institutions. The board of governors is the supreme decision-making body that now selects and can dismiss the rector, replacing collegiate elections. Boards are required to have 40% of their members from outside the institution. Collegiate representatives still comprise a majority of most governing boards, however, as much as 60% of the members may be elected as representatives of teaching and research staff, other staff, and students (representatives from any one of these three groups may represent no more than half their total number at the board). Institutions also have collegiate bodies (collegium), which determine the number of board members and their terms of office. Collegium also elect the outside board members, appoint the university's auditors and confirm financial statements and the annual report.

Developing leadership

Many countries are also pursuing initiatives to strengthen institutional leadership.

In the **United Kingdom**, funders have provided support for the establishment and operation of the Leadership Foundation for Higher Education, which has a mission "to serve, drive and catalyse the best possible leadership, governance and management in higher education". This foundation operates a host of different programmes to support executive leaders and managers, as well as members of governing bodies (LFHE, 2016).

Ireland's Department of Education and Skills has created a National Forum for the Enhancement of Teaching and Learning. Its mandate is to engage with leaders, managers, teachers and students to mobilise expertise and inputs from across the entire higher education sector to extend and shape best practices in all of the country's institutes of higher education. One of the forum's priorities has been to develop a roadmap for building digital capacity, to provide support in this important area to leaders across the higher education system. This roadmap is also meant to enhance the higher education system's effectiveness, especially in terms of teaching and learning (T&L, 2016).

Institutional licensing and accreditation

The Netherlands provides an example of effective institutional licensing and accreditation. The Accreditation Organisation of the Netherlands and Flanders (NVAO) licenses new Dutch private institutions to allow them to provide accredited programmes of more than one year's duration, and make their students eligible for student financial assistance (NVAO, 2016). To become accredited, institutions must apply for an extensive initial accreditation by the NVAO based on the quality of their programmes. Institutions must also apply to the Dutch Inspectorate for Education for a recommendation based on quality and continuity (including compliance with legal requirements). Finally, these institutions receive a positive decision by the Minister for Education, Culture and Science, if approved. Initial and subsequent accreditation terms may be up to six years, though the NVAO may issue a positive decision "with conditions" of up to two years, and applied in the same way to public and private providers. Applicants must pay for accreditation applications and complete them within six months. The NVAO institutional review process is described in greater detail later in this chapter.

System financing

Conditional funding tied to specific purposes or based on certain outcomes is now a key higher education steering mechanism for governments. It is a natural consequence of today's mass systems that funders request specific objectives and outcome targets to ensure value for money.

The tension between equitable distribution of funds among institutions and demands for focusing on excellence is inherent to funding higher education. It has become especially significant, however, in terms of research (both for fundamental research grants as well as research contracts with industry and public-sector entities). The days in which most research was financed through core funding are long gone; in fact they only existed in much narrower higher education and research systems that were mostly dedicated to instruction. Incentive structures increasingly reward research output and impact.

Higher education financing in **Denmark** is largely based on performance. Approximately 60% of funding to universities and 89% of funding to university colleges (which offer professionally oriented first-cycle degree programmes) are provided based on performance. This includes all funds allocated specifically for teaching and learning, and most funds for research. On the teaching and learning side, the "taximeter system" aims to improve completion, and ties funding to academic activity outputs. One key way Denmark's measures academic activity is exams passed by students. It also gives institutions a bonus if students complete their programmes on time. To date, the bonus has been provided as a fixed pool, from which institutions can collect funds in competition, but in 2020 institutions will begin to lose money if students do not complete their studies on time. Denmark has addressed the risk of perverse incentives through quality assurance mechanisms that maintain internal accountability and focus leadership on students' performance in their study programmes and graduates' performance in the labour market. In terms of basic funding for research, the government provides it overwhelmingly to universities. 30% of this funding is tied to performance measures, including: research activity relevant to educational activities, external research financing, bibliometric research indicators and the share of doctoral degrees granted. Denmark also funds research through competitive grants. The instruments for performance measurement have been refined over time to improve suitability (De Boer et al., 2015). **Ireland** is similarly working towards introducing performance funding connected with the performance monitoring under its National Strategy for Higher Education to 2030 (Department for Education and Skills, 2011).

Many educational jurisdictions around the world are now using performance agreements between the government and individual higher education institutions to identify goals. **Austria**, the **Netherlands** and **Scotland** (UK) use such agreements. These agreements can have various aims, such as encouraging institutions to strategically position themselves; improving the strategic dialogue and alignment between government and institutions; improving institutions' core activities; increasing institutions' efficiency; and informing policy makers and the public about the institution or system's performance. The agreements are often connected with broader strategies for the higher education system as a whole, and backed by conditional funding instruments. They have the added benefit, in many cases, of adapting steering to the particular circumstances of each institution. Funding formulas may struggle with this (De Boer et al., 2015).

In tracking performance, most accountability systems rely on measuring second-order indicators, which dominate the thinking within New Public Management (Boulton and Lucas, 2008). A key challenge is that real outcomes are often only realised in the long term, and are influenced by many factors beyond the control of the institution or the individual grant holder. Performance measures used by jurisdictions other than Denmark have included the number of degrees awarded, the proportion of students from underrepresented groups, duration of study, research productivity, internationalisation, results of student surveys and employability indicators (De Boer et al., 2015).

Conditional funding can also be oriented towards strategic system restructuring. The Scottish Funding Council (SFC) is a body that provides overall system leadership and accountability in alignment with the Strategic Objectives for **Scotland** (UK) and Scotland's National Performance Framework (Scottish Government, 2011). The SFC has been directed to support mergers and other institutional collaborations that may lead to mergers where evidence indicates these may achieve cost efficiencies and improved outcomes in education and research (Joint Future Thinking Taskforce on Universities, 2008). **Finland** also offered considerable funding to incentivise and support the mergers of its higher education institutions (Valimaa, Aittola and Ursin, 2014).

Comparative study of systems around the world further indicates that unless policy and practice explicitly encourages it, institutions are unlikely to invest effort in the "third mission" of service and regional engagement. In 2007, the OECD completed work reviewing regional engagement of higher education institutions in a number of jurisdictions. The OECD study highlighted the importance of specifically funding regional engagement. The OECD also emphasised strong regional governance instruments to support partnerships, the inclusion of higher education institutions in regional strategies and effective monitoring of institutional impact on regional development (OECD, 2007).

Transparency

Transparency is a vast subject. It includes academic, financial, and administrative dimensions, which have been addressed in very different ways in different jurisdictions.

The Bologna Process in **Europe** generated a system of easily readable and comparable degrees across 48 countries (EHEA, 2017). Under the common standard, bachelor's degrees typically last three years (four at maximum), master's degrees last two years (one at minimum) and doctoral degrees last three years. The majority of countries in Europe now comply with these standards. Degrees are now recognised, and credits are transferable across participating countries.

In 2008, the **European Union** led the development of the European Qualifications Framework (EQF), a reference framework for the translation of qualifications across countries and systems. While the Bologna process covered higher education only, the EQF applies to all levels of education, with eight reference levels that are defined in terms of learning outcomes. However, there is a direct connection between the Bologna Framework and EQF at higher education levels. Countries must create their own national qualifications frameworks (NQFs) to align with the EQF, and the number of NQFs has increased rapidly in recent years. As of 2016, 39 countries were co-operating in the development of the EQF and 43 NQFs were established. Fully 32 NQFs were linked to the EQF as of April 2017, and the remaining countries are expected to complete referencing in 2017-18. In 2015, 17 countries had reached a fully operational stage (compared to only seven in 2014), whereas six countries were already operational, but at an earlier stage (CEDEFOP, 2016a).

Different agencies have overseen the NQFs in European countries. This can be seen in Ireland and Sweden, which are two examples of countries with fully operational NQFs (CEDEFOP, 2016a). **Ireland** established an agency (The National Qualifications Authority of Ireland, NQAI) in 2001 with the specific task of developing and implementing a new NQF. Following broad consultation exercises covering all education sectors, the labour market, trade unions and social partners, Ireland implemented its NQF in 2003, with individual institutions adopting the new framework soon thereafter. In

2006, Ireland participated as a pilot country in the process of compatibility certification of the NQF with the Bologna Framework. Following the introduction of the EQF in 2008, Ireland also completed the mapping of its NQF to the EQF in 2009. According to a study (Elken, 2016), it appears this international (European) approach increased acceptance of the NQF implementation by Irish institutions, and increased the status of the framework on the national level. To further strengthen governance of the NQF, Ireland unified its quality assurance agencies across different education sectors, as well as the NQAI into a new agency called Quality and Qualifications Ireland in 2012. This approach aimed to entrench the systematic use of the qualifications framework and promote stronger co-ordination with quality assurance (Coles, 2013).

In **Sweden**, the Swedish national qualifications framework (SeQF) is at an early operational stage, as it was formally adopted in 2015. The Ministry of Education and Research has overall responsibility for the SeQF and referencing it to the EQF. The National Agency for Higher Vocational Education supports SeQF in implementing higher vocational education at the higher education level. Furthermore, an advisory council of 14 stakeholder representatives supports the national agency to include or make non-formal qualifications equal to formal ones. The particularity of the SeQF regarding other European frameworks is its focus from the start (in 2009) on including all types of qualifications awarded beyond public education, particularly those in the adult and popular education sector, as well as the labour market. A wide array of stakeholders has also been involved in the development of the SeQF, such as actors from education and training, as well as the labour market (CEDEFOP, 2017a).

European NQFs have helped identify where there are gaps in available qualifications. They have also provided "a reference for review and renewal of qualifications and curricula" (CEDEFOP, 2017b). Three challenges face the European EQF as it continues to be implemented. They are: 1) better integrating arrangements to validate non-formal and informal learning (which is critical to adding value to career progression, as well as to lifelong learning); 2) promoting the use of learning outcomes for the development and review of qualification standards, curricula and assessment; 3) becoming more visible to the general public and broadening stakeholder involvement (i.e. education and training, as well as the labour market) (CEDEFOP, 2016a).

In terms of financial transparency, in **Finland** general public accounting legislation requires that higher education institutions publish their annual financial statements. Finnish legislation also mandates that higher education institutes publish information requested by the Ministry of Education and Culture for the purposes of evaluation, development and statistics, monitoring, and steering. Information on performance and finances must be adequate for evaluation against established goals.

Body of the recommendation

Chile must develop the steering infrastructure to successfully pursue a vision for the higher education system. Such a steering infrastructure must achieve institutional accountability and autonomy, and be flexible enough to manage Chile's diverse higher education institutions.

Strengthen Chile's steering agents.

Recent and proposed changes to Chile's steering agents are steps in the right direction. The OECD endorses the creation of a superintendency for higher education to better monitor institutional compliance with conditions of licensing, as well as financial,

legal, information and reporting requirements. This endorsement aligns with the recommendations of a previous OECD review (OECD, 2013). The creation of the new sub-secretariat with greater statutory authority also promises to support improvements in the system. In the same way, the sub-secretariat could better benefit the system if it improves the professional skills of government policy makers, or generates political clout within government. The new state CFTs also have considerable potential to help steer improvements in technical education.

The new Ministry for Science and Technology and the ANID should help to strengthen Chilean research and innovation, providing they collaborate well with the system's other actors in support of a well-conceived National Science, Technology and Innovation Strategy. Establishing a clear distinction between the responsibilities of each entity is critical, with the new ministry dedicating its improved capacity to strategic planning and policy development, and ANID focusing on the effective delivery of competitive research funding. Once the ministry is established, the Chilean government should undertake a review of research funding and policies that affect higher education institutions under the new ministry and MINEDUC to ensure alignment and improve transparency.

Accreditation agencies remain an area of concern. The OECD 2013 Quality Assurance Review (OECD, 2013) recommended steps to address conflicts of interest and insufficient monitoring and evaluation of Chile's independent accreditation agencies (as well as to improve accreditation instruments for CFTs and IPs). The current reform proposal would eliminate these independent accreditation agencies. The Chilean government will need to ensure it finds a clear replacement to strengthen programme review and accreditation, be this the CNA or another agency.

Crucially, however, the challenge with Chile's steering agencies is less about which institutions are in place with which responsibilities than about whether they effectively fulfil their mandates. Past agencies could have generated a considerably better-performing system through improved implementation.

The Chilean government should better co-ordinate and harmonise the policies and activities of the different parts of its higher education system. It is critically important that the various institutions not operate purely in silos but pursue complementary and collaborative activities where appropriate. Two important processes that will need to be harmonised are the licensing and accreditation of institutions by the CNED and the CNA. This issue was a key focus of the OECD 2013 review (OECD, 2013).

Chile can also create a representative body for all higher education institutions, including not just current CRUCH members but other private universities, IPs and CFTs. This would permit governance discussions to involve the whole system effectively, following the model of the German Rectors' Conference. Smaller groups of institutions can be organised within the larger representative body as they choose, or they can be organised according to shared mandates, as with the state higher education institutions network.

Strengthen institutional governance and management.

Many of the proposed changes to the governance of state universities would represent positive steps towards strengthening institutional governance of higher education in Chile. The creation of new academic bodies separate from institutions' board of directors would also improve institutional governance. In terms of non-CRUCH private

institutions, the Chilean government should consider developing governance codes such as those in use in Scotland (UK) and Ireland to help create a guiding framework and develop norms.

Across all types of institutions, the inclusion of external members on boards of directors is crucial, based on the key guiding principle that governance bodies incorporate and respect the context within which they are working. For top research universities, this could imply including an international expert on the universities' board. In the context of IP and CFTs, this could mean including people from local businesses or other community stakeholders on the board. The Chilean government would do well to permit institutions to implement different strategies for identifying and selecting external board members consistent with this principle of inclusion. The government should also make sure to consider different institutions' specific traditions and other characteristics during this process. Such steps were recommended in the OECD/The World Bank 2009 review to help better ensure institutions pursue public goals.

The Chilean government should also prioritise the development of professional administration throughout its higher education system, bringing recruitment, hiring and incentives in line with steering objectives to ensure the positive reforms being pursued are implemented effectively. This requires in part that the government begin to create career streams that are detached from the political process to place a greater emphasis on expertise and experience, which can be put to the system's use regardless of which political group is in power at a given time. While within higher education institutions, academic leaders like rectors can continue to be elected with limited terms, but they should be supported by professional staff. In addition, institutions should be able to recruit from outside their ranks (OECD/The World Bank, 2009). The creation of a leadership institute like the UK Leadership Foundation for Higher Education to help deliver professional development, or research groups in universities that can study administration and governance challenges in the sector, could help with professionalization. Finally, the Chilean government should prioritise the development of professional management, human resources, ICT and financial management systems not only in institutions, but across the sector's agencies as well (OECD/The World Bank, 2010).

Improve licencing and accreditation of institutions and programmes.

The OECD 2013 Quality Assurance Review provided important recommendations regarding institutional licencing and accreditation (OECD, 2013). The institutional accreditation proposals from the 2016 higher education reform package reflect an approach considerably closer to this vision.

The introduction of mandatory accreditation and its integration with institutional licensing strengthens controls on institutions in very positive ways. In addition, the OECD advises that the Chilean government grant institutional licenses based on an institutional business plan that defines the institution's scope and scale of operation moving forward. The government could require that these business plans align with the overall system vision once it is developed.

The use of multiple levels of accreditation with associated constraints on institutional development is appropriate for Chile given how administrative and academic maturity varies across institutions. The strict limits on institutional autonomy for those with weak accreditation should help prevent uncoordinated proliferation of low-quality programmes.

We will discuss further applications of a multi-tiered accreditation system in the discussion on quality later in this chapter.

In terms of licensing based on not-for-profit status, the OECD continues to believe that for-profit provision can be reconciled with public goals – provided that clear accountability rules are in place and are transparent within the quality assurance system and at the institutional level (OECD/The World Bank, 2009). Ensuring that institutions fulfil their academic missions, respect fundamental financial and academic requirements for licensing and accreditation, and operate transparently, should be more important than whether they operate on a for-profit or not-for-profit basis.

Steering through accreditation should extend beyond the area of institutional and campus-level accreditation. Expansion of programme accreditation was not proposed under the 2016 reform, though further amendments have advanced compulsory accreditation for teaching programmes and doctoral degrees. These amendments have also reinforced consequences for non-accreditation in medicine. Still, as the capacity of Chile's quality assurance system develops, the Chilean government should expand mandatory programme accreditation to additional fields, prioritising those considered critical to Chile's social and economic outcomes (e.g. engineering). Chile's approach to the medical and teaching professions could provide a home-grown model for this kind of accreditation, though Chile can also learn from other systems around the world.

Align system financing with strategic objectives.

As the OECD previously argued in 2009, the ultimate purpose of system governance in tertiary education is to ensure that public resources are efficiently spent on societal purposes. The Chilean government's increasing use of public financing tools to steer the higher education system is a positive development. The government should continue to strategically expand the conditions it places on funding provided to the higher education system. This can be achieved by adding new funding streams and performance conditions for the AFD (OECD/The World Bank, 2009).

Conditional funding policies need careful design. It is important to avoid introducing perverse incentives into the system. On this account, current reform proposals appear on track with their intention to eliminate the AFI. These efforts are consistent with the recommendations of the OECD/The World Bank 2009 review. It is also important to protect a reasonable measure of predictability in institutional funding to support strategic planning. Finally, the Chilean government needs ensure that conditions placed on funding do not unduly suppress the diversity of higher education offerings available to Chilean students.

In the absence of a more coherent vision for the system at this time, it is difficult to assess the strategic impact of the resources invested in Gratuidad. Moving forward, however, the Chilean government should make sure to align Gratuidad with its strategic goals for the system by periodically reviewing the programme's approach to determine where adjustments might better support system improvement. Eventually, the Chilean government may do well to adjust the mechanism for delivering public funding through the Gratuidad programme. Beyond incentivising enrolment, adjusting this mechanism would help make sure the programme further rewards equitable learning processes, study success, labour market outcomes and other contributions to emerging regional or national development priorities.

It is essential that the Chilean government provide adequate financing for research, science and technology in order to fulfil its higher education goals. The Chilean government should focus on strengthening existing research universities and institutes, instead of developing further parallel research capacity. It should also ensure a large share of funding – as much as 50% – is delivered to research universities on a competitive basis, in particular through the ANID, if it is approved. The OECD further endorses the suite of recommendations to strengthen research innovation in Chile from the recent OECD review of Chile's public research centres (OECD, 2016b). These recommendations include rationalising or differentiating funding schemes, diversifying funding streams' strategic objectives, extending the funding period for centres that satisfy excellence criteria, and adopting a broader vision of the links between research centres and businesses. The recent OECD review also highlighted various proposals to improve performance assessment, and the need for agencies to act on assessment findings.

Recent reform proposals envision a stronger contribution of higher education institutions to regional economies, and greater synergies between them. During this process, incentives should be created through funding for higher education institutions to engage in local and regional development. Chile should also consider introducing funding streams to support strategic collaborations and consolidations among higher education institutions, as in Scotland (UK).

By providing direct funding streams to some higher education institutions, the Chilean government should continue to steer their activities and performance, as well as also those of other, competing providers that are not receiving direct funding. For example, Gratuidad will hopefully place greater pressure on institutions that have historically enrolled many lower-income students and have failed to provide a high-quality education, as these students will now have a real choice. Similarly, the development of new state CFTs could play a significant, positive role specifically within the technical higher education subsystem.

The Chilean government should consider building upon its MECESUP experience and those of many other systems by developing performance agreements with individual higher education institutions that are receiving public funds (OECD/ The World Bank, 2010). These performance agreements can foster strategic alignment and collaboration between the government and institutions. They can also allow for steering instruments and conditions for funding to be targeted towards institutions' unique circumstances, mandates and roles.

Enhance transparency.

The collection and diffusion of information is fundamental to the successful operation of Chile's higher education system. The SCAIES, MNC and the National System of Information on Tertiary Education (Sistema Nacional de Información de Educación Superior, SNIES) would represent positive steps towards greater transparency in the higher education system. They would also help policymakers, institutional leaders, students and their families make more informed decisions. The MNC in particular would provide students and employers with a greater understanding of what different programmes entail. The OECD fully endorses this project, as it did in 2009 and 2013.

As these mechanisms are developed, the Sub-Secretariat for Higher Education will have to think carefully about how to communicate the information effectively to the public. Promotion will be essential, especially with regards to outreach to students and their families. Effective communication is vital, given how much effort higher education

institutions dedicate towards shaping student and family understanding through advertising.

In terms of accounting and transparency requirements for institutions, all institutions receiving any form of public support or subsidy should be subject to the same requirements governing the use of these resources (OECD/The World Bank, 2009). For state-owned universities, their public nature should be founded upon their commitment to public goals, not on specific accounting and personnel administration regulations of the civil service.

Recommendation 4.3

Strengthen equity in access to higher education of the best quality

Summary

Chile should pursue reforms to expand equity in access to higher education of the highest quality, prioritising initiatives most likely to be effective in expanding participation among the most vulnerable qualified Chileans. These reforms should include efforts to address financial barriers, as well as the considerable academic and social challenges that disadvantaged Chileans face in early childhood, during compulsory education (as explained in Chapters 1 and 2), while transitioning into higher education, in completing degrees and in entering the labour market successfully.

Context

The Chilean government has undertaken important efforts to improve access to higher education. A key principle of the 2016 higher education reform proposal was that the higher education system should promote the inclusion of students in higher education institutions by eliminating all forms of arbitrary discrimination. The reform proposal also mandated that higher education institutions protect and promote a diversity of talents, cultures, socio-economic backgrounds, ability, gender identities and sexual orientations coexisting within institutions and the system. Gratuidad is the government's flagship initiative to support lower-income students. Chile has pursued other measures that are also significant, however, including opening new state CFTs and state universities that aim to address regional inequities. This section examines two areas of focus in terms of access: admissions and support for student transitions, and student financial assistance.

Admissions and support for student transitions

As noted in Chapter 2, students from more disadvantaged socio-economic backgrounds face more significant challenges in accessing high-quality learning opportunities compared to their peers in other OECD countries. Addressing the resulting gaps in academic and social preparation is essential to ensuring that these students can achieve equitable access and study success in higher education.

Admissions processes

Admissions processes vary considerably between different types of higher education institutions in Chile. Most private institutions (which enrol 63% of all higher education students) operate their own independent admissions processes (MINEDUC, 2017a).

According to internal exchanges with MINEDUC, CFT and IP admissions are non-competitive. The only standard requirement for admission at these institutions is a secondary school-leaving certificate. This may also be the case at lower-quality non-CRUCH private universities as well. One concern with admissions processes at these institutions is that they often lack transparency. Non-competitive admissions may also lead many students to enter higher education when they are not adequately prepared, or when their profile may be better suited to other educational programmes.

All CRUCH universities and nine other private universities (representing two-thirds of enrolment in the university subsystem) participate in the Unified Admissions System (Sistema Único de Admisión, SUA). The SUA requires that candidates complete the university selection exam (Prueba de Selección Universitaria, PSU).

The OECD has previously noted that "equity gaps appear to widen during the admissions process [...] fewer students from lower-income groups are getting into tertiary education than would be predicted from their secondary graduation rates" (OECD/The World Bank, 2009). This appears to be a particular problem for SUA universities. Evidence has long shown that some groups from the student population systematically do better on the PSU than others. For example, male test takers outperform female test takers, as do urban students relative to rural students (MINEDUC, 2017a).

The Chilean government adopted the Score Ranking programme (Puntaje Ranking) in 2016 to respond to these concerns (DEMRE, 2017). This system adjusts students' PSU scores to more accurately evaluate performance given the educational context (i.e. the environment of the student's educational experience in terms of their particular school and type of education). Students' average notes of the four years of upper secondary education (educación media) are compared to those of peers from the same educational context who have graduated from upper secondary education over the previous three years. Students with an average score that is inferior or equal to the average score of students with the same historical educational context receive a grade equal to their NEM (score for upper secondary education or *notas de educación media*). Students with an average above the average score of students with the same historical educational context obtain a higher score, calculated linearly. The maximum score (*puntaje*) on the Score Ranking system is 850, where the average grade equals the maximum historical average of the educational context.

In 2014, MINEDUC also introduced the Programme for Support and Effective Access (Programa de Acompañamiento y Accesso a la Educación Superior, PACE) to support admissions into higher education for disadvantaged students who have been academically successful. Students who perform in the top 15% of their class at graduation from high school can receive admission to tertiary education institutions partnering with the PACE that have a guaranteed admissions quota. Fully 29 higher education institutions participated in PACE in 2016. Institutions themselves have also introduced priority admissions schemes. A programme of the University of Chile (Universidad de Chile) admits selected public municipal school graduates from more difficult socio-economic circumstances who otherwise do not have sufficiently strong PSU scores.

Under current higher education reform proposals, the SCAIES is the key element that aims specifically at improving admissions processes. In addition to providing better information for students, it would also establish expectations for transparency and objectivity in admissions decision-making, and permit in some cases that students receive priority in admissions for equity reasons.

Support for student transitions into higher education

As noted earlier, in Chile higher education dropout rates are especially high in the first year. The Chilean government and higher education institutions have pursued a number of initiatives to try to address this problem, often as a complement to priority admissions.

The PACE provides upper secondary students with academic support and vocational guidance (among its other activities in upper secondary schools), and also accompanies them in the initial stage of higher education with a transitional support programme. As of 2016, 456 schools in 306 municipalities were engaged with the programme. Yet, exchanges with the Ministry of Education suggest that the PACE may not be raising these students' often low rates of progression and completion as much as expected. Its emphasis on preparing students for an academic test while following a differentiated curriculum may hinder PACE's effectiveness. In addition, the absence of mechanisms to ensure institutional support beyond a formal commitment to develop a retention policy may be impeding PACE's success.

MINEDUC has been a proponent of three programmes to support the betterment of academic skills through funding competitions specifically at IPs and CFTs (MINEDUC, 2017c). The Beca de Nivelación Académica was the antecedent to PACE and supports institutions in providing better skills to students with weaker academic preparation from the bottom seven deciles. Primarily, activities include tutoring, mentoring and individual classes according to students' needs. Secondary activities include psychological support and workshops in time management, communication skills and working autonomously. Seven CFTs and four IPs have participated in the programme since 2011. The other two programmes are the Planes de Mejoramiento de Programas (PM) and the Planes de Mejoramiento Institucionales (PMI), which are focused on technical-professional training. The PM supported an IP and a CFT from 2012-2013, with programmes focused only on academic upgrades (in language and communication, mathematics, and science), practical skill-building (in innovation, teamwork, entrepreneurship and self-management), and foreign language skills. The PMI supported two IPs and four CFTs over three years (2012, 2013 and 2015), as well as five other institutions delivering technical-professional training.

Other programmes in place at the institutional level often resemble the PACE and receive financial support from the Chilean government. Five universities are participating in the UNESCO Preparatory Programmes Network (Red de Propedéuticos UNESCO), which seeks to integrate talented students from vulnerable contexts into universities. The Universidad de Valparaíso's bridging programme includes student mentors across different study programmes, linked with a double objective of social and academic alignment. The Pontificia Universidad Católica de Chile's Talent and Inclusion programme (Programa Talento e Inclusión) combines financing, remedial programming and academic accompaniment, as well as special admissions. Universities in Bío Bío (e.g. the Universidad de Concepción and the Universidad Católica de la Santísima Concepción) are operating school outreach projects with MINEDUC support to raise students' aspirations and academic performance. These projects with MINEDUC also aim to improve teacher and principal performance, and to offer participating students priority admissions (OECD/The World Bank, 2010; Educación 2020, 2017). Many Bío Bío institutions also offer remedial courses.

Financial assistance

We have already detailed the growth in Chile's student financial aid programmes. It is important to consider how these programmes determine eligibility, as well as what amount of support they give.

Chile's need-based financial aid programmes rely on a socio-economic assessment of the student's household (Ministry of Social Development, 2015b). Although the key input is the family's income over the past year, the government also seeks to account for the family's overall living costs, taking into account household characteristics like work situations, health concerns, health expenditures, other education costs, vehicle costs and more. Despite these efforts to assess student contexts and needs, these programmes still fall short in many ways of targeting financial aid to students who most need support to succeed in higher education.

A key point of caution in the targeting of financial aid is the current plan to integrate additional deciles into Gratuidad, beginning with the sixth decile in 2018, and extending to the top decile over the longer term. This could actually hinder improvement in access and quality, if not managed carefully.

By definition, expanding Gratuidad would dedicate increasing fiscal resources to higher-income students. As highlighted earlier, higher education participation rates by decile indicate that increasing shares of these higher-income students will attend higher education regardless of whether they receive financial support or not. Meanwhile, Chile's average expenditure per student from the ages of 6 to the age of 15 is among the lowest in the OECD. At the same time, access to high-quality education opportunities in early childhood and compulsory education in Chile is highly stratified (see Chapters 1 and 2). Inadequate preparation and other social barriers mean that regardless of whether tuition is covered or not, many lower-income Chileans cannot envision higher education as a possibility – and never apply.

The fiscal effort to support the Gratuidad programme is already significant for the government. It will only increase as eligibility expands to students from higher-income deciles, and as more institutions become eligible. The government's plan is to make further expansion of Gratuidad subject to the achievement of benchmarks for government revenues as a proportion of GDP (Chile Atiende, 2015). Nevertheless, controlling costs will always remain a concern in the presence of scarcity. Thus, the programme's funding will depend on the priorities of future governments.

One approach could be to simply reduce the amount of funds provided to institutions per student, but this would leave institutions with fewer resources to deliver high-quality instruction and other objectives. Another approach is to restrict the number of seats in institutions that are funded through Gratuidad, as preventing enrolment in Gratuidad by some prospective students could be more politically expedient than underfunding institutions, or allowing fees to rise for all students. Again, the budget law that initiated the Gratuidad programme in 2016 introduced a flexible limit on enrolment growth at participating institutions. Future governments could make these restrictions much tighter. Additionally, the OECD review team identified two concerns with the current emphasis on students' academic performance for eligibility to MINEDUC scholarship programmes, as well as many support programmes like the PACE. First, as already indicated, the PSU suffers from built-in inequities because wealthier students often have other advantages that assist them in improving their education performance before completing secondary education. These advantages include better-educated parents, access to enrichment

programming outside of school and more. The Score Ranking programme (Puntaje Ranking) represents an adaptation to the fundamental problem of skills differences, and is an important step. That said, Chile can only resolve this challenge by mitigating quality gaps in earlier education (see Chapter 2) and wider inequities in society. Second, supporting students with higher academic performance favours those who are already more likely to attend higher education than peers of the same income. These students are also more likely to be economically successful after graduation. Thus, supporting them still leaves lower-skilled students behind.

This pattern of favouring stronger students has been most apparent in the consistent emphasis in Chilean financial aid policy on CRUCH university students over those at IPs and CFTs. Four years after graduation, CRUCH university graduates' earnings are already 40% higher than those of graduates from IPs, which are 26% higher than those who graduate from CFTs. This suggests that focusing support on students at CRUCH universities is regressive, notwithstanding the high proportion of lower-income students attending many of these institutions (MINEDUC, 2017a). Yet, CRUCH university students have had access to targeted scholarships and a separate loan programme with more advantageous repayment conditions, whereas MINEDUC statistics indicate that IP and CFT students have been most reliant on the least generous form of financial aid: the CAE. CRUCH university students were also the first to become eligible for Gratuidad.

The Chilean government has made important changes to support more academically marginalised students, however. Specifically, the expansion of Gratuidad to IPs and CFTs will provide access to many students who have not completed the PSU and typically have more limited skills. Moreover, it is critical to acknowledge that targeting financial transfers to stronger institutions can make sense, as it encourages the highest quality education and motivates system improvement. It is also logical that the Chilean government does not want to channel funds via student financial aid to poor-quality institutions. The challenge is to strike an appropriate balance.

Each of Chile's current financial aid mechanisms also face challenges in terms of adequately accounting for the resources of all students and families. These challenges relate to the use of step-functions, how financial aid accounts for student costs and the accommodation of students with exceptional circumstances.

Most of the Chile's financial aid programmes are designed around income-based eligibility in the form of a step-function. At present, eligibility for Gratuidad also works with a step-function, as eligibility is based on a family's income falling in the bottom five deciles. With step-functions, however, whether a student's family earns one dollar more or less than the fifth decile income (called the "turning point") has little effect on their personal capacity to finance higher education. Put another way, families with very similar incomes may receive very different financial aid offerings based on where their income falls based on the fifth decile "turning point." Such circumstances can translate into differences in eligibility for financial assistance worth thousands of dollars.

Chile's financial aid mechanisms often do not take into consideration the full scope of costs associated with attending higher education. At best, these mechanisms approach them in a segmented fashion. Some programmes may not even fully cover fees, leaving students and their families to finance the balance, as well as living costs.

Finally, financial aid programmes face necessary challenges in adapting to the diverse circumstances of families or specific disadvantages of some students. For example, eligibility criteria relating to study progression are necessary so as to not fund

unsuccessful recipients indefinitely. That said, eligibility criteria related to study progression may not reasonably accommodate students' diverse capacities, including disabilities, which cause them to take longer to complete their studies. Under Gratuidad, students are not charged fees for the nominal length of their study programmes, but can be charged half the regulated fees for an additional year of study, and full fees for all subsequent years. Charging students who take longer as a result of disabilities can unfairly compound the disadvantages they already face.

International evidence

Without improvements in early childhood education and compulsory education, significantly increasing access to higher education necessitates recruiting more students with lower academic skills. Such marginal students may be less prepared to successfully complete their programmes and pursue higher-skilled occupations in the workforce. Historically, this concern has partly inspired the targeting of government financial aid and other supports towards students with higher academic performance.

Empirical research from the United States using regression discontinuity approaches has found substantial returns from admission and attendance at better-quality higher education institutions for marginal students. The SAT test is the most common university admissions test in the United States. Studies found students who had narrowly made SAT-based admissions cut-offs for four-year institutions obtained significantly better outcomes than students who narrowly did not, despite being otherwise identical based on a battery of tested characteristics (Goodman et al., 2017; Zimmerman, 2014). Many of these institutions lacked prestige relative to other four-year institutions, so their SAT cut-offs were quite low. Another similar study also found high returns from persistence in higher education for students just above grade point average (GPA) cut-offs for academic dismissal (Ost, Weixiang and Webber, 2016). We cannot say with certainty that these results would apply specifically in the Chilean context, but they strongly suggest that expanding access to high-quality institutions is beneficial even for the marginally skilled.

Supporting students from disadvantaged backgrounds to be successful

Australia has pursued many initiatives to expand higher education access and retention among disadvantaged students (OECD, 2016d). The Higher Education Participation and Partnerships Programme (HEPPP) offers universities a financial incentive to enrol and retain students from lower-income backgrounds, which institutions can use to finance outreach activities. HEPPP has also supported collaborations between universities. One HEPPP-supported project is Bridges to Higher Education (BHE) in New South Wales, which has received positive reviews in external evaluations. BHE includes initiatives to promote awareness, such as student campus visits, community events and focus groups for parents. These awareness initiatives encourage engagement with schools through partnerships, including professional development for teachers and community events. The organisation aims to support higher education students through academic skills sessions, mentoring and tutoring. It also aims to engage with Aboriginal and Torres Islander peoples through programming addressed to these students' cultures and unique circumstances.

Australia has also introduced alternative admissions methods. Students may be assigned greater standing in admissions decisions based on their postal codes. Places can be set aside in competitive programmes for certain students, and secondary schools can identify students for special entry who have academic potential have also faced adversity.

Australia makes scholarships available to some students as well, depending on the families' income level. Aboriginal and Torres Strait Islander students may sit a specially-designed alternative admissions test. A central university admissions centre operates many of these programmes. Institutions offer additional academic and social supports to students admitted through these schemes.

Colombia's Access to Higher Education with Quality (ACCESS) student support programme has ambitious goals to expand access and efficiency in the higher education system. A key priority of the programme is developing student loan assistance. Colombia almost tripled the number of student loans on offer between 2002 and 2011, to achieve perhaps the highest proportion of loan-supported students in Latin America. Dropout rates also fell. The programme dedicated most of its resources towards university education, but effectively targeted lower-income students. Colombia has also taken ongoing steps to ease repayment, recognising that the programme serves a vulnerable population (OECD, 2012a).

England (UK) requires that all publicly funded universities and colleges complete an access agreement with the independent public Office for Fair Access (OFFA). These agreements identify tuition fees and institutional plans to improve or sustain access for students from lower-income backgrounds and other underrepresented groups. The OFFA monitors institutional performance relative to access agreement commitments annually, and has the power to sanction institutions that violate agreements through fines or fee limits. The OFFA also supports research and dialogue concerning access challenges and best practices. The OFFA works within the context of a broader National Strategy for Access and Student Success, developed in partnership with the Higher Education Funding Council for England (HEFCE) (OFFA, 2016).

Student financial aid programmes

Four main groups typically share the costs of higher education:

1. taxpayers and their agent, the government
2. parents and families who may contribute to tuition fees, or cover some student living costs (e.g. by keeping students at home)
3. students who may finance part of their tuition and living costs through part-time employment earnings, past savings or borrowing
4. individual donors who may contribute to institutional budgets (reducing the amount that must be passed on to the government, parents or students) or who may financially assist students through grants (OECD, 2008a).

Ensuring both equity and quality should be the overarching criteria informing cost sharing and defining funding allocations in higher education. This means that "the equity objective [should not be] free tertiary education [for students and families per se] but a system in which no [qualified student] is denied a place because he or she comes from a disadvantaged background" (OECD, 2008a).

Evidence indicates that low-income youth respond more to grants than loans when they are deciding whether to pursue higher education, making targeted grants a more effective measure to encourage their participation (Usher, 2006; OECD, 2008b). There appears to be little difference in debt aversion between lower-income and higher-income students. Possible reasons for the fact that low-income students respond more to grants than loans include rationally lower expectations for returns to education, systematic

overestimation of the costs of higher education or underestimation of the benefits by these students and "systematically higher personal discount rates than youth from wealthier backgrounds" (with a personal discount rate understood as "the rate at which one values money in the present more than one values money in the future") (Usher, 2006).

Grant programmes must be designed strategically. For example, a study (Cohodes and Goodman, 2014) used a regression discontinuity approach to find that a merit scholarship programme in Massachusetts actually reduced completion among recipients. The programme provided financial aid only for students attending state institutions.

Ontario, Canada introduced a significant reform to its student financial assistance programme in 2017 to provide grants that fully offset tuition to students from lower-income families. Higher education institutions in Canada receive considerable public funding. At the same time, these institutions charged the third highest undergraduate tuition fees in the OECD in 2014-2015. Historically, to help students and their families cover these fees and other expenses incurred while studying, Canada's federal and provincial governments have provided students with a combination of tax credits, loans and grants. Loans and grants are provided based on a calculation of the full costs of attending higher education, minus reasonable financial contributions from students and their parents. Educational authorities do not consider students' academic performances when determining eligibility. Ontario's new programme consolidates the province's tax credits and grants to fully offset tuition for lower-income students, with these benefits reduced with higher income. Under the new programme, loans will still be available to cover costs in addition to maximum grants. Once the reform is fully implemented, students' financial aid eligibility will be processed when they apply for higher education. Applicants will then receive a notification of their financial aid awards in their acceptance letters (Usher, 2017).

To accommodate diverse student circumstances that may not be adequately accounted for by general programme criteria, the Student Assistance Programme (SAP) in **Nova Scotia, Canada** allows students to appeal when they are denied financial aid or believe that the aid they are receiving is inadequate. The lower appeal board is comprised of SAP staff and is consulted first. The higher appeal board, comprised of external ministerial appointees, considers cases rejected by the lower appeal board upon the appellant's request. Elements that may be appealed include basic eligibility criteria and parental contributions. Exceptional circumstances that are sometimes considered include personal illness and unexpected family expenses that limit a student's ability to pay the costs of higher education (e.g. as a result of funeral and other expenses associated with death of a family member) (Students Nova Scotia, 2013). To accommodate students with disabilities, the SAP also allows them to receive support for the nominal length of their study programme plus two years. In contrast, all other eligible students receive support for the nominal length of their study programme plus one year.

Points of caution for quality and equity in free tuition regimes

Gratuidad has attracted considerable investment and attention in recent years. Many in Chile envision an eventual abolition of tuition fees for all students across the higher education system. In this context, it is important to be aware of some of the pitfalls other countries and jurisdictions have encountered in seeking to finance their higher education systems entirely without tuition. The core difficulty has been to ensure institutions receive adequate funding to sustain access and quality even for the most disadvantaged students.

In jurisdictions where free tuition has been less successful in promoting quality and equity, limited fiscal capacity has caused governments to adopt one of two approaches to manage higher education costs. Under the first approach, the higher education system does not restrict admissions, but becomes crowded with relatively lower-quality instruction. In the second approach, the higher education system restricts admissions and funding to those institutions with free tuition such that the selection of students for free tuition spaces becomes focused on merit. This focus on merit then becomes, typically, a proxy for a student's socio-economic status. This is because, typically, socio-economically privileged students attend more-advantaged schools and do better on entrance exams. Thus, by focusing on merit, institutions may end up catering to wealthier students. These systems often include additional private higher education institutions, but these institutions typically either offer lesser prestige and lower-quality instruction, or charge fees that put them out of reach to students from lower socio-economic backgrounds (OECD, 2008a). More affluent students also retain the option to study abroad. Argentina and Greece are examples of countries that take the first approach, while Brazil and Poland take the second (World Bank and The European Investment Bank, 2004).

The free tuition higher education systems that have achieved high quality and equity are concentrated in northern Europe (OECD, 2012b). These systems are backed by economies that are among the best performing in the world. These systems also benefit from some of the highest tax rates in the world. Their strong revenue bases allow for sustained and elevated public investment that not only keeps higher education fees low, but often also supports strong, targeted student financial assistance. Crucially, these countries' accessible higher education systems rest upon a bedrock of equity and quality in early childhood and compulsory education.

Body of the recommendation

Disadvantaged Chileans begin encountering barriers to access long before they are of age to enrol at a university, IP or CFT. The recommendations addressing compulsory and pre-primary education in the other chapters of this report could likely improve equity in higher education more than direct changes to the higher education system itself. Nevertheless, important changes at the higher education level would also expand equity and access for disadvantaged Chileans. In our view, these changes represent moral, economic and social imperatives.

Support disadvantaged students in admissions and throughout their studies.

To improve access to higher education, Chile must support students to overcome non-financial barriers. Facilitating admissions and supporting study success are essential.

In terms of admissions, many of the recommendations from the OECD/The World Bank 2009 review remain pertinent. The current reform proposals to integrate other private universities into a common application system with the CRUCH universities would answer one recommendation. The OECD review endorses the development of the SCAIES to ease and harmonise the application processes at higher education institutions. The Scores System (Puntaje System) also represents a clear advance relative to reliance on unadjusted student PSU scores. That said, the Chilean government should still go further to deemphasise the PSU, at least in its current form. The government would do well to eventually replace the PSU with a national school-leaving test that sets the

minimum standard for university entrance. Chilean educational authorities could also redesign the PSU to improve measurement of reasoning ability and learning potential. In addition, universities should continue moving towards multidimensional admissions criteria and away from the practice of allocating places based on total PSU scores. The new Sub-Secretariat for Higher Education could use the SCAIES as a key tool to advance these kinds of reforms.

MINEDUC and higher education institutions should continue to develop initiatives like the PACE programme to provide targeted support to students from disadvantaged backgrounds. These could include: support to prepare for the PSU or any future equivalent; the delivery of no-fee or low-fee "access" courses enabling young people who have university potential but left school without passing the PSU to qualify for admissions; and post-admission knowledge-boosting programmes to improve completion. MINEDUC should also take steps to support appropriate career counselling in compulsory and higher education, and encourage higher education institutions to pursue outreach activities in public municipal schools. These activities would inform students about pathways that might be available and suitable for them (Torgerson, et al., 2014).

The Chilean government should consider introducing further funding conditionality to encourage higher education institutions to pursue initiatives in line with the country's access goals. The Chilean government could back such conditions on funding with an agency like the United Kingdom's OFFA. Furthermore, the 2009 OECD review recommended that MINEDUC pursue agreements with institutions identifying new objectives for study success, such as completion and persistence. The review also recommended that MINEDUC set up a system to collect relevant statistics that could be used to impose conditions on funding, as well as inform accreditation decisions. Further measures specific to technical-professional training are proposed in Chapter 5. Of course, improving pedagogy and relevance would help to improve study success. It is addressed in the next recommendation.

Accessibility and financial aid

The Chilean government should ensure its higher education financial aid system prioritises fairness, equity, increased access (i.e. targeting students who otherwise would not attend higher education), and simplicity for users. The financial aid infrastructure should also align with Chile's broader vision for the higher education system, including its efforts to strengthen the quality of education – especially for disadvantaged students.

Gratuidad represents an important effort to promote equity and access to higher education. At present, the programme is targeting students with very limited financial resources and helping them to access higher-quality institutions and programmes, while limiting debt burdens. This is to be commended. In implementing Gratuidad moving forward, however, the OECD recommends that the Chilean government keep the following concerns in mind:

- **Opportunity costs:** It is not possible to resolve the equity challenges in Chile's higher education system through spending on student financial aid alone. Gratuidad will be most effective if investments in strengthening earlier levels of education can be prioritised (OECD, 2012c). Gratuidad will be least effective if it diverts resources from such investments. Expansion of Gratuidad to top deciles

will only be consistent with a commitment to equity if Chile first ensures universal access to high-quality early childhood education and care, as well as primary and secondary education. In the long run, investing to expand good-quality early childhood education and care and to provide better teaching and learning opportunities in schools would likely improve access and completion of tertiary education much more than expanding Gratuidad grants to more-advantaged students. Students from higher-income deciles have higher tertiary education participation rates than other students. This indicates that many of these students are already attending higher education institutions without receiving grant support.

- **Sustainability:** The Chilean government must ensure that Gratuidad and its expansion are sustainable. If the programme leads to underfunding and overcrowding in participating higher education institutions, this will undermine access and quality. If the Chilean government seeks to control costs by strictly limiting the number of students receiving free higher education, then Gratuidad may in fact reduce the accessibility of Chilean higher education institutions. Another possible outcome is that Gratuidad may segregate students into institutions of different quality and other characteristics, as happened at the school-level through the universal voucher system. The government has been attentive to these risks, but they will require sustained attention on a permanent basis.

- Finally, while private investment in higher education can introduce important equity challenges, cost sharing has also contributed to expanding institutional resources, coverage and impact in Chile, as has been the case in many other countries (OECD, 2008b). Moving forward, the Chilean government should therefore continue exploring ways to align private higher education funding with public goals where this does not harm equity of access. The government should also only pursue measures that reduce private funding for sound strategic reasons.

The Chilean government should continue to explore steps to simplify its student financial assistance system to improve ease of understanding for students and their families, as well as administrative efficiency. The OECD/The World Bank 2009 review recommended that MINEDUC merge its scholarships into a single programme with a limited number of scholarship streams, and also merge its student loan programmes. We support these recommendations. Furthermore, allowing needy students to obtain financing through all the government's different programmes using a single application will reduce complexity for students and improve co-ordination and targeting. It is good that the Chilean government is well on its way to implementing these steps either in practice or in the context of reforms currently under consideration (MINEDUC, 2017b).

Outside of graduate studies, it would be beneficial for the government to phase-out eligibility for financial aid and other supports based on students' academic results. The Chilean government should continue to limit eligibility for financial aid only to institutions that meet quality standards. That said, streaming highly qualified candidates into particular institutions (e.g. CRUCH universities) need not be the responsibility of MINEDUC. Instead, institutions can choose whether to compete through their overall educational offerings and targeted benefits, like institutional scholarships or research positions.

To better account for the resources of students and their families, the Chilean government should begin shifting towards phased eligibility for its financial aid programmes, and away from step-functions. In other words, a clawback of a proportion of marginal income above a given threshold would be preferable to full eligibility cut-offs. Many aspects of financial aid in Ontario, Canada could provide a strong model for Chile, especially for the further improvement of Gratuidad. Chile should also explore options, potentially with higher education institutions, to accommodate exceptional circumstances of students and their families where overarching programme eligibility criteria are too rigid. An additional year of financial aid eligibility for students with disabilities is an example of a possible policy. The appeals process used in Nova Scotia, Canada is an example of a potential mechanism.

Finally, Chile should consider complementing its means-tested financial aid mechanisms with loans that are not delivered on a means-tested basis, up to a limit that equals the full cost of education (including not only tuition, but also living costs). Repayment of these funds could remain contingent on graduate incomes. This model can ensure that all students have access to sufficient funding up front, including those in exceptional circumstances or those from higher-income families. These funds should be made available at a relatively modest cost to government, and with little risk to students who do not subsequently occupy high-paying occupations.

Recommendation 4.4.

Strengthen quality and relevance of higher education.

Summary

Chile needs its higher education system to be of the highest possible quality, and it also needs higher education to be relevant to the wider society and economy. Throughout the system, from undergraduate teaching to applied research, policies and processes should support a process of continuous improvement.

Context

Chile's 2016 Reform Law defined quality as follows:

"The system must orient towards the pursuit of excellence, through assuring the quality of processes and results and promoting the development of lifelong learning trajectories. In the pursuit of excellence, higher education must be motivated by efforts to better transmit knowledge to students and promote their creativity and critical thinking. Higher education should be oriented towards expanding the limits of knowledge, constant innovation to achieve well-being and respect for the environment." (MINEDUC, 2016c)

This definition indicates Chile's aspirations, which the higher education system faces a host of challenges to fulfil.

Programme length and flexibility

The average length of Chilean undergraduate programmes fell from 10.6 to 10.1 semesters from 2011 to 2015, as shown in Table 4.6. The percentage of students taking longer to complete their programmes than the formal expectation increased slightly during this time, driven largely by state universities and non-CRUCH private universities.

Programme length has changed little for graduate studies, however there have been increases almost across the board in the proportion of students who are taking longer than expected to complete their programmes (Table 4.7).

Table 4.6. Length of undergraduate programmes by institution type (2015)

Institution type	Number of semesters		Over-duration of programmes* (%)	
	Average	Change from 2011	Average	Change from 2011
CFTs	7	+0.1	41	+1
IPs	8.0	-0.3	31.2	-1.2
State universities	13.4	-0.1	39.9	+3.4
G9 universities	13.5	-0.4	37.7	+0.9
Other private universities	12.4	+0.2	31.5	+1.5
Total	10.1	-0.5	34.5	+0.3

* Percentage of students taking longer than the formal length of their programme to complete.

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Table 4.7. Length of graduate programmes by university type (2015)

Institution type	Average number of semesters		Over-duration of programmes* (%)			
			Master		Doctoral	
	Master	Doctoral	Average	Change from 2011	Average	Change from 2011
State universities	6.9	12.6	70.2	-1.4	56.8	+0.4
G-9 universities	6.3	12.7	58.3	+5.8	49.2	+3.8
Other private universities	5.6	12.4	51.2	+0.6	60.8	+19.6
Total	6.0	12.6	57.6	+0.6	54	+4.1

* Percentage of students taking longer than the formal length of their programme to complete.

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

The OECD/The World Bank 2009 review argued that Chilean degree programmes were too long. That review team visited one civil engineering programme where students took eight years to complete their degrees on average (OECD/The World Bank, 2009). The data above indicate little subsequent progress.

In 2009, academic workloads for undergraduate programmes were 30% heavier than in the United States, Canada or Australia (OECD/The World Bank, 2009). The 2009 review considered this excessive.

Higher education programmes in Chile are also consistently rigid. Students must select their programmes when they begin their studies. Students have few options if they discover later that their programmes are not a good fit (OECD/The World Bank, 2009). Chilean higher education programmes offer few general education courses, and overspecialisation has left few electives, which limits mobility between programmes and levels (OECD/The World Bank, 2009). Connecting further different institutions has also been very difficult, including between different types of institutions operating in the same area of studies (OECD/The World Bank, 2009).

Quality and relevance of programme content

In Chile, most higher education students seek to study disciplines which will allow them to work in traditionally white-collar jobs and liberal service sectors, not in technical and industrial sectors. That said, less-informed families seem to select higher education programmes based largely on accessibility, notably in terms of cost. This pattern is reflected in low enrolment in technical, engineering and science programmes. In 2012 Chile had the fourth lowest percentage of tertiary graduates in natural sciences and engineering in the OECD at just 16%. This was well below the OECD average of 22% (OECD, 2015). Moreover, in 2002 the proportion of tertiary graduates in natural sciences and engineering was 22% in Chile, barely below the OECD average of 23%. This suggests that the more recent expansion in higher education participation has taken place disproportionately in other programmes (OECD, 2015).

Across programmes, Chilean higher education institutions have long struggled to orient instruction towards student learning and relevance to the labour market (OECD/The World Bank, 2009). Professors generally have not seemed to adopt student-centred or competency-based learning approaches. In addition, incentives for them to do so have been absent or insignificant. Programmes have emphasised theoretical knowledge instead of developing capacity for independent study or competencies in teamwork, communications, intercultural awareness and entrepreneurship (OECD/The World Bank, 2009). Quality assurance has emphasised inputs and outputs, but not so much outcomes or the content of programmes. Although the 2009 OECD report mentioned some programmes adopting new teaching methods like instruction of teams of students, new interdisciplinary content and flexibility in terms of inclusion of electives (but not the transfer of credits from other study programmes), these examples were exceptions to the rule.

In terms of English skills, Education First's English Proficiency Index ranks Chile 36th in the world and fourth in Latin America, albeit well behind neighbouring Argentina. The OECD/The World Bank 2009 review found that reasons for low proficiency included a lack of suitable teachers, inadequate preparation in secondary schools and excessive core academic workloads (OECD/The World Bank, 2009).

Studies suggest that the degree to which Chilean institutions practically support transitions into high-quality jobs has been highly variable. In general, however, the higher education system in Chile has lacked adequate feedback mechanisms that could express labour market demands (Kis and Field, 2009). Often, faculty are not up to date regarding developments in the labour market, and employers are minimally engaged in identifying programme needs and the planning process of academic programmes. Where initiatives to improve labour market relevance have taken place, these have been mostly discipline-based and not institutionally driven (OECD/The World Bank, 2010). Additionally, programme accreditation is optional for many programmes. Many unaccredited programmes may fail to engage with employers or practitioners and establish high standards for professional practice, though their graduates gain automatic entry into the relevant profession. Employers in Chile frequently lament the gap between what students learn and the needs of the labour market.

The OECD 2013 Review of Chile's Quality Assurance System (OECD, 2013) noted that the Chilean government was overwhelmingly focused on institutional accountability in the form of inputs and outputs instead of internal issues and competencies. The review found that the government dedicated insufficient attention towards assessing institutions' internal quality assurance structures and how these promote continuous improvement in processes and outcomes. The review also noted frequent concerns about the competencies of individuals conducting reviews, as well as conflicts of interest.

System actors have made efforts to improve instruction and reorient it towards student learning and labour market relevance. The now-defunct CNAP (the precursor of the CNA) developed benchmarks for standard graduation profiles across a variety of academic programmes. The MECESUP programme also supported pilot projects to develop competency-based curricula (OECD/The World Bank, 2009). In addition, Chile participated in a Tuning project along with other Latin American countries modelled on the process associated with the Bologna Agreement in Europe, related to the development of the MNC.

In terms of quality assurance, beyond the changes mentioned earlier in the chapter, current reform proposals would require that the CNA develop a registry of peer evaluators based on clear criteria. The reform also mandates that the CNA provide training to peer evaluators, and develop general criteria and standards for assessment, as well as specific criteria based on institutions' particular characteristics, to be confirmed by MINEDUC and the CNED. Reform proposals would also require that external reviewers recommend steps for improvement, and that reviewed institutions develop improvement plans.

Faculty

Composition and working conditions of higher education faculty by level of training

Chile's supply of post-graduate degree holders who can engage in higher education and research is low by international standards. As noted in Chapter 1, the proportion of Chileans with master's or doctoral degrees is less than one-tenth the OECD average, notwithstanding 16% annual increases in graduate enrolment since 2004. Fully 86% of the 650 doctoral degrees awarded in Chile in 2014 were from CRUCH universities, whereas a narrow majority of the 12 305 master's degrees awarded were from other private universities.

This low supply of postgraduates is reflected in faculty composition, as shown in Tables 4.8 and 4.9 (MINEDUC, 2017d). At the university level, just 13.3% of faculty members have doctoral degrees, although corresponding figures are in excess of 23% at CRUCH universities and considerably lower at other private universities. Faculty at IPs and CFTs overwhelmingly have professional degrees, which are also the most common credential at universities. Overall, the number of faculty with doctoral, master's and professional degrees increased by 48%, 59%, and 27% from 2011 to 2016. The complements with bachelor or mid-level technical qualifications fell by 36% and 29% (MINEDUC, 2017d).

Table 4.8. Composition of university faculty by highest level of training (2016) (%)

Highest qualification	State universities	G9 universities	Other private universities	Total
Doctorate	23.2	28.5	7.1	13.3
Master's	28.5	28.6	33.1	29.0
Medical and dental specialisation	6.4	8.5	6.9	6.5
Professional degree	37.4	28.5	43.2	36.5
Other qualifications or no information	4.6	5.8	9.7	7.3

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Table 4.9. Composition of IP and CFT faculty by highest level of training (2016) (%)

Highest qualification	CFTs	IPs
Master's	11.8	15.2
Professional degree	71.7	71.7
Bachelor	3.7	5.3
Higher-level technician	10.4	5.4
Other qualifications or no information	2.4	2.3

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

In terms of workload, most Chilean faculty work 22 hours or less per week, as shown in Table 4.10. Faculty at CFTs and IPs work shorter hours, which aligns with these institutions' mandates to connect with the workplace. Similar shares of faculty at non-CRUCH private universities work part time however, whereas much higher shares of faculty at CRUCH universities work 39 hours or more. This relates partly to qualifications, as faculty with doctoral degrees overwhelmingly work 39 hours or more (76.5%). It also further demonstrates the gap between faculty at CRUCH universities and other private universities. In 2016, 17.9% of instructors in Chile also had contracts at more than one higher education institution. This was especially common among master's graduates at 23.8%.

Table 4.10. Weekly hours of work of faculty by institution type (2016) (%)

Institution type	11 hours or less	11-22 hours	23-38 hours	39 or more hours
CFTs	56.6	32.6	6.3	4.5
IPs	44.5	33.5	10.5	11.5
State universities	31.1	26.3	4.4	38.2
G9 universities	26.5	24	6.6	42.9
Other private universities	57.2	20.1	9.2	13.6

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Key challenges include the absence of transparent career pathways for faculty, with most (if not all) universities in Chile lacking effective faculty development programmes. In addition, processes of recruitment, as well as for dismissals of underperforming staff, often lack transparency.

Research performance of academic faculty by field of study

Data from the OECD provide an indication of fields where Chile has research strength. According to this evidence, Chile's research excellence is clearly concentrated in areas of natural sciences.

In the earth sciences, Chile has the second highest relative activity index for a field of study in the OECD. It also has a relatively high proportion of doctoral graduates in the field, indicating a special concentration of Chilean research in this area (OECD, 2015) (see Table 4.11). Output is at the world average, but impact is high, and 13.5% of

documents produced by Chilean earth science scholars are among the 10% most cited in this field (Kamalski et al., 2015; OECD, 2015). Astronomy drives much of these results, related to the location of international astronomy instruments on Chilean soil. However, earth sciences is fundamentally an area of basic research (experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view). It is therefore difficult to connect with economic innovation.

Table 4.11. Concentration of doctorate-holders, output and performance by field of study (%)

Field	Proportion of doctoral graduates	
	Chile	OECD average
Natural sciences	43.5	25.1
Humanities (humanities, arts and education)	18	18.3
Engineering and technology (engineering, manufacturing and construction)	14.4	14.9
Services and agriculture	10.4	4.2
Social sciences, business and law	7.8	18
Health sciences (health and welfare)	5.9	19.5

Source: OECD, (2015), *OECD Science, Technology and Industry Scoreboard 2015: Innovation for Growth and Society*, OECD, Publishing, Paris, http://dx.doi.org/10.1787/20725345; Kamalski et al. (2015), *World of Research 2015: Revealing patterns and archetypes in scientific research*, Elsevier, Amsterdam.

Agriculture is the field where Chilean researchers achieve the highest impact. It also has a high concentration of doctoral graduates. The field with the second highest relative activity index in Chile is arts and humanities, and the impact of the field is high. Finally, the field with the highest share of documents in the top 10% most cited is dentistry (OECD, 2015).

Internationalisation

Internationalisation of Chilean faculty

In many ways, Chilean researchers and faculty are very internationally engaged. Only 30% of Chile's approximately 14 000 researchers do not show international mobility. This rate is on par with the rates of Canada, the Netherlands and Denmark, and is considerably stronger than Brazil's (53%) and Argentina's (46%) (Kamalski et al., 2015). A relatively high percentage (52.6%) of Chilean publications involve the co-authorship of individuals affiliated with institutions in other countries or economies. According to this measure, Chile is near the top in the world, and is on par with Denmark, Austria and Belgium (OECD, 2015). Chile's proportion of publications involving international collaboration was also consistently above the world average between 2003 and 2012 (OECD, 2016b). International engagement can vary considerably between fields however, and in certain areas may be quite limited.

A key challenge is that it appears easier for Chilean advanced human capital to move to other countries than for the country to recruit minds to Chile. International faculty delivered just 3.9% of all class hours in 2015, including 5.6% at CRUCH universities, 4% at other private universities, 1.7% at IPs and 1.1% at CFTs. Foreign instructors made up a relatively high proportion of those with doctorates at 11.9%, as compared to just 3.1% of

faculty overall. The small size of the Chilean market likely undermines its ability to track international faculty. Additionally, civil service's human resource regulations limit institutions' ability to hire foreign faculty on a permanent basis, among other obstacles for in-country academic careers (OECD/The World Bank, 2009).

Internationalisation of Chilean students

Chileans study abroad at relatively limited rates. Chile's gross outbound enrolment ratio is 0.6, which is lower than in many other OECD countries. The most popular study destinations are the United States, Spain and the United Kingdom (UIS-UNESCO, 2016). CONICYT provides financial support for Chilean graduate students to go abroad, but only to attend institutions that perform sufficiently well in their discipline sub-area on certain rankings: the Thomson Reuters Web of Science measures (top 100), the ARWU (Academic Ranking of World Universities) and the THE (Times Higher Education) rankings (top 50). CONICYT also allows graduate students to study at international institutions that rank overall in the ARWU or THE rankings (top 150) (CONICYT, 2017). Chile's programmes for international mobility of advanced students seek to promote brain circulation, but may not have achieved sufficient scale (Chile's International Scholarship Programme, OECD/The World Bank, 2010).

At the same time, few international students study in Chile. In April 2014, foreign students represented just 1.1% of higher education students below the age of 30, and 4% of students aged 30 or over. These numbers have been on the rise since at least 2011. That said, most of these students (at least 55.3%) had prior residency in Chile, so they are likely immigrants, as opposed to students travelling to Chile specifically for studies. The overwhelming majority of foreign students come from Latin America and the Caribbean (82.6%), and in particular from Peru (28.4%), Colombia (19.7%) and Ecuador (9.7%). Only 3.5% come from Europe, 1.3% from Asia and 0.6% from North America. The students are concentrated in the Santiago Metropolitan region (where they represent 6.4% of total enrolment) and in universities (6.4%). Chile also received 7 401 exchange students in 2014, who came from a considerably larger number of countries and were concentrated mostly in CRUCH universities (Salamanca, Sago and Rolando, 2014).

International evidence

Focusing on student learning

Many authors have provided recommendations as to how to develop relevant curricula in higher education based on international experience (Olsson and Cooke, 2013; Van Deuren, 2013; Wang and Burton, 2012). In a recent OECD report (citing European Parliament, 2015, in OECD, 2017) a reference is made to the importance of making subject content and the way it is taught attractive during curriculum development. This is vital to achieving a good, attractive and responsive training. For example, science curricula adaptations in Europe have aimed to strengthen inquiry-based learning in the teaching of science subjects, as well as greater contextualisation of science education by embedding it within current social issues. Furthermore, an OECD literature review (Hoidn and Kärkkäinen, 2013) offers useful initial findings on the effect of innovative pedagogical practices. The review concludes that active learning approaches which offer opportunities for autonomous and group learning, such as problem-based learning (PBL), tend to be more effective than traditional teaching methods in preparing students to work and live in innovation-driven societies.

A key area of influence in many countries has been the establishment of learning outcomes, often working in partnership with professional associations. The Fellows of the Royal College of Physicians and Surgeons of **Canada**, the professional body for the country's physicians, first developed the CanMEDS Physician Competency Framework in the 1990s, but have since updated it on an ongoing basis. The framework articulates "a comprehensive definition of the abilities needed for all domains of medical practice" to provide a foundation for medical education. It focuses on seven roles for medical doctors: Medical Expert (the integrating role), Communicator, Collaborator, Leader, Health Advocate, Scholar and Professional. The Royal College has integrated the CanMEDS Framework into its standards for accreditation of programmes, specialty training documents, final in-training evaluations, exam blueprints and maintenance of certification of continual professional development programme. Many other jurisdictions around the world have used the CanMEDS Framework as a model (Royal College, 2015).

There is a basic view that qualifications frameworks require the support of systematic and transparent quality assurance (Murray, 2013). In higher education, the development of the EQF and NQFs in Europe has been connected with the ongoing Tuning project (see Tuning, 2017). This has meant that higher education institutions are jointly considering how to design, develop, implement, evaluate and enhance quality in their programmes, with an orientation towards the needs of society. The objective of these measures is not to reduce the diversity of programmes, or undermine institutional, local or national academic authority. The objective is to find mechanisms for "tuning" individual higher education programmes to ensure they are oriented towards student learning outcomes and the achievement of key minimum standards that are common across the region.

Specification of learning outcomes is now a core part of accreditation criteria for programmes and institutions. A CEDEFOP (2016b) review of the use of learning outcomes across Europe found that the creation of NQFs in line with the EQF has been a main driver of progress in the use of learning outcomes. Emphasis on learning outcomes within the standards and guidelines of quality assurance in the European higher education area) has helped guide the operation of national quality assurance agencies. It has also driven the use of learning outcomes in Europe in key ways (ENQA, 2015).

Quality assurance for continuous improvement

Effective quality assurance systems emphasise the development of cultures in which quality is paramount and continuous improvement is standard. These systems also have quick response times and strong structures for ensuring professionalism and avoiding conflicts of interest.

Denmark provides one example of a strong quality assurance system that emphasises institutional accreditation, introduced under the Accreditation Act in 2013. The model does not aim to provide strict oversight and rules down to the programme level. It also does not emphasise documentation that may only be used during the accreditation process. Instead, the Danish Accreditation Institution (DAI) assesses the quality of institutions' internal quality assurance systems with the goal of helping institutions continually improve these systems, and by extension their study programmes. The government evaluates institutions' quality assurance efforts using the Accreditation Act, criteria in the relevant ministerial order and the more detailed accreditation criteria. Procedures must fulfil five criteria for quality and relevance that are consistent with the European Standards and Guidelines for quality assurance of higher education programmes: quality assurance must be ongoing and systematic, structured around a clear division of responsibility and labour, firmly anchored at management level, built upon an

inclusive quality culture, and must consider programmes holistically – including in terms of teaching. It is insufficient for the system to simply fulfil criteria on paper, however. External reviewers consider whether an institution's quality assurance system is well-functioning in day-to-day practice, and whether it will continue to work well after accreditation is granted or renewed. This overall structure places responsibility for the quality of programmes squarely with institutions and their management. At the same time, the structure permits institutions greater flexibility to develop programmes of increasingly high quality and relevance that best fit their strengths and circumstances. The DAI's website transparently details its approach (DAI, 2017).

The NVAO in the **Netherlands** similarly conducts audits to determine whether institutions have effective systems of quality assurance with which to guarantee the quality of its programmes and support quality improvement (NVAO, 2016) These institutional audits are valid for up to six years, with conditional decisions valid for up to two years. The audits occur within six months of institutional applications. Audit panels must include at least four members, including one student and one individual with administrative experience as chair. Panel members must have authoritative expertise of domestic and international relevance, and the panels must be independent (pursuant to a developed code of conduct). There are also specific requirements for assessment panels for particular programmes, including trained chairpersons.

Connecting higher education institutions with the private sector

Many higher education systems have placed an emphasis on connecting institutions with industry. Such policies aim to support the relevance of study programmes, but also research, as well as the service mission of universities.

Since 1990, **Australia**'s Business Higher Education Round Table (BHERT) has sought to strengthen the relationship between business and industry on the one hand, and the tertiary education sector on the other. Put simply, BHERT aims to advance the goals and improve the performance of both. BHERT promotes policy debates on key issues such as the country's training agenda and commercialisation. It pursues collaborations and knowledge exchanges, and it represents its members with government and other stakeholders. Specific activities have included annual awards for higher education institutions and collaborative initiatives, ministerial working lunches, publications and distinguished speaker series (BHERT, 2016).

In the **United Kingdom**, sector skills councils (SSCs) are industry-specific employer-led organisations licensed by the government through the UK Commission for Employment and Skills. They aim to: support employers in developing and managing apprenticeship standards; reduce skills gaps and shortages and improve productivity; boost the skills of their sector workforces; and improve learning supply. SSCs have contributed to the development of National Occupational Standards and the design and approval of the New Apprenticeship Standards and apprenticeship frameworks. They have also created Sector Qualification Strategies. The United Kingdom currently has 21 SSCs working with over 550 000 employers and covering approximately 90% of the UK workforce (OECD, 2016d).

Faculty

At the core of any university or research institute is its advanced human capital: the sum of minds in a system and the accumulated knowledge, insight and experience they possess. Whatever activity a higher education institution undertakes, the quality of that

activity is determined by the quality of the core faculty. The key challenge facing all higher education institutions is, therefore, to recruit excellent faculty and stimulate their development while maintaining academic freedom and holding them accountable and responsible to their individual fields of study.

Traditionally, academic recruitment has been guided by peer systems. Massified higher education institutions, however, have had to develop clear recruitment strategies that are more flexible so that they can change and build their academic profiles strategically. Institutions have also been faced with the imperative to diversify staff and faculty. Finally, it has become advantageous for leadership to hire internationally and pay attention to the staff age profile.

The integration of research and instruction is decisive in the development of a strong university. Institutions should not assume that good researchers also are good instructors. Instead, they should prioritise both skillsets, as well as excellent communication skills in general.

Faculty development should begin well before hiring. Many researchers have identified graduate student study performance to be the best predictor of an academic's success. This means that the quality of graduate students is a key determinant of the quality of future faculty (McKenzie and Schweitzer, 2001; Zeegers, 2004). Building a critical mass of strong scholars necessitates increasing and improving the supply of doctoral students in the pipeline (Olsson and Cooke, 2013). Institutions must develop selection processes and criteria that identify promising young scholars to train the new generation of researchers, and to prepare competent professionals with strong values.

On the research side, one of the best ways to develop university faculty is to provide opportunities for top talent to engage in independent, free and fundamental research. In the past, this was a simpler governance task because the enrolment of students was limited, and full professors were relatively few – traditionally only one per academic field. The development of the mass university and increased diversification of funding sources for research has added complexity. The hierarchy of researchers has increased, as institutions often have doctoral students and candidates, post-docs, temporary lecturers and professors, adjunct professors, assistant professors, associate professors, full professors, and senior researchers all doing directed research within the same departments. It is now the norm in many academic fields for professors to work in teams. Team leadership often changes over time, and individuals enjoy different degrees of freedom to choose their research objectives. That said, freedom remains generally high in terms of research methods.

On the teaching side, effective programmes to develop faculty are built on the recognition of teaching as a scholarly activity, as well as respect for faculty freedom and knowledge. Pedagogical improvement programmes often work better when they bring academics together into communities of practice. These programmes are also more effective when they consider development across the participating academics' entire careers, and emphasise professional growth rather than remedial training. The literature on effective practices for improving teaching and learning in universities indicates that activities to position dialogue as a natural part of individual work programmes are more effective than occasional training events (Salmi and Holm-Nielsen, 2014; DPMG, 2014). Dialogue sessions between faculty and administrative leaders may also offer an alternative to faculty evaluations (Qualters, 1995, 2009). Dialogue encourages peer learning by permitting the explicit identification and exploration of unexamined

assumptions in a non-judgemental manner. It also encourages participants to share techniques and ideas.

The National Forum for the Enhancement of Teaching and Learning has been active in supporting the development of instruction quality in **Ireland**. The forum offers awards to recognise teaching excellence. One award is based on student election, and the other is based on empirical assessment. The forum provides postgraduate scholarships to support the development of higher education instruction. It is also developing a professional development framework for instructors in higher education, and supports the development of partnerships and collaborations across the sector that favours the enhancement of teaching and learning (T&L, 2016).

In the **United Kingdom,** the Higher Education Academy has developed the UK Professional Standards Framework which aims to ensure good practices within the teaching profession and, thus, high-quality education. The Standards Framework is written from the perspective of the practitioner and outlines the national framework for comprehensively recognising and benchmarking teaching and learning support roles. It has also provided professional recognition through fellowships, which 75 000 faculty members have received to date, certifying their excellence in instruction (HEA, 2017).

Australia has recently allocated AUD 42.8 million in programme funding over four years towards the Promotion of Excellence in Learning and Teaching in Higher Education (PELTHE) programme, administered by the Australian government's Department of Education and Training. PELTHE consists of five different grants as well as fellowship awards called the Australian Awards for University Teaching (AAUT), which recognise quality teaching practices and outstanding contributions to student learning in higher education. The goal of the AAUT is to promote excellence and encourage systemic change in learning and teaching through knowledge sharing and dissemination within the higher education community. The PELTHE funded 320 grants and 55 fellowships between 2012 and 2016 (Department of Education and Training, 2017; Office for Learning and Teaching, 2016).

Internationalisation

National innovation systems are strengthened when they have access to international knowledge and talent. Innovation also increases when countries around the world engage in a competition for the best minds. Some experts believe that, beyond acquiring international academics and preventing brain drain losses, it is essential for countries to achieve brain circulation (Thorn and Holm-Nielsen, 2008). The mobility of advanced human capital is one of the most important factors for successful insertion into the global knowledge exchange system. This is especially true for smaller economies like Chile.

Internationalisation is also important for student learning. Researchers have found that domestic and international students studying together outperform mono-cultural learning groups (McLean and Ranson, 2005). All students contribute social and cultural knowledge to advance learning in the classroom, but international students further diversify this knowledge (Ryan and Hellmundt, 2005). International students also transform campuses into global environments where students can learn more about communicating and understanding across cultures, and become better able to distinguish between individual and cultural characteristics (Ryan and Caroll, 2005; Sumer, Senel and Garaham, 2008). Intercultural skills will be critical to success in a globalised world.

Internationalisation is a significant priority in **Ireland**'s National Strategy for Higher Education to 2030. Priorities include encouraging Irish faculty and students to work and study overseas, attracting foreign faculty and students to Ireland, providing strong supports for international students, international competitiveness, other international linkages, and internationalisation of curricula (Department of Education and Skills, 2011).

Body of the recommendation

The OECD 2013 Review of Quality Assurance in Higher Education in Chile (OECD, 2013) envisioned a quality assurance system that would be **transparent, student-focused and outcomes-oriented**. Such a system would seek to: promote equity, relevance and efficiency; guarantee minimum standards; foster a culture of quality and professionalism which leads to continuous improvement; support the active involvement of stakeholders, especially students and employers, in order to promote responsiveness and relevance; allow for the diversity of institutions, programmes and modes of provision of higher education; embed transparency and openness in the system to inspire trust and confidence; and, be open to the experiences of other countries. These principles remain equally relevant today.

It is crucial to note, however, that any government reform, no matter how thoughtful, can only begin to realise Chile's goals for higher education quality. All the actors in the system must take responsibility and participate in cultivating a culture of quality that builds on previous achievements across political cycles. This effort involves continuously monitoring the progress of reforms. It also means adopting new, more ambitious and more relevant goals when successes are achieved, where emerging evidence suggests changes are required, and where the system's needs have evolved. In this vein, the Chilean government should review the impact of its current reforms in five years' time. Competing nations and institutions will certainly continue pursuing improvement; Chile must tirelessly do the same.

4.4.1. Focus on what students and graduates know and can do.

The Chilean government should aim to shift the focus of its higher education system towards the knowledge and skills it wants students to develop, and away from checklists of inputs and outputs. It should do so while also recognising and adapting to the increasing diversity of the student population, with diverse learning approaches, expectations and goals.

The development of the MNC provides an important opportunity to reorient the system. The Chilean government should learn from other countries and jurisdictions' experiences as it pursues development of the MNC. The government should structure the new MNC first and foremost around expectations of what graduates should know and be able to do as a result of completing their study programmes. It should then identify the programme elements necessary to fulfil these expectations. Institutions, employers and professional associations should participate in identifying these learning expectations to ensure they are relevant. Other key reference principles for developing the qualifications framework should include:

- A preference for the development of transferable knowledge and skills through academic programmes, as opposed to currently rigid and highly specialised curricula.

- A strong commitment to ensuring the efficiency of programmes and strictly limiting requirements to the relevant and necessary, so as to reduce programme length from current levels.
- Favouring transferability of learning between higher education institutions, while allowing flexibility for institutions to innovate in programme delivery.

Labour markets are becoming more flexible. With technology and globalisation, job functions and expertise are changing, and employees will have to catch up. Social and professional demands on workers are also likely to change much more frequently in the future. Therefore, graduates will be expected to become more adaptable. Individuals' initial higher education degrees may be relevant for their first jobs, but for later work, an individual's capacity to acquire higher-level skills is likely to be decisive. Learning skills and interdisciplinary knowledge are key.

A critical challenge will be to disseminate the new MNC and ensure that it is used in practice to frame instruction and student assessment (OECD/The World Bank, 2009). The MNC will have little effect if it exists only on paper. Integration within Chile's overall quality assurance framework is essential. The MNC and its learning expectations should form the reference point for quality assurance reviews, especially at the programme level. Conditions placed on funding relating to compliance could also be appropriate.

The 2013 OECD Review of Quality Assurance in Higher Education in Chile (OECD, 2013) recommended gradually expanding programme-level accreditation, particularly in priority areas of special economic and social relevance. This recommendation continues to be highly relevant. Professional associations often play a critical role in accreditation and support for continuous improvement in specific programmes, and the Chilean government should seek to further develop this in areas such as engineering. In the likelihood that such structures are empowered to assist with programme accreditation in the future, the Chilean government should ensure accreditation processes are transparent and that conflicts of interest are properly addressed. For example, accreditation partners should contract with the CNA to complete work, not directly with institutions. The current reforms to the CNA and the elimination of the private accreditation agencies are steps forward in this respect.

The Chilean government should encourage its higher education institutions to support or incentivise faculty to pursue evidence-based pedagogical methods. It should also support faculty in creating more innovative curricula that adapt to changes in student needs and technology, as well as changes in professional practices in the field of study. One useful change can be to include greater use of guest lecturers working in the field. Chapter 3 discusses how initial teacher education could be developed and modernised. Similar considerations should apply to many other degree programmes.

Of course, higher education institutions alone cannot fully prepare students for the labour market. Real employability comes from direct labour market experience such as internships and work-study programmes. International experience can also be a key asset.

4.4.2. Prioritise continuous improvement.

The OECD 2013 Review of Quality Assurance in Higher Education in Chile (OECD, 2013) recommended formalising the purpose of institutional accreditation as first and foremost to develop a culture of quality that promotes continuous improvement in teaching and learning. This report echoes that view and welcomes the higher education reform proposals that would make progress on this challenge.

Strengthening requirements for self-review should be a priority in quality assurance. All institutional reviews should examine institutions' internal mechanisms for assuring the quality of their programmes. We reiterate the 2013 OECD review recommendation to conduct assessments based on explicit and agreed-upon criteria, the details of which will be critical in determining the effectiveness and objectivity of accreditation moving forward. Criteria should include the extent to which institutions strive to meet employer and student needs, the extent to which leadership have internalised the importance of quality assurance, and, finally, dedicated professional capacity and the culture of quality more broadly. Ideally, institutions should assign responsibility for quality assurance specifically to a vice-rector or equivalent, have dedicated qualified staff, and regularly report to the senior management team and communicate visibly to broader institutional stakeholders (through newsletters or the website). All external reviews should also generate plans for improvement and include measures to assist institutions in strengthening institutional capacity to conduct quality assurance effectively.

Using a tiered system of institutional accreditation and provisional accreditation promises to create stronger incentives for improvement. Such a system is more likely than a simple accredited/non-accredited distinction to make visible the uneven capacity of institutions across the system. Institutional accreditation of stronger institutions could be limited to auditing the quality of their internal quality assurance processes, as described above. In contrast, weaker institutions could be subject to more in-depth review to ensure accountability. Focusing national quality assurance resources on more problematic institutions can improve effectiveness and efficiency.

The 2013 OECD review recommended that institutional quality reviews should draw on a pool of trained peer reviewers. Current reforms would make progress in this area. However, based on international experience, we further recommend that mandatory training for external reviewers increase from a half day to two to three days (OECD, 2013).

It is critical that standards and criteria for institutional accreditation adapt to different institution types, which is an objective of the recent reform package. Accreditation processes should also remain affordable for institutions.

4.4.3. Strengthen the higher education system's human capital.

The Chilean government must prioritise the development of its higher education and research professionals.

Chile should strive to narrow the gap relative to the OECD average in completion of advanced degrees, just as it has narrowed the gap at lower levels of education. Reorienting some research funding towards the development of the researchers themselves, as opposed to their specific research, could support this effort. The reason for this is that developing an individual researcher may have more important research implications in the long term than funding a single specific project. These efforts should be concentrated specifically on research-intensive institutions, and not distributed across the system.

Institutions should be encouraged and supported to develop detailed human resources strategies. These should include programmes for faculty recruitment and development that are systematic, rigorous and informed by practices in leading international jurisdictions. Such programmes should also involve engagement between faculty and other professionals and standard practices in their fields of study to improve relevance.

Establishing services to assist faculty in developing pedagogical and ICT skills would also be constructive. Faculty in research universities must be supported to pursue research and teaching, and to excel in both. More broadly, institutions must provide strong environments for faculty, including in terms of working conditions, infrastructure and broader human resources and governance policy frameworks.

The age profile of faculty should also be considered in institutional human resources strategies. Retirement packages should be adequate to support the transition to younger faculty when appropriate, and complemented by performance reviews of ageing faculty to support them and monitor their performance through the later stages of their career path.

Internationalisation

It is imperative for Chile to be an active partner in the global brain circulation system. With only 0.4% of global research pursued in-country, Chile risks being left at the periphery of the global knowledge exchange structure if it does not make participation in international networks a priority (Kamalski and Plume, 2013).

Steps to enhance the internationalisation of faculty could include the use of international linkages as decisive criteria in assessing proposals for supporting research centres by CONICYT, or further efforts to send researchers abroad for at least part of their PhD training (OECD/The World Bank, 2009). Institutions should also develop programmes to support international engagement at the institution level across different fields, in order to counteract current imbalances in engagement.

Supporting higher participation in international exchanges among Chilean students and researchers should be a priority for the higher education system, with support from MINEDUC potentially in the form of faculty grants, student bursaries or financial incentives for institutions. The Chilean government should also work with institutions to develop the agreements with higher education institutions around the world that can ensure the adequate and efficient recognition of credits obtained during academic exchanges. There should be special opportunities for recognition of higher education credentials across the Southern Cone through MERCOSUR, and across Latin America.

Attracting researchers and students from outside the region may promise even greater returns, notably in terms of improved diversity. Chile will be better positioned to draw in foreign-degree students and permanent faculty when the quality of the higher education system improves. It would also help for the Chilean government to reduce legal barriers to hiring international faculty. Nevertheless, Chile has considerable short-term potential to be a leader in attracting faculty and students on exchanges from within and outside Latin America. Its strengths include its regional position in university rankings and low crime rates, given research that indicates perceptions of quality and safety are key factors in the choices of international students and their families (APCIES, 2012; Grant Thornton, 2016; Becker and Kolster, 2012). Successes would bring considerably more diversity to Chilean classrooms, while expanding reciprocal opportunities for Chilean faculty and students to visit institutions abroad.

Finally, Chilean institutions should be encouraged and supported to develop administrative offices or centres to support internationalisation. These centres should be responsible for supporting faculty and students completing exchanges. This could include assisting visitors in establishing themselves in Chile and transitioning into the Chilean education system.

Conclusions

This chapter recognises important strengths of Chile's higher education system, including the deep commitment of Chileans and their government to higher education. Yet it also identifies important ongoing challenges in terms of atomisation, inequity and low quality overall. These challenges are holding back the system and Chile as a whole, but they are far from insurmountable.

Develop a system-level vision and strategy for the higher education system

The first step towards creating a stronger, more inclusive higher education system is to develop and articulate a guiding vision or strategy that includes the goals and the broad measures required to accomplish this vision. The process of developing such a vision cannot occur simply within the offices of MINEDUC or another isolated agency, but must include actors from across the sector, and must take place through meaningful and evidence-driven dialogue. Such a discussion should also take into account the mix of institutions that Chile will require to be successful.

Create steering infrastructure to support the accomplishment of the system vision

Chile should continue its efforts to establish the various structures and instruments required to accomplish the system vision and help institutions pursue continuous improvement. Important priorities should include strengthening leadership across the system, improving the licensing and accreditation of institutions, introducing more performance-based funding, and strengthening information collection and transparency. These efforts should always acknowledge institutions' diverse roles within both the university and technical-professional subsystems, and could be supported by performance agreements and institutional governance codes.

Prioritise equity and access

In terms of expanding equity and access to higher education, efforts should focus on evidence-based measures and should target support to students facing greater barriers. Steps should be taken to strengthen recruitment and admissions processes at higher education institutions, and to support students from disadvantaged backgrounds so that they can be successful during their studies. To continue strengthening access and quality of higher education in the medium to long term, the OECD recommends that the government ensure that Gratuidad: 1) complement investments to strengthen earlier levels of education without diverting resources; and 2) address cost control challenges without limiting the number of seats for students in participating higher education institutions or introducing crowding and new forms of student segregation. Additionally, the Chilean government should work to help students access financial aid more easily, strengthen need-based targeting and ensure more students receive sufficient resources to cover their costs.

Strengthen quality and relevance

The Chilean government must take steps to improve the quality and relevance of instruction in higher education. The system needs to be reoriented towards student learning through mechanisms like the National Qualifications Framework. The quality assurance system must be refocused on supporting continuous improvement and not only

accountability. Higher education institutions should better engage with industry. The government and institutions should pursue efforts to strengthen the initial and continuous development of faculty, in terms of both teaching and research. Lastly, the Chilean government should prioritise greater internationalisation of faculty and students to deliver learning and research suitable to the globalised twenty-first century.

The challenges to Chile's education, skills and innovation system cannot be resolved by the higher education sector alone. Full implementation of the recommendations in this chapter would have only limited impact if the Chilean government does not address the challenges raised in the other chapters of this review. Nevertheless, the actors in Chile's higher education system must do their part to create a more equitable learning society in the country; the steps proposed in this chapter would help them to fulfil that responsibility.

Notes

1. The 2009 General Education Law identified principles for the education system as a whole that are listed in Chapter 1.

2. Institutions were also permitted to increase enrolment beyond this limit where they had prior plans and 28 campuses did so – growth reached 30.1% at the Universidad Católica Cardenal Raúl Silva Henríquez (private), 27.5% at the Universidad Autónoma (private), 27.1% at the Universidad de Atacama (state) and 20.7% at the Universidad Católica del Maule (G9).

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Chapter 5

Improving the quality of technical and vocational education in Chile

Vocational education and training (VET, or professional-technical education, as it is known in Chile) is increasingly crucial to countries wishing to develop a highly skilled labour force. Upper secondary VET programmes can provide a range of mid-level trade, technical, professional and management skills, while post-secondary VET programmes can provide students with high-level trade, technical-professional and management skills. By developing and sustaining a high-quality VET system, the Chilean government has the opportunity to improve the skills of its population and to begin developing a more innovative and knowledge-based economy. The Chilean government can do this by: 1) ensuring that VET programmes meet both the needs of students and employers for the short and longer term; 2) taking measures to ensure that all post-secondary VET programmes and institutions do not fall under a certain quality level; 3) Implementing a national qualifications framework to better meet labour market needs and the aspirations of students, and; 4) Developing good-quality career guidance and information, and make it available to students.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

Vocational education and training (VET, or professional-technical education, as it is known in Chile) is increasingly crucial to countries wishing to develop a highly skilled labour force. Upper secondary VET programmes can provide a range of mid-level trade, technical, professional and management skills, while post-secondary VET programmes can provide students with high-level trade, technical-professional and management skills (OECD, 2014a). While VET is not always perceived as a complement to more academic programmes administered by universities, it absolutely is one and should be treated as such. It is therefore imperative for countries to develop vocational programmes that help their students acquire both specific, occupationally relevant skills, as well as core academic skills in reading, writing and mathematics. High-quality vocational programmes embed core academic skills into an occupationally focused curriculum. In contrast, programmes that focus very narrowly on occupational skills can leave students ill-prepared to navigate career transitions, or deal with many other demands of modern life that require broader knowledge and skills.

VET can play an important role in easing school-to-work transitions, particularly when it also contains a strong element of work-based learning. Participating in vocational training can allow students to acquire the skills needed to gain a firm foothold in the labour market, which improves their chances of having a successful professional career (OECD, 2010, 2014a). Evidence shows that high-quality vocational education pathways, particularly in upper secondary education, can help engage students who find it easier to master general concepts and theories when they are connected to practical problems and know-how. High-quality vocational education pathways can also improve graduation rates[1].

However, countries also need to keep in mind that even the best-designed vocational programmes are only as strong as the success of their graduates. If large numbers of students fail to complete a programme, or the programme does not lead to further learning opportunities, including in academic programmes, it is not a high-quality programme. Similarly, programmes that do not position students to succeed in the labour market cannot be regarded as high quality (OECD, 2014a). The strongest vocational systems offer a wide range of opportunities for students to move between vocational and more academic programmes, and vice versa. They also help provide students with development opportunities that correspond to their needs and interests. This "permeability" of programmes sends a clear signal to students and their parents that VET and academic programmes are connected, share mutual esteem and offer similar quality.

In many countries, the expansion of basic education has been associated with rapid increases in the number of young people who complete basic education. Typically, expansion of access to basic education is also associated with higher numbers of young people seeking opportunities for further education and training, including VET.

As a part of this evolution, countries increasingly perceive VET as a tool to respond to changing labour market needs, while at the same time supporting social cohesion. But as VET systems gain importance, maintaining relevance is one of their central challenges. While all educational programmes should build relevant skills, VET providers are under particular pressure to ensure that their programmes teach skills that are aligned with the needs of local economies and employers.

By developing and sustaining a high-quality VET system, the Chilean government has the opportunity to improve the skills of its population and to begin developing a more innovative and knowledge-based economy. That said, if these goals are to be fulfilled, the

VET system must maintain strong links with the labour market in Chile. A positive factor is that the generally shorter length of VET programmes compared to more academic ones makes it easier for the government to implement these changes rapidly and effectively.

The VET system in Chile

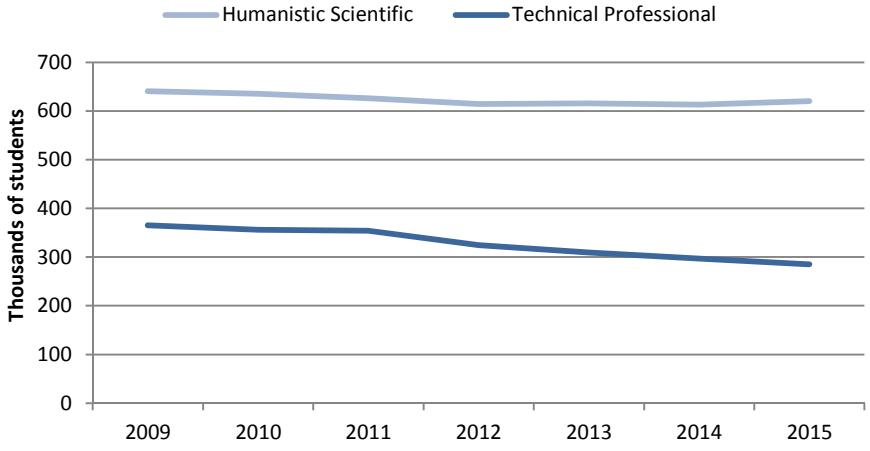
Compulsory education in Chile includes eight years of basic education (*educación básica*) and four years of secondary education (*educación media*). Students follow a general curriculum during their first two years of secondary education (grades 9-10), and then get sorted during the last two years of secondary education (grades 11-12) into a general track (Humanistic-Scientific Mid-level Education, EMHC), or a vocational track (Technical-Professional Mid-level Education, EMTP[2]). In practice, however, tracking happens from grade 8, when students enrol in secondary school. Students that are tracked in 8th grade are more likely to remain in this track during all secondary education.

Upper secondary VET in Chile provides 35 specialisation options (*especialidades*), which are grouped into 15 occupational areas. The upper secondary VET curriculum consists of 12 hours of general education per week, compared to 27 hours in the general track. The upper secondary VET curriculum also includes 26 hours of vocational education (MINEDUC, 2016). Students obtain the secondary school-leaving certificate (*licencia de enseñanza media*) after completing the four grades of upper secondary education. Students can then follow this up with 480-960 hours of workplace training (*práctica professional)*, which then allows them to obtain a VET certificate.

About 40% of students are enrolled in the vocational track at the upper secondary level in Chile (see Figure 5.1). According to the Ministry of Education (MINEDUC), only 8% of these students follow a dual track, which consists of alternating periods of school-based and work-based training.

Some 88% of upper secondary VET students attend public municipal schools and government-dependent private schools. The remaining 12% attend schools administered by delegated administrations, which are, in some cases, industrial corporations.

Figure 5.1. Total enrolment in upper secondary schools according to education track (2009-2015)

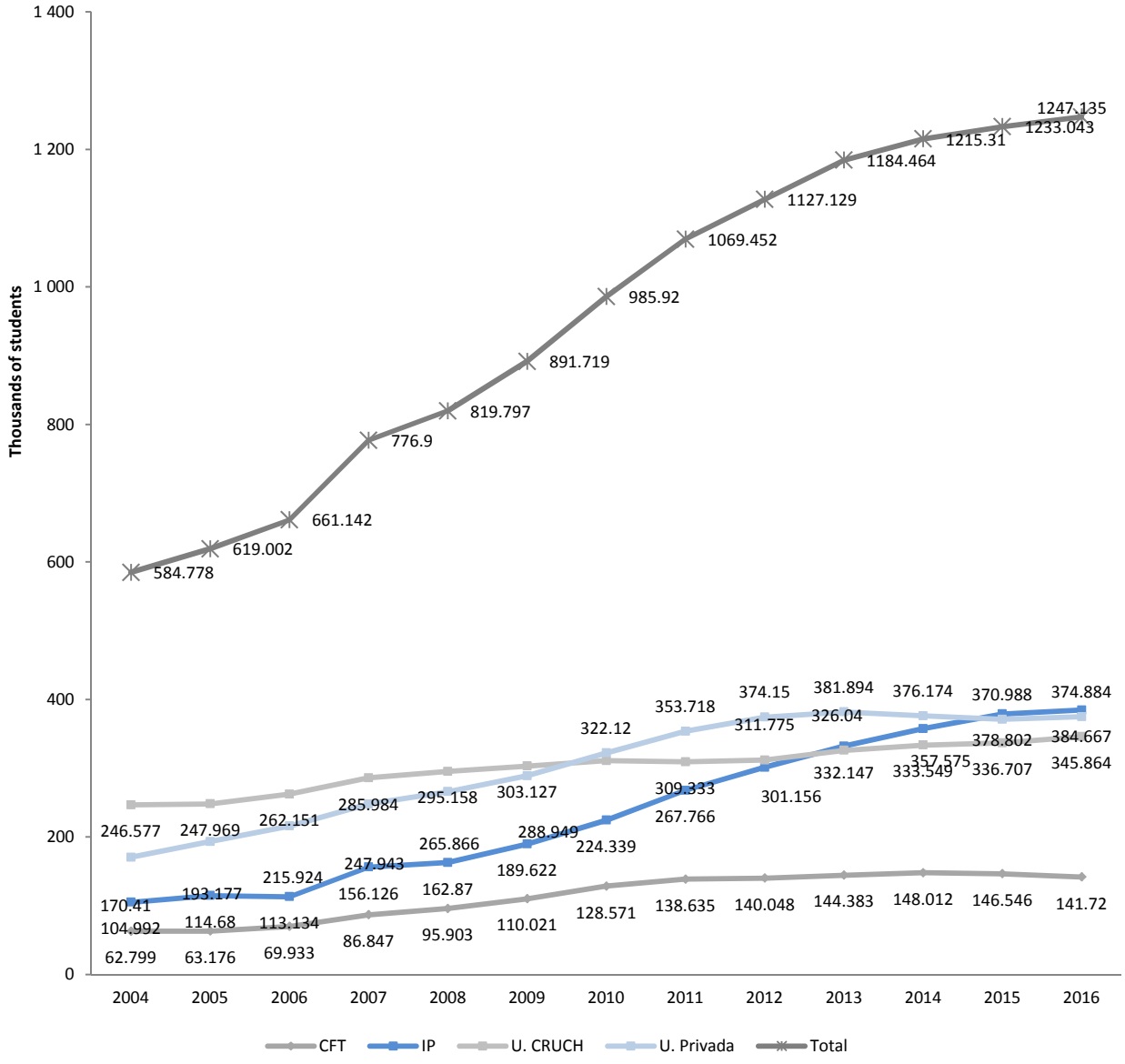


Note: Enrolment in the artistic track is reported as part of the professional-technical track (it accounted for 0.03% of total enrolment in secondary education in 2015).

Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

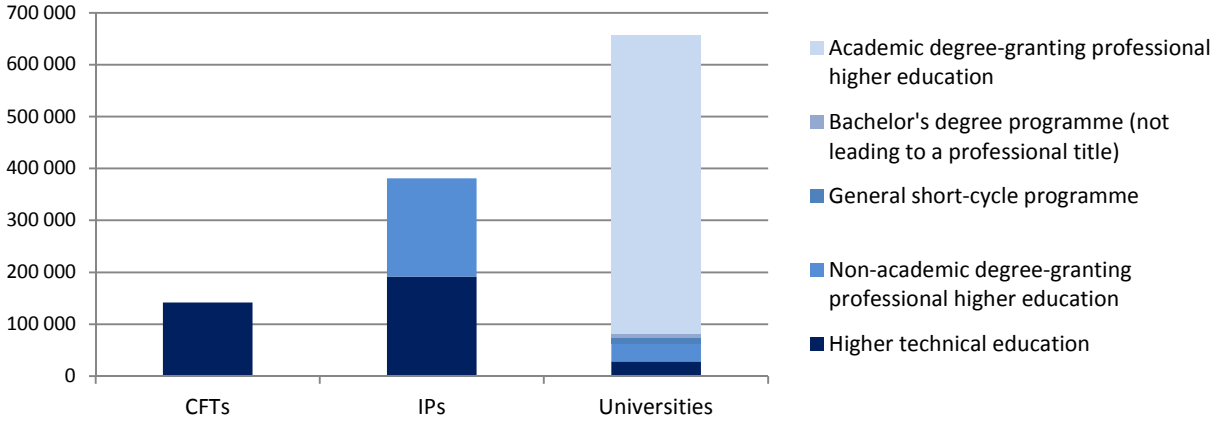
Post-secondary VET includes two-year programmes offered in technical training centres (*centros de formación técnica*, CFTs) and professional institutes *institutos profesionales*, IPs), and four-year programmes provided by IPs. Universities can also offer vocational programmes of both types, though less than half of them do. Perhaps the main particularity of CFTs and IPs is their management; at the moment of the drafting of this report, all IPs and CFTs in Chile were private, and could be considered non-profit or for-profit organisations (MINEDUC, 2017). More recently, the Chilean government initiated a process to create 15 state CFTs (one per region) as part of the ongoing reform of higher education in Chile (see Chapter 4).

Figure 5.2. Total enrolment in higher education according to type of institution (2004-2016)



Source: MINEDUC (2017), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of educational policies in Chile between 2004 and 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago.

Figure 5.3. Students in post-secondary VET programmes



Source: SIES (2016), "Informe matrícula 2016 Educación Superior en Chile" [2016 Enrollment Report Higher Education in Chile], Higher Education Information Service (SIES), Ministry of Education of Chile, Santiago, www.mifuturo.cl/images/Informes_sies/Matricula/informe%20de%20matricula%202016_sies.pdf.

Strengths and challenges

Strengths

VET in Chile has several strengths.

VET caters to a large share of the student population in Chile

Chile has reached a critical juncture after years of steady economic growth and political stability. To sustain and expand the benefits of recent growth, Chile needs to diversify its economy and introduce more complex and technology-intensive production processes. Such an endeavour requires a more highly skilled and productive workforce, which can be nurtured through Chile's VET system. As mentioned earlier, VET is an important part of secondary education in the country. Some 40% of all Chilean students in upper secondary education study a technical speciality during their last two years of school. In addition, 50% of all Chilean students entering post-secondary education enter vocational programmes.

VET has a large array of programmes.

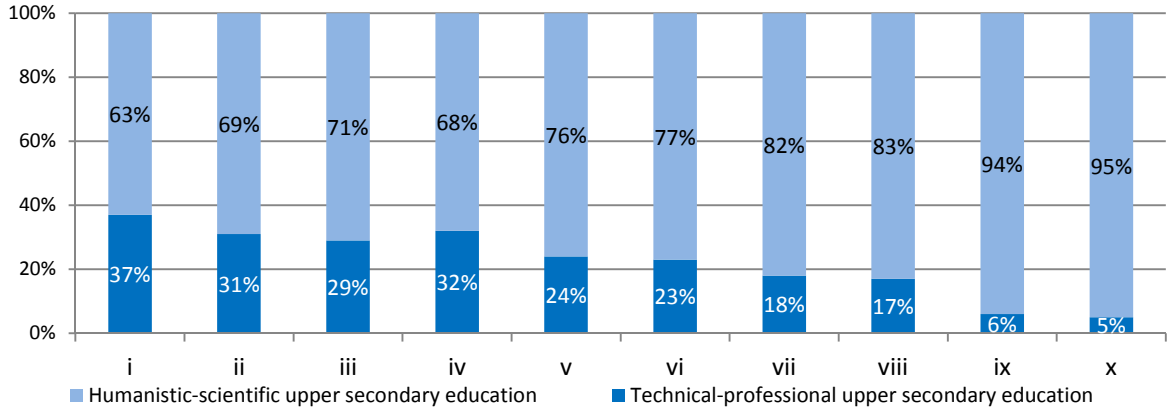
Chile has a large array of VET programmes in tertiary education that aim to build work-related skills. Some of these programmes provide high-quality vocational education and training (see Sevilla, 2014, for a historical perspective on VET in Chile). This important number of programmes and providers is not without challenges in terms of steering and quality. That said, the size of the sector itself can be considered a strength, given the importance of VET for social and economic development. Some Chilean CFTs have extremely close ties with the Industry Chamber and other labour unions, while others maintain close ties with universities. These CFTs offer high-quality VET programmes that are relevant to the labour market, and are also well connected to university programmes. Many of these CFTs also appoint employers to their boards of directors, and involve employers in the design of their programmes.

VET provides education alternatives that aim to offer flexible modes of study

Tertiary education VET programmes aim to provide adults with more flexible modes of study, allowing them to combine studying with parental and work responsibilities. These needs are generally less easily met in more academic programmes. The majority of VET students in Chile work and study at the same time. In 2014, 43% of students in IPs and CFTs attended night classes (SIES, 2015). VET programmes cater to the needs of different segments of the population. Young people seek VET, as well as many older students. These older students may be seeking to deepen their professional skills, make a lateral career move or return to work after a period of absence because of domestic responsibilities (Arias et al., 2015).

Upper secondary VET students in Chile come from different backgrounds. Some 65% of upper secondary students from the two lowest income quintiles and 12% from the highest income quintile enrol in upper secondary VET programmes in Chile (VET Commission, 2009). More recent data from Chile's National Socio-Economic Survey (Caracterización Socioeconómica Nacional, CASEN) also indicate that only 3% of Chile's richest students enrol in upper secondary VET, compared to more than one-third of the country's poorest students (see Figure 5.4).

Figure 5.4. Students in the VET track tend to come from more disadvantaged backgrounds



Note: By socio-economic groups, where "i" is most disadvantaged and "x" is less disadvantaged.

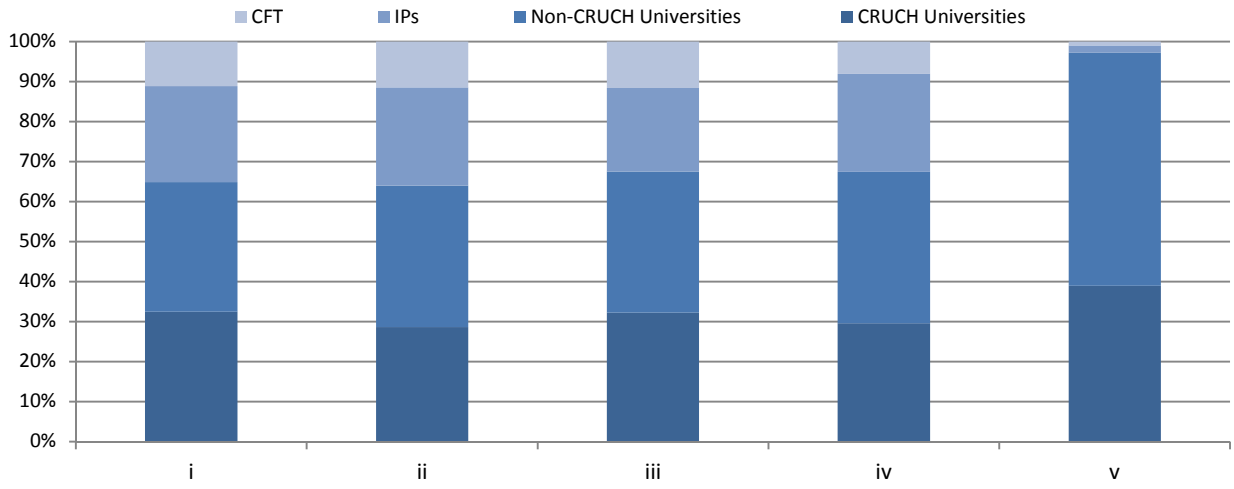
Source: Ministry of Social Development (2015), "Encuesta de Caracterización Socioeconómica Nacional (CASEN)" [National Socio-economic Characterization Survey], Social Observatory, Santiago, http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/casen_2015.php (accessed 17 September 2017).

Similarly, at the post-secondary level, 24% of the students from the lowest income quintile are enrolled in CFTs and and 11% in IPs. In contrast, only 2% of students from the highest income quintile are enrolled in CFTs, and 1% in IPs (see Figure 5.5).

Students in vocational programmes can continue to higher education, and many do so

Differentiated vocational education allows students to continue their higher education studies (MINEDUC, 2017). This is not the case in all countries. In Chile, about half of students in upper secondary VET continue on to post-secondary VET. Of course, this does not mean that inequities do not exist between students in vocational and academic tracks. This issue has been discussed in Chapter 4 and will be analysed later in this chapter as well.

Figure 5.5. Students in IPs and CFTs tend to come from more disadvantaged backgrounds



Note: By socio-economic groups, where "i" is most disadvantaged and "v" is less disadvantaged.

Source: Ministry of Social Development (2015), "Encuesta de Caracterización Socioeconómica Nacional (CASEN)" [National Socio-economic Characterization Survey], Social Observatory, Santiago, http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/casen_2015.php (accessed 17 September 2017).

Challenges

Challenges remain for VET to provide effective and high-quality opportunities to all students.

The quality and relevance of VET in Chile, especially at the upper secondary level, could be improved.

There is evidence that some programmes fail to give students the skills they need, in particular in upper secondary VET in Chile. While some post-secondary VET programmes are very high quality and have good ties with employers, this is not always the case in Chile (Velasco Barraza, 2008). Upper secondary VET programmes delivered in schools and post-secondary VET programmes delivered at CFTs and IPs are often disconnected. Stronger connections between school programmes and post-secondary programmes ease the continuity of education for students. However, most of these students receive poor career counselling. Quality assurance mechanisms also remain weak.

Chilean VET programmes could also improve their efforts to provide relevant and useful training for the labour market. Youth unemployment rates have increased in Chile in recent years. In 2013, the average unemployment rate for young people (15-24 years old) was 2.7 percentage points above the population average. In 2015, the overall unemployment rate was 19.2% (ECLAC, in MINEDUC, 2017). Fully 18.8% of young Chilean adults were neither employed nor in education or training (NEET) in 2015, well above the OECD average of 14.6%. This figure includes a larger share of women (65% of total NEET) and people from socio-economically disadvantaged households (Caldera Sánchez, 2014; MINEDUC, 2017; OECD, 2015).

Chile could have a clearer vision to guide policy development in VET.

Chile has not had sufficient capacity to guide policy development in the field of VET. However, this may be changing. A new body, the Advisory Council on Technical-

Professional Training (Consejo Asesor de Formación Técnico Profesional) started operating in 2016 and includes representatives from both the public and private sectors. It will be responsible for developing Chile's five-year National Technical-Professional Training Strategy (Estrategia Nacional de Formación Técnico Profesional) for upper secondary education and higher education. The Advisory Council on Technical-Professional Training has also been tasked with providing advice on the development of the National Qualifications Framework.

Strengthening VET is one of the priorities of Chile's 2016 higher education reform. The reform also aims to ensure that accreditation and other quality assurance activities are well-adapted to VET programmes. The reform's creation of public CFTs will also offer MINEDUC an additional opportunity to gain influence over the quality of VET at the post-secondary level in the longer term. Similarly, while post-secondary VET programmes were initially ineligible for Chile's free tuition Gratuidad programme (see Chapter 4), the recent higher education reform of 2016 has changed this, per an amendment in 2017 (see Chapter 4).

Chile has many of the essential building blocks of a high-performing VET system. This chapter aims to provide a set of concrete and actionable recommendations to help the Chilean government build and expand on these existing aspects for better results and more equity in VET at both the secondary- and post-secondary levels. This chapter also builds upon some of the contextual analysis and international evidence provided in Chapter 4 for VET, paying special attention to post-secondary VET. It presents suggestions for how a combination of well-crafted public policies and strategic investments can: better steer institutions towards high-quality offerings, facilitate student transitions across education and career pathways, empower students and improve equity, and broaden access to groups that are currently unable to participate because of financial or other constraints.

Recommendation 5.1

Ensure that the country's VET programmes meet both the needs of students looking for fulfilling jobs and the needs of employers looking for employees with the right skills for the short and longer term.

Summary

Chile can improve the quality and relevance of the programmes it offers by:

1. Engaging employers and ensuring quality:
   - a By strengthening public VET upper secondary schools.
   - b By building employer engagement into the system and strengthening work-based learning in all programmes to do so.
2. Allowing more flexibility and opportunities for local customisation:
   - a By allowing schools to determine a part of the programmes, in co-ordination with local employers and other educational providers.
3. Funding for outcomes:
   - a By steering providers towards programmes with desirable outcomes using outcomes-based funding.
   - b By strengthening and expanding data systems that connect education and labour market outcomes and track student transitions within education and into employment.

Context

Upper secondary VET could be strengthened

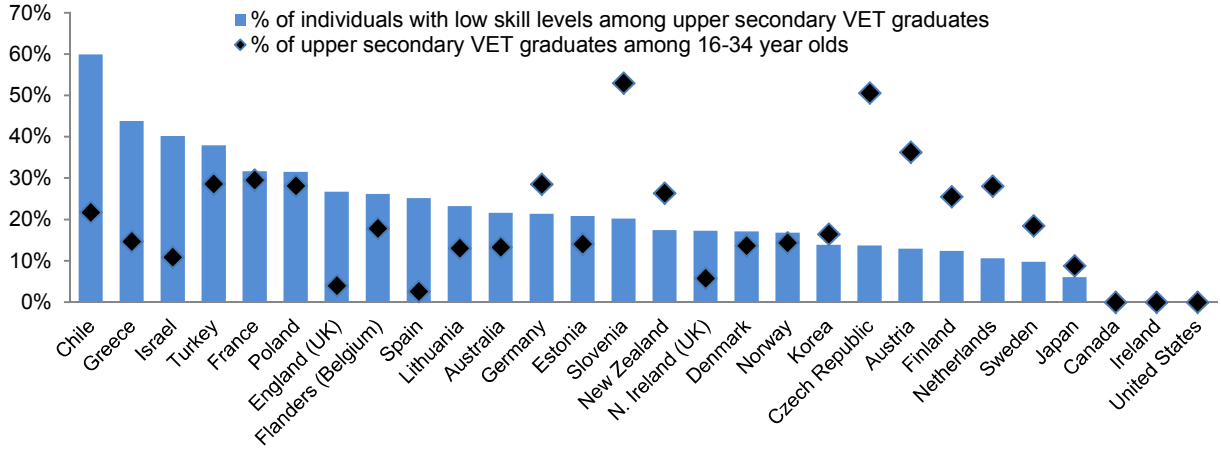
Some evidence shows that Chilean VET students may not possess adequate general skills both for the labour market or for underpinning further learning. Moreover, Chilean VET students may not acquire the technical skills needed by employers while in upper secondary VET. This fact appears to have discouraged students from pursuing the technical-professional track (Caldera Sánchez, 2014; Kis and Field, 2009). In 2014, the graduation rate for upper secondary general school students in Chile was 59%, which was above the OECD average of 50% for students from upper secondary general school programmes. At the same time, the graduation rate for upper secondary technical-professional school students in Chile was 29% in 2014. This share was well below below the OECD average graduation rate of 49% for upper secondary technical-professional school students (OECD, 2016).

Chilean students in upper secondary VET tend to have lower academic performance than students in general upper secondary education. Some 55% of students scoring in the lowest two quintiles of the System of Education Quality Measurement (SIMCE) test at the end of grade 8 enter vocational programmes, compared to 18% who score in the highest quintile (Sevilla Buitrón, 2011).

Chapter 4 of this report discussed some caveats to consider with regards to Chile's university selection exam (Prueba de Selección Universitaria, PSU). Specifically, the chapter discussed limitations regarding the test's reliability as an equitable instrument for post-secondary education selection processes. VET seems to also contribute to widening the gap in academic performance between Chilean students. Differences emerge when comparing how well Chilean students in the technical-professional track and the general tracks do on the PSU exam, while controlling for their SIMCE scores in grade 8 (Farías and Carrasco, 2012).

The results of the Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC), demonstrate similar outcomes. Around 60% of upper secondary VET graduates taking the survey in Chile showed low skill levels (Figure 5.6).

Figure 5.6. More than half of VET graduates in Chile have low skills



Source: Authors' calculations, OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264258051-en.

The high proportion of low-skilled VET graduates in Chile may be indicative of challenges for the quality of instruction. For example, curricula often place excessive focus on specific skills, instead of general and soft skills (Kis and Field, 2009). Other concerns include the lack of up-to-date equipment in VET schools[3] (MINEDUC, 2017). Also, 46% of school principals at lower secondary level reported that a shortage of vocational teachers hindered the schools' capacity to provide quality instruction. This is more than double the Teaching and Learning International Survey (TALIS) average of 19.3% for lower secondary education teachers (OECD, 2014b).

These challenges are increased by the fact that Chile does not have a centralised information system about completion rates, and does not conduct student surveys to analyse student labour market outcomes This lack of information hinders the possibility of designing policies to strengthen the system (Meller and Brunner, 2010; VET Commission, 2009). It also appears from the evidence collected for this review that only about half of Chilean VET students complete the work-based learning period needed to formally receive their technical school-leaving examination.

That many students leave the VET track with a gap in general skills raises social and equity concerns. Some evidence suggests that when Chilean students choose VET programmes, their socio-economic backgrounds can have more weight than their personal interests or academic abilities (Larrañaga, Cabezas and Dussaillant, 2013).

The mix of VET provision is inadequate, and employer engagement is quite weak at both the upper secondary and post-secondary levels

Chile's upper secondary VET has been insufficiently relevant to labour markets and local communities, as demonstrated by multiple previous OECD studies (Caldera Sánchez, 2014; Kis and Field, 2009). OECD evidence for Chile has shown few systematic arrangements to foster employer engagement to provide workplace training, define competences required for particular jobs, or more broadly to manage and set a strategic direction for the VET system and VET institutions (Kis and Field, 2009).

The quality of links between VET secondary schools and industry still varies greatly between individual institutions. There are some good practices. For example, some schools are directly managed by social partners, such as the different chambers of industry, and some have good ties with the labour market. But schools administered by municipalities typically have very weak ties with the labour market. It also should be noted that wide regional differences persist in Chile. In some cities, employers are better engaged and the provision of VET is better connected to local needs (see Sepúlveda and Milos, 2006, for an example from the city of Antofagasta).

At the post-secondary level, some institutions conduct employer surveys to establish what competences are needed, but this depends on the institution, and occurs most frequently at high-quality programmes. Even though contacts with employers are more frequent, the mechanisms to identify and measure the needs of the labour market are heterogeneous and often weak. It is therefore difficult for these programmes to adapt to the employer needs and labour market realities. That said, some Chilean institutions have very good practices (for example see Box 5.1 for information about how employers are consulted in the mining sector).

The importance of connecting industry and business with VET programmes has been recognised by policy makers in Chile. However, the Chilean government would need to take further steps to give employers a greater role in VET policy development. The

OECD review team could not identify national- and regional-level instruments to systematically monitor labour market needs in Chile. This challenge was also signalled by a report of the Commission on VET (VET Commission, 2009). The lack of monitoring instruments makes it hard for VET institutions, both at upper secondary- and post-secondary levels, to ensure that the mix of VET provision responds adequately to labour market needs. It also increases the risk that institutions will determine provision on the basis of the availability of teachers and facilities, as well as demand from students, without considering labour market needs. Currently, institutions have few incentives to reduce or close down programmes with limited labour market prospects if they remain popular among students.

Box 5.1. Consultation with employers in the mining sector

In Chile, private and the public-sector actors, CFTs and universities are members of the Mining Council and its "competences council". This council aims to identify the sector's skills needs in the short and medium term, as well as how these needs match up with the provision of education programmes. Unfortunately, in Chile this type of initiative is limited to economic sector that has adequate resources and a relatively small number of employers, which allows this type of co-ordination. Currently, there are no tools to systematically identify possible shortages and skill gaps for other key productive sectors. Similar studies are needed in other sectors of the Chilean economy.

Source: World Bank (2014), "Análisis de Modelos de Educación Superior Técnica Profesional para Chile: Diagnósticos, Estudios de Caso y Recomendaciones, Práctica Global de Educación" [Analysis of Models of Higher Technical Education for Chile: Diagnostics, Case Studies and Recommendations, Global Education Practice], World Bank Group, Washington, DC.

Previous OECD review work in Chile (OECD/The World Bank, 2009) and this review identify a persistent challenge – employer involvement has remained weak and unstructured in Chile with regards to the identification of skill needs, the development of education programmes to meet these needs and the monitoring of graduates. This challenge was recognised recently by a large group of education providers and advocacy groups (Table for Technical Education, 2016).

The curriculum development process is highly centralised in upper secondary VET

A core challenge of any VET system is ensuring that the supply of programmes meets the needs of both students and employers. The content of Chile's 35 VET specialisations is defined centrally by MINEDUC, in varying consultation with stakeholders. Central control has some positive aspects, in the sense that it allows homogeneity between programmes offered by different institutions. But central control over programming also limits institutional discretion to modify curricula and to determine the number of spaces in programmes. It can also discourage institutions from offering new programmes that may be more suitable to the local economy.

This is problematic because locally defined content is vital. In a country as geographically diverse as Chile, with distinct regional economies in different areas of the country, the demand for skills varies considerably. Institutions currently have quite limited latitude to modify existing programmes, and almost no ability to offer programmes that are not currently defined by the Ministry of Education. Upper secondary VET allows schools to decide content for up to four hours per school week, compared to six hours in general education (MINEDUC, 2016). Monitoring could be improved to ensure that schools have the capacity to make the most out of these hours.

Skills shortages and mismatches suggest that the mix of provision is not adequate

Some evidence of the misalignment between VET in Chile and labour market needs shows that the mix of provision is not adequate in the country. There is evidence that points to the inadequacy between the training offered in VET programmes and what the economic sectors need for their development (Venables Brito and Carrasco Páez, 2012). Furthermore, it reveals that there are shortages in labour skills in many fields, despite growth in student enrolment. Another sign of this misalignment is labour market outcomes for graduates of certain programmes are poor (Larrañaga, Cabezas and Dussaillant, 2013).

Skills mismatch is relatively high in Chile. Among economies that participated in the Survey of Adult Skills (a product of the OECD Programme for the International Assessment of Adult Competencies, or PIAAC), Chile had the highest proportions of workers who were under-skilled in terms of literacy. Some 10% of Chilean workers had lower literacy proficiency than required for their job, compared to the OECD average of 4%. In addition, 50% of Chilean employees worked in a job unrelated to their field of study. Chile also had above average proportions of over-skilled workers with higher literacy proficiency than required for their job (15.9% versus OECD average of 10.8%) (OECD, 2016).

Similarly, some research found that 42% of Chilean employees identified as under-qualified, the highest proportion among the 32 countries included in their survey and more than double the survey average of 20% (Randstad Workmonitor, 2012). More Chileans also felt that their colleagues were working both above (51%) or below (49%) their education level than the survey averages. On average, 44% employees in the countries surveyed believed their colleagues were working above their education level, while 43% felt their colleagues were working below it.

Chile does not have a strategic view of how public funds allocated to post-secondary VET should be used

There is no long-term strategic vision for what the role of public funds in post-secondary VET in Chile should be (World Bank, 2014). A part of this may be due to the fact that less than half of private providers are accredited. But accredited private providers are united in a union, Vertebral-Chile, and they represent 88% of students enrolled in the sector (Vertebral, 2014).

The Chilean government should consider two key questions with regards to the future of post-secondary VET in the country:

- What will be the function of the new state CFTs that have been created in every one of Chile' different regions?
- What checks and balances should be attached to money reaching private providers (e.g. through scholarships, state-guaranteed loans and other programmes)? Scholarships and financial assistance have targeted mainly young people attending CRUCH universities (see Chapter 1 and 4). This has changed progressively since the 1990s. Financial eligibility criteria have also expanded to include students in post-secondary VET programmes, via the State Guaranteed Loan System (Crédito con Aval del Estado, CAE)[3] and the New Millennium Scholarship (BNM)[4] (Comptroller General of the Republic, 2015).

The creation of new CFTs raises questions about the role these institutions can have in the social and economic development of the country's regions. It also raises questions about whether these institutions (along with the other types of higher education institutions) can help balance the skills needs in Chile's regions. As stated in Chapter 4, in developing a strategy for the role of CFTs, the Chilean government should consider issues such as: how CFTs can support the transformation of production to offer higher-quality work; adaptation to demographic trends and regional differences; flexibility to adapt to changing demands; and prioritising access, equity, quality and relevance.

Besides the objectives of CFT, it is relevant to reflect on how to allocate resources more efficiently. This challenge is also widely covered in Chapter 4. Overall, the Chilean government has been making efforts to expand the financial aid provided to students. These efforts include: changing eligibility criteria in order to include students from the third quintile, increasing the amount of funds provided and Gratuidad, which allows eligible students to refrain from paying tuition fees at post-secondary education institutions. These are important efforts, but this increased funding has been less tangible in post-secondary VET. This is true in part because the share of students eligible for financial aid has increased considerably.

As discussed in Chapter 4, funding available for students in post-secondary VET is less than the funding available to students in more academic programmes, especially those in more "traditional" universities (i.e. those belonging to CRUCH). Despite some improvements, in 2013 the Chilean government still gave 4.7 times more money to students enrolled in CRUCH universities than to those enrolled in IPs, and 2.9 times more to CRUCH university students than CFT students (Vertebral, 2014). This is significant, given the fact that enrolment of the most vulnerable students (the first three quintiles) is larger at IPs and CFTs than at CRUCH universities (see Table 5.1). More recent measures, such as a measure to make IPs and CFTs eligible for Gratuidad funding, aim to expand the share of public funding that these institutions can receive (see Chapter 4).

Student eligibility for funds at IPs and CFTs has been significantly curtailed in many programmes (OECD/The World Bank, 2009). For example, some IP and CFT institutions have been deemed ineligible for some funding because the poorest students can already attend these institutions free of charge. Another example is the University Credit Solidarity Fund (FSCU[5]). The FSCUU is means-tested and covers up to 100% of the reference tuition fee, but it can only be used to attend CRUCH universities. Therefore, students at other higher education institutions must instead use the State Guaranteed Loan System (CAE), which covers up to 100% of the reference tuition fee and is also available for students at CRUCH universities (MINEDUC, 2017).

As stated in Chapter 4, the amount of financial assistance per student that each institution receives through different individual mechanisms of student financial aid (estimated according to the annual reference tuition fee), does not represent the real costs of programmes for students. In addition, this overall amount does not reflect that some institutions may have a larger share of disadvantaged students than others. High fees therefore remain a barrier for students from the lower quintile. In most cases, financial aid does not cover the total costs of higher education. Furthermore, some estimates show that about 40% of low-income students do not receive any type of aid (World Bank, 2014).

In general, universities receive more funds on average than IPs and CFTs (see Chapter 4; Comptroller General of the Republic, 2015). VET institutions at the post-

secondary level became eligible for Gratuidad as of 2016 under certain conditions, such as: being accredited and non-profit or about to become non-profit; having a transparent and non-discriminatory admissions system that favours student enrolment on an equitable basis; and committing to hiring staff from populations within the institution's region. Less accessible student financial aid at CFTs and IPs has posed an equity challenge, as students in IPs and CFTs are more likely to come from disadvantaged backgrounds.

Retention rates are lower at IPs and CFTs than at universities (see Table 4.4 in Chapter 4). Only half of students enrolled in post-secondary VET programmes actually graduate. Reasons for dropout include: economic pressure linked to fees; pressure linked to the fact that many students combine the coursework with work and family responsibilities; and the fact that students who have to repeat courses must repay for coursework that they have already taken (Vertebral, 2014).

International evidence

Strengthening upper secondary VET schools

Low levels of investment in public upper secondary VET schools constrain the schools' ability to keep up with industry practices. Segmentation of VET institutions at the upper secondary level between those governed through different arrangements further complicates efforts to build a common understanding around programme quality. Current quality assurance mechanisms focus on inputs rather than on outputs (see Chapter 2 for a discussion of this issue in the more general context of secondary schools in Chile).

Many countries allow schools some leeway in raising and managing their own funds as part of their mission to provide high-quality VET. While some schools are more effective than others at raising their own funds, preventing all schools from doing so does little to help students who might benefit from the additional resources.

Engaging employers more systematically, and strengthening work-based learning

Typically, engaging employers requires a steering body involving the different stakeholders to co-ordinate provision, engage and involve all the stakeholders, including social partners, and address issues of coherence and co-ordination. Involvement of employers in the VET system is crucial if the system is to meet labour market needs. First, employers are in the best position to see if the content of VET (i.e. curricula and qualifications) is right for current labour market needs. Employers are also in the best position to guide the adaptation of VET content to new, emerging requirements. Second, employers need to be involved in policy development to ensure successful implementation of policy. Third, active involvement in the design of VET policies makes employers understand the system better. If employers do not understand the policy context and the institutional settings, they are likely to disengage.

Chile has many agencies and public bodies in charge of education programmes in general, such as the National Council for Education (Consejo Nacional de Educación), the National Council for Accreditation (Consejo Nacional de Acreditación) under the Ministry of Education and Chilevalora under the Ministry of Labour, to mention only a few. But it is not always clear how different stakeholders interact to help steer the system, or how they can influence the development of programmes and policies. As indicated

above, current arrangements for workplace training in upper secondary education in Chile are failing to meet students' and employers' needs, with many students failing to complete their workplace training.

Box 5.2. The many direct benefits of work-based learning

Work-based learning encompasses a diversity of arrangements including apprenticeships, informal learning on the job, work placements that form part of formal vocational qualifications and internships of various types. Managed effectively, it delivers benefits for all participants and contributes to better labour market and economic outcomes. Described in *Learning for Jobs* (OECD, 2010), these benefits include:

- *A strong learning environment for students*: Work-based learning offers realistic experience, and makes it easier for students to acquire practical skills on up-to-date equipment. Through collaboration with colleagues and supervisors familiar with the most recent technologies and working methods, students can hone these skills. Students can also more effectively acquire soft skills, such as dealing with customers, in workplaces than in classrooms and simulated work environments.

- *Assured connections to labour market demand for both students and employers:* The employer offer of work placements signals that a connected vocational programme has labour market value. In systems where the offer of places in vocational programmes is tied to the availability of work placements, employers can influence the mix of training provision through their willingness to offer placements.

- *An effective recruitment tool for students and employers*: In the workplace, employers get to know and assess trainees, who in turn get to know the workplace and the employer. This provides both parties with valuable information that may lead to recruitment, or, alternatively, may lead them to look elsewhere.

- *A productive benefit for employers:* Employers benefit from the work done by trainees. This is not only important for apprenticeships, but also in more substantial work placements where trainees have the time to master productive skills.

- *Value for money for public authorities.* Delivering high-quality vocational programmes outside the workplace can be very expensive. This is particularly true in fields where modern equipment is expensive and requires continuous updating, and where expert practitioners command substantial salaries.

Source: OECD (2014a), *Skills beyond School: Synthesis Report*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264214682-en; OECD (2010), *Learning for Jobs*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264087460-en (referred to later in the chapter).

Allowing Chilean upper secondary VET schools more flexibility in the adaptation of their programmes to local needs and supporting them to do so

From an international perspective, there are two main models for the design of curricula and related qualifications. One is a national top-down system, where employers are involved. This framework is relatively common in continental Europe and elsewhere. Such programmes have the advantage of national consistency, so that someone trained in

one part of the country has skills recognised in another part. The other model allows relatively autonomous institutions (such as universities and colleges) to establish their own curricula and qualifications, and to design programmes in partnership with local employers. This approach allows for local responsiveness, and would make sense for upper secondary VET schools in Chile.

There are also advantages to having a blend of both models. Certain more centralised programmes allow for locally negotiated elements. For example, while the German Länder states define the professional programmes of technical colleges (Fachschulen) in Germany, they allow 20% of the curriculum to be determined by the individual technical college (Fachschule). Also, while most curricular content is defined by the central qualifications systems for post-secondary programmes in Romania, post-secondary schools can define 15% of content (Fazekas and Field, 2013). These arrangements aim to balance the advantages of national consistency in qualifications with responsiveness to local employer needs. Local tailoring of curricula in upper secondary VET schools in Chile may also serve the purposes of connection with a locally provided higher education degree.

Using funding to guide provision in VET

Outcomes-based funding to shift institutional focus from enrolment to a broader set of goals

Evidence shows that outcomes-based funding influences institutional behaviour and shifts institutional focus from enrolments to a broader interest in labour market dynamics. Countries that implement outcomes-based funding can improve the employment opportunities for their VET students; thus, the OECD recommends that the Chilean government consider this approach. The OECD made recommendations on this area for Peru, whose post-secondary VET sector shares many characteristics with Chile, as it has a large and dynamic private sector with heterogeneous quality (McCarthy and Musset, 2016).

Outcomes-based funding ties access to public funding to a set of outcomes that policymakers consider to be in the public interest (see Chapter 4). In some cases, the outcomes chosen by policymakers focus on graduation, particularly for subgroups of students – like low-income students or students from disadvantaged groups. In other cases, the outcomes are tied to strategic economic development needs, or to addressing persistent labour market shortages. Programmes aimed at increasing graduates in science, technology, engineering and mathematics (STEM) fields are a common example.

If policymakers select graduation rate improvement as an outcome, it is vital that they combine this focus with strong quality assurance mechanisms. Such a combination will ensure that institutions do not make their programmes easier artificially as they push to improve graduation rates. If selected outcomes relate to covering labour market demands for specific skills, then it is important that policymakers make sure the data are reliable and of good quality for the planning phase.

Box 5.3. Outcomes-based funding models in the United States: The Texas State Technical College System (TSTC)

Performance-based funding models are increasingly popular in the United States. Over the last decade, 32 states have adopted policies that allocate some portion of funding to performance indicators. These indicators include: course completion, time to degree, transfer rates, the number of degrees awarded, and the number of low-income and minority graduates. The impact of these policies varies by state and institution type. Overall, however, performance-based funding formulas have been linked to a variety of improvements in institutional behaviour and student outcomes (Snyder, 2015).

Texas has taken performance-based funding to a new level for its technical college system, linking the system's annual appropriations to the degree to which it supports the regional economy through increased tax revenue from former students. This "value-added" funding formula replaced the formula based on enrolments with one that uses earnings data to calculate the economic impact of TSTC students to the state's economy. The formula takes the 5-year average annual salary of former students, subtracts the annual salary of a minimum-wage worker and calculates the additional taxes generated by the above-minimum-wage earnings. The more TSTC students earn five years out of school, the more funding is allocated to TSTC by the state government of Texas.

The formula, which was implemented in 2013, is already having a strong impact on policy and practice within Texas' technical colleges by deterring institutions from focusing exclusively on enrolments and encouraging them to emphasise completion. Even more important, the funding model is pushing colleges to strengthen their relationships with local industry partners in order to ensure graduates find high-quality, in-demand jobs.

Source: McCarthy, M. and P. Musset (2016), *A Skills beyond School Review of Peru*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264265400-en.

Outcomes-based funding makes institutions more data-driven

Outcomes-based funding that directly links access to funding to specific outcomes has demonstrated some success in changing institutional behaviour. When institutions are rewarded for the learning and labour market outcomes of graduates, they are more likely to invest in activities that deepen their knowledge of local labour market needs. They are also more likely to collect and use data on a variety of factors influencing student success (Snyder, 2015).

Body of the recommendation

5.1.1 Engaging employers and ensuring quality

Strengthen VET at public upper secondary schools

The low level of investment in public VET institutions in Chile at the secondary level constrains the ability of these schools to keep up with industry practices. Strengthening the quality of schools in some cases means increasing funding for equipment, as well as teacher and school-leader development. The Chilean government may want to consider allowing public institutions to raise some of their own funds. These institutions could offer services to the general public for the purpose of purchasing equipment, supporting teacher development or expanding student support services.

Build employer engagement into the system by strengthening work-based learning in all programmes

Regarding the more systematic engagement of employers in the design of programmes, as developed in the OECD 2009 VET review of Chile (Kis and Field, 2009), policy options could include establishing systematic architecture for consultation between the VET system and industry by allowing for consultation at sectoral and regional levels. As strategic advisors to the Chilean government, the National Council of Innovation for Development (Consejo Nacional de Innovación para el Desarollo, CNID) and the Professional Technical Training Advisory Council (Consejo Asesor de Formación Técnico Profesional), could play a role in advising on curriculum and the content of programmes. The government could also strengthen work-based learning by keeping it a part of the core of upper secondary VET programmes, and holding schools accountable. Institutional responsibility could be increased further to ensure that students actually find work placement, and that institutions provide adequate support to students in that process. Adequate quality controls would need to be put in place to make sure that the work placements are substantive, rather than just any type of work experience. Mandatory work placements would also constrain provision to fields in which employers are interested, and conversely provide employers with an incentive to offer placements in fields where they need recruits (see Box 5.2 on the benefits of WBL).

5.1.2 Allowing more flexibility and opportunities for local customisation, and supporting individual schools in doing so.

Unlike general education programmes, upper secondary VET programmes have to be able to evolve to keep up with changes in the local economy. Flexibility and responsiveness are essential elements of quality. They are also key to ensuring that programmes are well aligned with the needs of employers and local labour markets. Increased flexibility should go hand in hand with increased capacity at schools. In addition, the government should direct support to institutions that struggle to garner benefits from local customisation. Such measures would allow Chile to reap the advantages of national consistency in qualifications with responsiveness to local needs.

5.1.3. Funding for outcomes in post-secondary institutions.

Steer providers towards programmes with desirable outcomes using outcomes-based funding

Chilean educational authorities need to shift incentives at post-secondary VET programmes towards student labour market outcomes. As mentioned prior to 2016, currently, post-secondary VET institutions in Chile are fully private (though the creation of 15 state CFTs is changing this). The financial model of private post-secondary VET programmes depends on student enrolments, and student fees, which these institutions are free to set. This focus on recruitment and enrolment provides incentives for institutions to offer programmes that are popular among students and inexpensive to deliver. Unfortunately, however, many of these programmes only have loose connections to the local labour market.

Post-secondary VET institutions in Chile also receive money in the form of student financial aid and state-guaranteed credits. At present, these institutions are not automatically held accountable for student outcomes, such as graduation rates or

employment prospects, even though some of these elements are taken into account during the voluntary accreditation process.

A robust data infrastructure that can reliably connect education and employment data at the student and programme level is an essential step towards connecting educational supply and labour market demand. In this case, only institutions that perform well on certain desirable outcomes would become eligible for student financial aid. These outcomes could include: high completion rates, enrolment of a certain number of disadvantaged students, the creation of programmes that train students to work in areas where there are labour shortages and good labour market outcomes for students. Such requirements would allow guiding provision. This would, of course, apply only to non-profit organisations. Institutions that receive public funds through student financial aid should be closely monitored. In particular, the government needs to monitor the tuition fees these instructions charge on top of the share of tuition covered as a part of financial aid packages (see Chapter 4).

Strengthen and expand data systems that connect education and labour market outcomes and track student transitions within education and into employment

In a post-secondary VET system like Chile's where private providers play such an important role, financial incentives linked to outcomes play to the strengths of a competitive, market-based approach to provision. In addition, financial incentives linked to outcomes can also address the tendency of providers to focus only on enrolments. Linking financial incentives to outcomes represents a strategy for also increasing public financing of VET that is targeted and conditional. Such a strategy can also serve as a valuable complement to existing institutional and programme approval policies that seek to shape the supply of programmes. Finally, it also more explicitly supports the goal of aligning programme supply with the needs of local labour markets.

Recommendation 5.2

Take measures to ensure that all post-secondary VET programmes and institutions do not fall under a certain quality level

Summary

The Chilean government needs to take steps to develop an effective and mandatory accreditation system for all post-secondary VET programmes and institutions in order to ensure that the quality of these programmes does not fall under a certain level, harming students and employers. While some programmes give students relevant technical skills, build core academic skills and facilitate student transitions into good jobs, many do not. The accreditation system needs to be part of a broader set of accountability policies that aim to guide institutional behaviour. Only accredited instutions should be eligible to receive public funds. Given the cost and time associated with review processes, the accreditation requirement would need to be implemented in stages. But requiring accreditation is essential to making it an effective tool for ensuring quality. The accreditation process could have two different levels: a mandatory accreditation process with standards providers cannot fall below, and an additional, voluntary accreditation process for institutions that wish to see how they can improve.

Context

Quality of institutions is very heterogeneous at the post-secondary level

Chile is no stranger to conversations about educational quality. Since the mid-1990s, the country has launched a series of reform efforts aimed at improving both quality and consistency across the education system. Currently, Chile's VET sector lacks an adequate quality assurance system to ensure consistency across programmes and providers. As a result, there is wide variability in the quality of particular programmes, which hurts both students and employers.

The National Quality Assurance System was created in 2006, through the transformation of the previous National Commission for Undergraduate Accreditation (Comisión Nacional de Acreditación de Pregrado, CNAP). As discussed in Chapter 4, a majority of students at CFTs and IPs attend institutions with weaker or no accreditation (see Table 4.5 in Chapter 4).

As stated earlier, the quality of providers in post-secondary VET is heterogeneous in Chile (World Bank, 2014). While some programmes build core academic skills, facilitate student transitions into good jobs and have modern equipment, many do not. The degree to which institutions support transitions into high-quality jobs also appears to vary widely. There also are quality issues regarding the management of the institutions in terms of planning for the medium or long term, keeping budgets up to date and formalising decision-making processes. See Bernasconi, 2006 (more information in reference section), for an analysis on management practices in VET schools.

Results from the Survey of Adult Skills show that, similar to Chilean upper secondary VET students, many post-secondary VET graduates in Chile have low basic skills. Skill levels among post-secondary VET graduates are also low, compared to tertiary graduates (Figure 5.7).

Figure 5.7. Post-secondary VET and tertiary graduates by share of low-skilled population and 16-34 year-olds

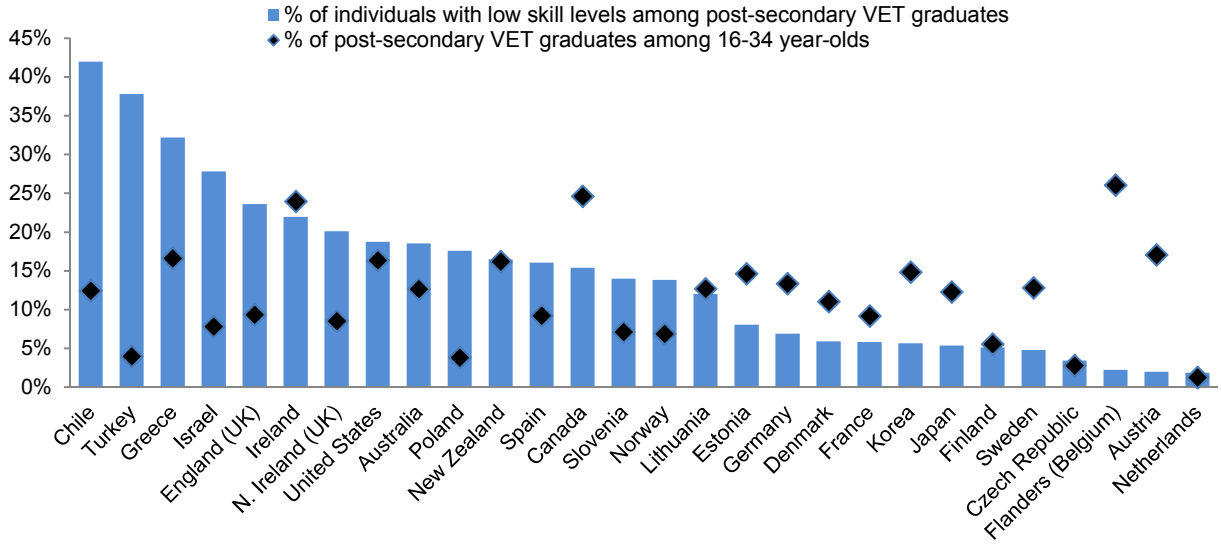
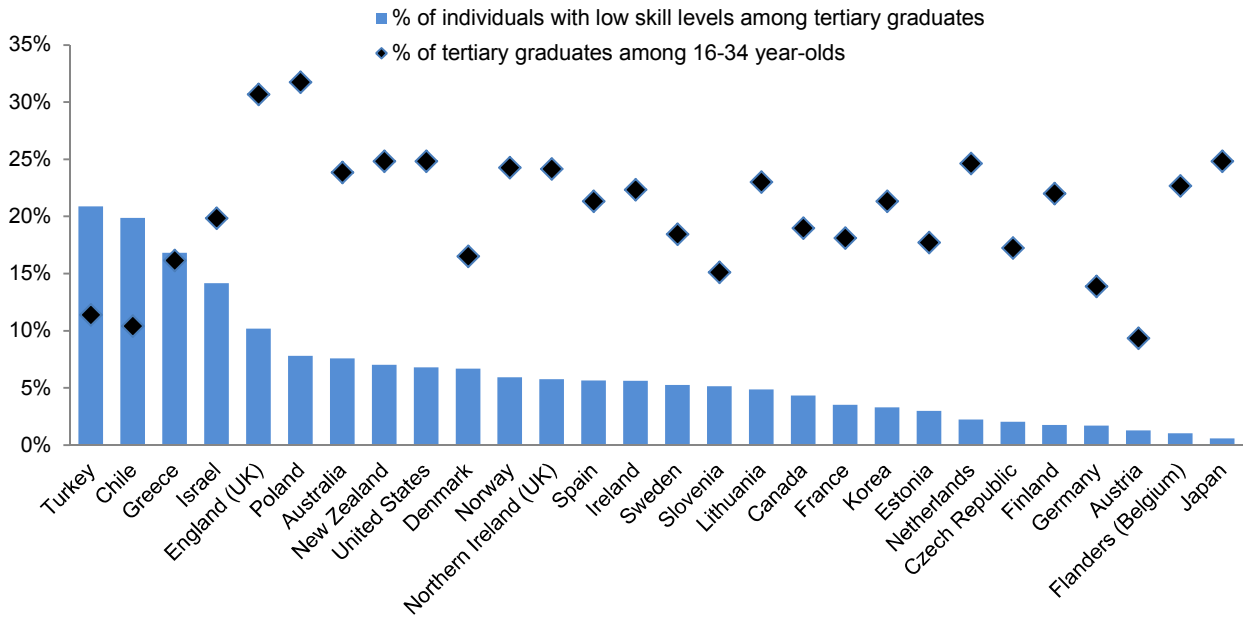


Figure 5.7. Post-secondary VET and tertiary graduates by share of low-skilled population and 16-34 year-old *(continued)*



Source: OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264258051-en.

Quality assurance mechanisms are not adequate

Chile's post-secondary VET sector does not have adequate quality assurance mechanisms to ensure consistency across programmes and providers. The reason for this is existing quality assurance processes are voluntary and designed for academic university programmes, and thus are not wholly relevant for VET programmes (Vertebral, 2014). For example pass rates and labour market outcomes are not looked at. Also, the quality assurance system at post-secondary level is fragmented, as different regulatory bodies and agencies have different responsibilities. This fragmentation leads to a lack of coherence.

The post-secondary VET sector in Chile faces some issues regarding the use of peer evaluation, which can lead to a lack of transparency and conflicts of interest, since evaluators are not independent. There are also concerns about profiles of evaluators. (e.g. should they have a technical or an academic background, and what should their knowledge of the labour market be?) Accredited institutions do not get feedback after the evaluation process. This is problematic, because feedback would allow these institutions to know what areas they need to work on, and what steps they should take to improve. Also, the peer evaluation process is costly, which makes it difficult for small- and medium-sized CFTs and IPs to complete. CFTs have specific criteria for their accreditation, but this is not the case for IPs. All of this allows for the coexistence of post-secondary institutions of very heterogeneous quality in Chile (VET Commission, 2009; SIES, 2014).

International evidence

Sustaining programme quality is a challenge for many VET systems

Building and sustaining quality programmes can be particularly challenging for vocational education and training systems. VET programmes need to be continuously assessed for their relevance to local economies and employers. In addition, instructors need to be kept up to date on changing industry practices, and students need opportunities to apply their learning in real-world settings. This need for continual investment and updating is often underestimated in VET. In the absence of a robust policy and funding infrastructure, VET programmes can become disconnected from the labour market and from opportunities for further education.

Accreditation processes clarify quality standards for VET programmes and providers

Many countries make accreditation a requirement for institutions to award particular qualifications, including academic and technical degrees. Accreditation systems are designed to establish clear quality standards for education and training providers and programmes. Accreditation reviews examine institutions thoroughly to ensure that instructors are qualified, equipment is up to date, institutions are engaging key stakeholders, programmes are in line with industry standards and students are receiving a quality education. Institutions (or particular programmes) are evaluated in relation to a set of established quality standards that the participating institution has agreed to sustain in exchange for becoming accredited. The goal of the accreditation process is to ensure that the education provided by an institution meets a certain threshold for quality, and that the institution continues to improve over time (McCarthy and Musset, 2016). See Box 5.4 for more on the key components of effective accreditation systems.

Box 5.4. Key components of effective accreditation systems

In addition to providing a common language and framework for identifying institutional and programmatic quality for both academic and vocational programmes, other key elements of a high-quality accreditation system include:

- Legal and financial independence: Accrediting agencies require legal and financial autonomy from the institutions they are evaluating, and from relevant government agencies and ministries. The more accreditation is linked to high-stakes outcomes (such as eligibility to operate or to receive public monies), the greater the need for independence.
- Student-centred mission: Accrediting bodies and polices should be guided by the interests of students, as they deserve to attend high-quality educational programmes.
- Protect consumers and taxpayers: Accreditation should protect the interests of consumers and taxpayers, ensuring that both public and private investments in education are directed towards sound institutions and programmes.
- Focus on continual improvement: Accreditation reviews are not just programme audits. They should identify opportunities for improvement and, when resources allow, include technical assistance opportunities. Accreditation should also build the capacity of institutions to engage in their own continual improvement processes.

Box 5.4. Key components of effective accreditation systems
(continued)

- Include a mix of stakeholders: While faculty-based peer review is a common feature of many accreditation systems, including outside stakeholders such as representatives from local businesses, community organisations and governmental agencies enriches the process by broadening the base for feedback. All reviewers need to be adequately trained to engage in the review process, but not all need to come from inside academia.
- Focus on outcomes as well as inputs: Student outcomes, such as graduation, employment and earnings, are as important an indicator of quality as any other.

Sources: CHEA (2010), *The Value of Accreditation*, Council for Higher Education Accreditation, Washington DC., www.chea.org/userfiles/CHEAkry224/Value%20of%20US%20Accreditation%2006.29.2010_buttons.pdf; (ANSI) (2012), *Policies and Procedures*, American National Standards Institute, www.ansica.org (accessed 3 September 2012); ISO (2012), *New and Improved ISO/IEC 17024 Standard for Personnel Certification Programmes*, International Organization for Standardization, Geneva, www.iso.org/iso/home/news_index/news_archive/news.htm?refid=Ref1625 (accessed 28 March 2013).

Accreditation can be a valuable complement to other policies aimed at ensuring quality and holding institutions accountable for programme outcomes. Accreditation can help to ensure that minimum standards are met in relation to the quality of the pedagogy and student experience. By relying on educators and other relevant stakeholders to establish standards and conduct the reviews, accreditation can create a sense of shared ownership in the quality assurance process. It helps institutions examine their own practices through a critical lens and identify strengths and weakness. It can also build the confidence of students, employers and policymakers in particular schools and programmes by establishing clear and consistent standards (CHEA, 2010).

Body of the recommendation

The Chilean government needs to continue efforts to develop an effective and mandatory accreditation system for post-secondary VET institutions and programmes. For accreditation to work as a guarantor of quality it has to be mandatory, not voluntary, and it needs to be part of a broader set of accountability policies that aim to guide institutional behaviour. Since the purpose of VET programmes is to orient students towards the labour market, taking into account labour market outcomes is essential.

Given the cost and time associated with review processes, an accreditation requirement would need to be implemented gradually, and in stages. But requiring accreditation is essential to making it an effective tool for ensuring quality. It is unrealistic to expect that institutions will opt to undertake accreditation reviews on their own. In fact, institutions that are struggling with either quality or resources have no incentive to engage in a quality assurance process that could expose deficiencies and threaten their ability to attract future students.

In the case of Chile, the accreditation process could have two different levels: a mandatory accreditation process that establishes levels providers cannot fall below if they wish to be accredited, and a second, voluntary process for institutions that wish to see

how they can improve. In addition, the link with employers could be assessed through these processes. The idea of strengthening quality assurance mechanisms has been advanced by different advocacy groups in Chile.

Recommendation 5.3

Consider implementing a national qualifications framework to better meet labour market needs and the aspirations of students.

Summary

A national qualifications network would help VET students to access higher-level programmes without facing barriers and having to repeat coursework they have already done. To allow students to move seamlessly from one educational level to the next, the Chilean government should design articulated programmes of study that span different levels in VET schools, CFTs, IPs and also universities. A national qualifications framework that differentiates and classifies distinct qualifications issued by different types of providers can help promote greater coherence, transparency and student mobility.

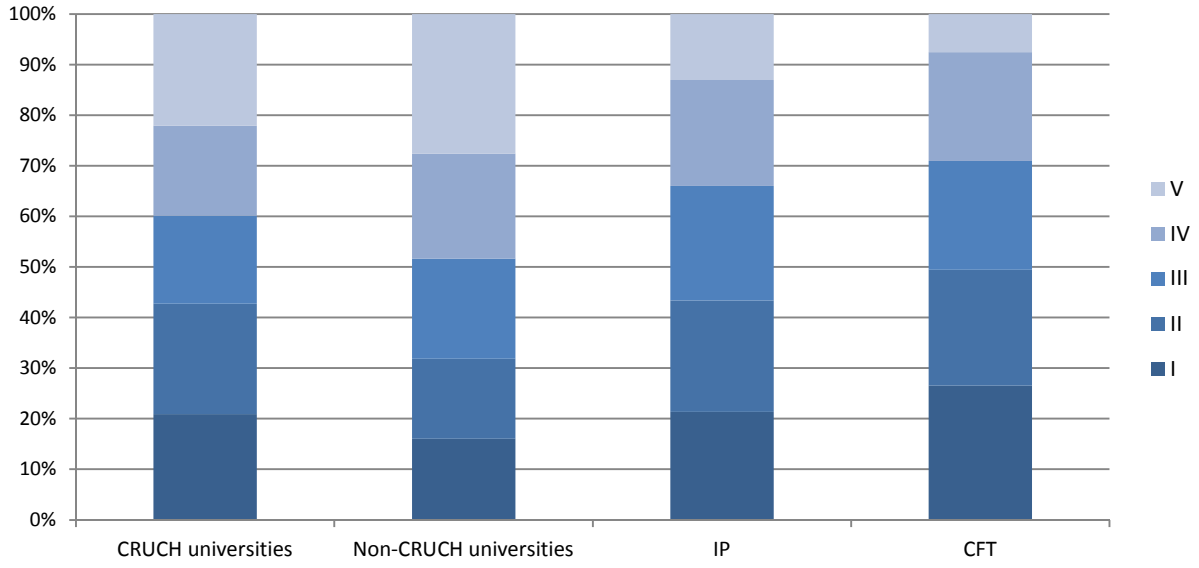
Context

Transitions between different educational levels and academic and VET programmes are not very smooth

In Chile different VET sectors, such as the upper secondary VET programmes delivered in VET schools and the VET programmes at CFTs and in IPs, are not well connected to each other. Students can pass from one type of programme to another, but students often have to re-take (and pay) for coursework they have already done. At the moment, there are only ad-hoc articulation or continuity agreements between relatively small numbers of institutions. In addition, only a small minority of CFTs have agreements with other institutions to allow their students to receive some type of recognition for the coursework they have already completed. Similarly, Chilean VET programmes under the umbrella of adult education are not connected to the programmes offered in VET upper secondary schools and in IPs and CFTs. The lack of clear pathways has a number of negative effects: it is a waste of resources, and it may also discourage students from enrolling in technical programmes – even when they provide valuable skills. Another issue is that upper secondary VET programmes do not always align coherently with options available at the post-secondary level (Larrañaga, Cabezas and Dussaillant, 2013).

This lack of connections or continuity, as well as the difficulties students face when they try to move between levels and programmes, is especially detrimental for students from disadvantaged backgrounds. As discussed in Chapter 4, the decision of a student to enter secondary vocational education is strongly correlated with his or her socio-economic status – more so even than his or her academic achievement. In many cases, the institutions and programmes disadvantaged students enter are of lower quality. The labour market outcomes of these programmes are less strong than those of academic programmes, meaning that these students face even more difficulties gaining access to higher-level education opportunities and the labour market. About 40% of students from secondary vocational programmes enter some type of post-secondary programme, compared to 80% of students from academic secondary education. CFTs and IPs, to a slightly lower extent, have more students from the lower-income quintiles than universities (see Figure 5.8) (Sevilla Buitrón, 2011; Larrañaga, Cabezas and Dussaillant, 2013).

Figure 5.8. Student composition in terms of income quintile for different types of post-secondary institutions in 2015



Source: Ministry of Social Development (2015), "Encuesta de Caracterización Socioeconómica Nacional (CASEN)" [National Socio-economic Characterization Survey], Social Observatory, Santiago, http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/casen_2015.php (accessed 17 September 2017).

In Chile, uneven transitions between different levels of VET can cause inequality and poorer outcomes for those coming from lower socio-economic backgrounds, compared to their more affluent peers.

This issue has been analysed by advocacy groups representing universities, and has been deemed an issue deserving attention from academic institutions, as well as vocational tertiary institutions (see Aequalis, 2013). Vertebral, the union representing accredited VET providers, analysed the connection between secondary and post-secondary levels. Vertebral found that VET institutions did not have mechanisms in place to evaluate and assess students' skills levels before entering post-secondary programmes. Vertebral stated that this lack of connection produced gaps and duplications between secondary and post-secondary levels. It also led to high dropout rates, and a waste of resources (Vertebral, 2014).

Even between programmes at the post-secondary VET level, co-ordination is lacking between CFT and IP programmes. In addition some students face difficulties moving from one programme to another. In the case of programmes administered by the Ministry of Labour, the lack of co-ordination is even more evident. For example, the programmes Chile Califica[6] and more recently Más Capaz[7] have struggled with co-ordination issues. Other VET programmes and adult education programmes remain disconnected.

More articulation between the different levels and types of programmes would facilitate an efficient education trajectory for the most vulnerable students that pursue technical careers. Increased articulation could also promote the accumulation of technically skilled human capital, thus favouring economic growth and greater equality of opportunity in Chile (Sevilla, Farías and Weintraub, 2014).

International evidence

Graduates of upper secondary vocational programmes need further learning opportunities

In the past, some people thought that initial vocational training would provide all the skills needed for a working lifetime in a single job. This expectation was often unfounded. Now, it is entirely outmoded due to technical progress and changes in the demand for higher-level skills. Despite this fact, in many countries, opportunities for graduates from upper secondary vocational programmes to deepen and update their skills remain limited. This is worrying because, more than anything else, the lack of such opportunities deters young people from pursuing an initial vocational route, sometimes in favour of less suitable career paths (OECD, 2014a).

Many upper secondary graduates of general programmes need professional training

Some countries have few vocational programmes at the upper secondary level, so they keep school programmes broadly comprehensive and postpone career-specific programmes to the post-secondary level. In these circumstances, the transition into post-secondary programmes is the critical point when a young person first selects a career path. In the Netherlands, for example, about half the graduates from the highest initial vocational track (MBO 4) continue into professional bachelor programmes in Universities of Applied Sciences (*hogescholen)*. In Germany, access to university for students without the normal higher education access qualification was substantially enhanced in 2009. Switzerland has opened vocational universities *(Fachhochschulen*) to graduates from the dual apprenticeship system through the creation of a specific vocational matriculation examination (die Berufsmaturität). This education modality can be completed in parallel to an apprenticeship programme, and can provide access to tertiary education – around 12% of all apprentice graduates obtain the Berufsmaturität, and they represent half of the students in the *Fachhochschulen.* Austria introduced a similar exam (die Lehre mit Matura) in 2008 (OECD, 2014a).

Measures are needed to help students fully benefit from these opportunities. Upper secondary vocational programmes therefore need to be designed not only for labour market entry, but also to prepare students for further education. If administrators can build a sufficient range of study skills, including basic skills, into these programmes, students will reap significant benefits (OECD, 2014a).

Students want and expect to have mobility across vocational and academic institutions, and an implicit guarantee of opportunities for increasing skills acquisition; this is also what the modern labour market demands. These issues have an impact on students' choices. When considering academic and technical programmes, prospective students will be more willing to engage in shorter VET programmes if they know that such programmes provide an effective basis for more advanced studies.

Qualification frameworks help to provide structure

In many countries around the world, qualification systems are regulated and sometimes subject to an overarching framework that locates them in an ordered sequence of levels (see Box 5.5). National qualifications frameworks include all education qualifications in a country's education and training system. They organise qualifications into distinct levels, with the lower levels corresponding to basic-level skills and each additional level requiring mastery of more complex skills and knowledge. By organising systems in this manner, frameworks can clarify what learners are expected to know, understand and be able to do on the basis of a given qualification.

A qualifications framework can be particularly helpful for building connections across VET and traditional academic programmes by clarifying how distinct qualifications relate to one another. If qualifications are just one level apart, for example, it might be possible to facilitate a student's transition from one level to another with just a small amount of additional coursework. Qualifications frameworks can also help outside stakeholders – students and employers, in particular – understand the meaning of certain qualifications. At the same time, expectations placed by staekholders on qualifications frameworks have sometimes been too high. By themselves, these frameworks will not solve all issues around education and training systems (OECD, 2014a).

Box 5.5. Qualifications frameworks

In Belgium (Flanders), development of a qualifications framework began in 2009 with the aim of making qualifications more transparent and comparable. The intention of the framework was to clarify which programmes led to the same qualification levels and to the same jobs. By clarifying this, educational authorities hoped to make qualifications equivalent, regardless of where students studied (e.g. in a centre for adult education, a university or a competence centre). The framework also aimed to make different qualifications more visible to both students and employers. Under the framework, the development of a new professional qualification starts with an assessment of how the qualification will translate into an education programme, as well as identification of the providers best suited to deliver the programme. The fact that qualifications are defined by competences support recognition of prior learning by all stakeholders.

South Africa implemented a national qualifications framework in 1995. It was intended to: 1) create an integrated national framework for learning achievements; 2) facilitate access to mobility and progression within education, training and career paths; 3) enhance the quality of education and training; and 4) accelerate the redress of past discrimination. Recent reforms to the framework aimed at simplifying it and limiting the proliferation of qualifications. It identifies ten levels of learning achievement, and includes three sub-frameworks covering: 1) General and Further Education and Training Qualifications; 2) Higher Education Qualifications; and 3) Trades and Occupations Qualifications. South African policymakers expect that these reforms will help improve articulation, support more effective career guidance and increase recognition of prior learning. They also expect that these reforms will improve co-ordination across the different institutions and shareholders involved in the country's educational system.

Source: OECD (2014a), *Skills beyond School: Synthesis Report*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264214682-en.

Body of the recommendation

One way to ensure that students can move seamlessly from one educational level to the next without having to repeat courses is to design connected programmes of study that span different education levels. Connection of this sort mean that programmes that begin with a sequence of courses at one institution (such as a CFT or upper secondary school) and result in a qualification could continue at a neighbouring IP or university. This would then allow students to earn the next qualification in the sequence. These "stackable" qualifications would enable students to begin a career pathway from a variety of starting points. The creation of the 15 state CFTs in Chile could help create better articulation between the country's different programmes and types of institutions.

Building strong connections between VET and academic programmes and the labour market requires that stakeholders (such as students, employers, institutions and policymakers) have a clear understanding of the learning associated with different programmes.

Qualifications frameworks are systems for differentiating and classifying distinct qualifications issued by different types of providers. They can provide a helpful infrastructure for promoting greater coherence, transparency and student mobility. This is addressed more in-depth in Chapter 4, Recommendation 4.4.

Recommendation 5.4

Develop good-quality career guidance and information, and make it available to students both before they enter vocational programmes and while they are enrolled.

Summary

Students in Chile can choose between many different programmes and institutions, especially at the post-secondary level. The Chilean government should develop good-quality career guidance and information, and make it available to all students both before they enter vocational programmes and while they are enrolled. The Chilean government should invest in the professional development of school-based career counsellors who are trained in the use of labour market data. The government can build on existing online resources, such as the website "mifuturo.cl" and other user-friendly tools, to help build awareness about the costs of particular programmes, labour market prospects and information about further learning opportunities. Instructors can include information about career pathways in curricula and in the content of courses. Institutions can inform students about career pathways through arrangements for work experience, and by inviting industry practitioners involved in vocational teaching to give students advice.

Context

As mentioned before, the VET system in Chile offers a number of student pathways and institutional options. The large and diversified nature of the VET sector in Chile makes the system difficult for students to understand. That said, some initiatives aim to address this issue, such as the Programme for Support and Effective Access (Programa de Acompañamiento y Accesso a la Educación Superior, PACE) (see Chapter 4). Students in schools have access to guidance services, but these services are provided mainly for

psychological assessments. Career exploration activities appear limited in scope. It is not clear that Chilean teachers receive any formal training in career guidance or in interpreting labour market information. There are reports that career guidance services in Chile are not adequate, and are available too late in the students' educational paths (VET Commission, 2009).

This means that students do not receive sufficient career guidance at lower educational levels, and they therefore lack the information they need to make informed educational choices. Students do not receive adequate information about careers, educational costs or what they can expect in terms of labour market outcomes after particular programmes of study. Information gaps among students can exacerbate the problems of unmet needs and inequity in education markets. While Chile clearly has considerable capacity for collection and analysis of education and labour market data, students and school leaders would benefit from more structured and consumer-friendly information on the relationship between education and careers.

Information asymmetries in Chile cause students and parents to make decisions about vocational programmes based on very little information. These students and parents do not have enough information about the quality and future outcomes of the education pathways they choose. The creation of the website "mifuturo.cl" was an important and very positive development, as it offers more information about post-secondary education to shareholders. That said, the website lacks figures and data for many vocational programmes, and focuses only on post-secondary programmes (World Bank, 2014).

There also are issues in the way data are collected from institutions, as Chile has two parallel systems in place (one from the Ministry of Education and one from the National Council of Education). This leads to confusion for institutions, as well as to duplication of work. Information about student trajectories, for example, is not collected systematically and in a coherent way. The case is similar in terms of the way information about public funding of different parts of the system is collected.

As mentioned prior, Chile's VET system currently relies on student preferences. But students are not well informed, typically, and there are important information asymmetries between students and educational providers. Relatively weak ties between VET institutions and the labour market have accentuated this information challenge. An additional factor is that all CFTs and IPs are private (though the creation of 15 public CFTs is imminent). Private CFTs and IPs receive public funds through indirect channels like financial aid, Gratuidad and credits that students receive, but the Ministry of Education has no oversight over which programmes are created, and how many students they can enrol.

International evidence

Many Chileans need help navigating an increasingly complex education system and labour market

Students and job seekers in Chile need more assistance navigating the country's increasingly complex education and labour markets so they can make good investments. Career guidance systems include services and activities designed to help individuals of any age to make educational, training and occupational choices, and to manage their careers (OECD, 2004). They can be delivered to students in schools or to the general

public through employment centres and community-based organisations, either in-person or virtually. A career guidance service can be a crucial connector between the consumers of education and training – students and job seekers – and a complex and often confusing marketplace of schools and programmes.

Career guidance services help students and job seekers to understand their options

Career guidance systems are a valuable asset to any country, but they can be particularly helpful in emerging economies like Chile where labour markets and occupations are changing rapidly as the economy grows and becomes more skills-based. Students and job seekers need to understand an evolving world of work that may be very different from that of their parents, and may require different skills and qualifications. Services that can help individuals move into educational programmes and jobs that look nothing like those of earlier generations are essential for countries that are moving from one stage of economic development to another. Accurate and impartial data on programme outcomes can reduce the risk to students and improve alignment between programmes and the needs of the economy.

Effective career counselling is a challenge in many countries

The 2010 OECD report, *Learning for Jobs*, discusses the issue of career counselling at the upper secondary level. Guidance services in some countries are fragmented and under-resourced. A counselling approach dominates some guidance services, with inadequate knowledge of and attention to labour market opportunities. They may also have an academic bias, especially where they are delivered by academically trained teachers. The move in a number of countries towards stronger professionalization of career guidance (CEDEFOP, 2009) needs to be supported and extended to all countries. Recent growth in the number of post-secondary institutions means more choice, and therefore harder choices, compounded by the complexity and fragmentation of programme options, particularly in some countries. Helping young people to make these decisions is the task of career guidance (OECD, 2014a).

Career guidance can help to make education more equitable and inclusive

Well-trained career counsellors are particularly important in countries like Chile that have high levels of social and economic inequality. An extensive literature on student decision-making confirms that parental education levels and socio-economic status are important predictors of student choices (OECD, 2012). Students from families with parents that did not complete upper secondary or post-secondary education are less likely to pursue post-secondary education themselves (Smeeding et al., 2011). There are many reasons why these students are less likely to enrol in advanced education and training; these reasons include but are not limited to financial constraints.

Career guidance can help less advantaged students overcome obstacles (such as gaps in family financing capacity, education background, work experiences and personal networks) that may make it especially difficult for them to pursue education or know which programmes to choose. Career guidance is crucially important for helping those students who are the least likely to have access to adults or peers who can help guide their career decisions.

Box 5.6. Career guidance advisors in Scotland (UK)

Scotland has a well-developed and comprehensive system of career guidance. It is offered in various institutions, including schools, colleges, local authorities and job centres. Co-ordination of services can be a challenge in a system involving many providers, but Skills Development Scotland acts as the strategic leader, collaborating closely with schools, colleges, local authorities and other organisations, including employer representatives.

Multiple institutions involved in career guidance and different channels of education provision allow the system to contact different groups, including young people seeking entry to post-secondary education, as well as unemployed persons. Many OECD countries do not have a specific career advisor profession, as career guidance is often provided by school teachers and psychologists. Scotland, however, recognises that "career guidance is a distinct, defined and specialist profession which demands a unique set of core skills and expects all career guidance practitioners to be professionally qualified" (Kuczera, 2013). This approach to career management involves helping individuals to understand their strengths, the objectives that they wish to set for themselves and the networks and resources that will help to them reach these objectives. The aim is therefore to help individuals to plan their careers independently by equipping them with relevant tools and knowledge. Career services also include support from career coaches who engage with young people through talks, group sessions and individual coaching. Young people who need support to make a successful transition into employment receive one-to-one sessions, as does any young person who needs additional advice.

Source: Kuczera, M. (2013), *A Skills beyond School Commentary on Scotland*, OECD Publishing, Paris, www.oecd.org/edu/skills-beyond-school/ASkillsBeyondSchoolCommentaryOnScotland.pdf.

Body of the recommendation

While the website "mifuturo.cl" is an important step forward, it still lacks sufficient coverage of labour market outcomes to be the cornerstone of a career guidance system. The Chilean government should continue expanding and improving existing websites like "mifuturo.cl" and other accessible and dynamic tools that help build awareness about labour market trends and opportunities, as well as the cost and returns of particular programmes. This means ensuring that all programmes, including those not administered by the Ministry of Education, are compared on the website, and that the information is kept up to date. In some countries, government agencies may provide objective occupational forecast information to the public. This is the case in the United States, where the United States Bureau of Labour Statistics publishes its Occupational Outlook Handbook annually. In Northern Ireland, industry fact sheets provide citizens with relevant information on job prospects and relevant skills and entry requirements (Álvarez-Galván, 2014).

Other relevant data and information about the pathways from education to occupations, the extent to which training programmes lead to desired jobs, and related wage rates and unemployment risks, are critical for sound career advice. Such information may come in the form of complex data and require careful interpretation. Attention is needed to make such information accessible and comprehensible for the purposes of career guidance (OECD, 2014a).

The Chilean government should also invest in the professional development of school-based career counsellors and train them in the use of labour market data. While a dedicated career service unit does not automatically yield better career guidance, it does at least raise the profile of career counselling and highlight its importance. Chilean VET instructors should include information about career pathways in curricula and in the content of courses. Institutions should inform students about career pathways through arrangements for work experience, and by inviting industry practitioners involved in vocational teaching to give students advice.

Three key tests of measures to improve career counselling are whether these measures: 1) introduce students to the full range of opportunities within the sector; 2) cover career pathways within the sector rather than being confined to entry-level jobs; and 3) cover the needs of students who might be interested in changing career direction (including making them aware of other occupational sectors to which some of the competences they have acquired might be transferable). It is also important to identify whether these measures are subject to systematic institutional policy and quality standards, or left up to individual course teams to determine (OECD, 2014a).

Conclusions

This chapter suggests a vision for Chile of a strong VET system that provides high-quality and relevant learning to students, and ensures smooth transitions between schools, post-secondary education and the labour market. A strong system is one that provides students with development opportunities that correspond to their needs and interests, as well as strong core academic skills. In such a system, outcomes are consistent and equitable. Given the important role that VET can play in easing school-to-work transitions, particularly when VET contains a strong element of work-based learning, it is essential to get it right. This means not letting certain programmes and institutions fall under a given quality threshold. Chile's VET sector has many of the characteristics that make a strong system. In particular the size of the sector, at both secondary and post-secondary levels, is clearly one of the strengths the system can build on. Some of Chile's VET programmes are state-of-the-art, which is due in part to their strong links to the labour market. These programmes provide high-level skills to their graduates, ensuring good careers. However, quality issues remain, and the recommendations developed in this chapter aim at assisting Chile's VET system in achieving its full potential.

Programme supply should meet Chilean student and employer needs for the right balance of skills in the short and longer term

The supply of VET programmes in Chile should meet students' needs for jobs that are relevant to their interests and skills, and employers' needs for employees with the right balance of technical and broader skills. Some programmes fail to give students the skills they need, both in terms of technical skills and more fundamental literacy and numeracy skills. Achieving the right balance of skills is key for students and employers, and for Chile's longer-term development vision. Achieving a good skills balance allows students to continue learning later on, either through further education or even in their jobs, as they adapt to new labour market needs and contribute to the evolving economy. With this purpose in mind, this chapter offers a set of different and complementary policy recommendations to: engage employers and ensure quality, allow more flexibility and opportunities for local customisation, and design funding for outcomes.

Ensure a minimum threshold of quality in institutions

Quality assurance mechanisms need to be improved in Chile in order to prevent post-secondary VET programmes from falling under a certain quality standard. This can be achieved by developing an effective and mandatory accreditation system, as well as a voluntary process that can help institutions that wish to improve.

Facilitate transitions

Currently, Chile's upper secondary and post-secondary VET programmes are not well connected. Students can pass from one programme to another, but they often have to re-take coursework. The cost is high, not only for students' purses, but also for the perception of the system as a whole. The Chilean government should ensure that VET students can access higher-level programmes without facing barriers, or having to repeat coursework. Mobility across vocational and academic programmes is what students want and expect, and what the modern labour market demands. A qualifications framework could help to provide the structure.

Develop high-quality career guidance

The Chilean government needs to develop good career guidance services that are accessible to all students before and during VET programmes. The government should also work to disseminate information about the costs of different VET options, and the kinds of labour market outcomes graduates can expect.

This set of recommendations aims to support the VET programmes in Chile to reach their full potential, on the same playing field as academic institutions at both secondary and post-secondary levels.

Notes

1. Quintini and Manfredi (2009) discuss different transition patterns from school to work across OECD countries. They note that in countries with regulated labour markets and strong apprenticeship systems, such as Germany, about 80% of school graduates succeed in integrating into the labour market. Such countries contrast with countries with regulated labour markets that do not have strong work-based training integrated into the formal school system. Examples include Italy and Spain, where more than one-third of young people end up in unemployment or inactivity.
2. Students can also choose an artistic track, in which they have 19 hours a week of general education.
3. The State Guaranteed Loan System (Crédito con Aval del Estado, CAE) is a loan that covers up to 100% of the reference tuition fee, with an actual interest rate of 2% per year. The period to repay this loan is between 10 and 20 years (applied to the total amount), and graduates may pay up to 10% of their future income (MINEDUC, 2017).
4. The New Millennium Scholarship (Beca Nuevo Milenio, BNM) is a scholarship that covers tuition fees for technical programmes in CFT, IP or universities, for those who belong to the poorest 50% of the population. Its amount covers the annual reference tuition fee in full or in part (MINEDUC, 2017).
5. The University Credit Solidarity Fund (Fondo Solidario de Crédito Universitario, FSCU) covers up to 100% of the reference tuition fee, depending on family income, with an actual interest rate of 2% per year. Students begin to pay this credit two years after graduating, and students only pay 5% of their future income, with a maximum repayment period of up to 12 or 15 years depending on the amount owed (when this period is over, the remaining debt would be forgiven) (MINEDUC, 2016).
6. The programme ran until 2009, partly funded by The World Bank. It was a continuing training programme, targeting young people outside of the education system, and workers with low basic skills wishing to certify their skills.
7. Más Capaz is a large-scale training programme administered by Chile's National Training and Employment Service (Servicio Nacional de Capacitación y Empleo SENCE) to bring inactive youth and women to work. Between 2014 and 2018, it aims to provide between 180 and 300 hours of free training to 300 000 women over 30 and 150 000 youth (of which 20 000 have a disability). Both generic literacy and numeracy skills (for workers who have not completed upper secondary education) and job-specific training are offered, and can in some cases combine classroom- and work-based components. Más Capaz also gives participants the possibility of certifying work-related skills through Chile Valora (Brown, et al., 2016).

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PART 4: FINAL REFLECTIONS ABOUT WORKING TOWARDS CHILE'S FUTURE EDUCATION SYSTEM

Chapter 6

Some final reflections on education policy implementation in the current Chilean context

Chile is an economic success story in the making. As previously expressed, Chile's education system can open the door to stronger economic, democratic and social development within the country. Education has been an important topic on Chile's public agenda since 2006, and the ongoing education reforms carried out by the Chilean government show an enduring commitment to education. However, the country's capacity to unite these reforms into a coherent vision will be key to the reforms' success and sustainability from the implementation period onward. This chapter builds on international evidence and the findings in this report to offer some final reflections, and highlight some key principles that the Chilean government should keep in mind as it implements and adapts education policies. These final reflections build upon elements that are transversal across education levels in Chile. They refer mainly to: 1) ensuring that the Chilean government constantly puts student learning at the centre of education policies; 2) supporting key actors across the system in order to deliver education policies; and 3) aligning policies for coherence, while also adapting them as needed to ensure that structures, resources and processes effectively continue to converge towards a national vision of education.

Background

Chile is an economic success story in the making. As expressed in Chapter 1, Chile's education system can open the door to stronger economic, democratic and social development within the country. This report has explored the strengths and challenges of Chile's education system today, while acknowledging the important progress achieved by the country between 2004 and 2016. Based on this analysis, the OECD has proposed a set of recommendations to help Chile move forward and succeed in providing better education opportunities to its people over the short, mid and longer term. The OECD stands ready to continue supporting Chile to achieve this objective, and to set new, more ambitious goals once previous aspirations are met. Such work will entail meeting the demands of the rapidly changing world.

As mentioned earlier in this report, education has been high on Chile's public agenda, particularly since the so-called "Penguin Revolution" in 2006. Since then, Chileans from all parts of society have paid close attention to efforts aimed at improving the quality and equity of the education system (see Chapter 1). This is certainly the first and most important strength of the Chilean context, as broad attention ensures that education remains a priority in the government's programme. At the moment of the drafting of this report, the Chilean government's endeavours in education have consisted of broad education reforms covering early childhood education and care (ECEC) through higher education. The scale and pace of Chile's education reforms to date have required action on a variety of fronts by actors and institutions with differing levels of responsibilities. These responsible actors and institutions are at different levels of readiness with regards to implementing the changes mandated by these reforms.

However, the country's capacity to continuously unify these reforms into a coherent vision will be key to the success and sustainability of the reforms from implementation onward. While the Chilean government may have initially created a central plan for the reforms, key stakeholders need to be included moving forward. The reforms should help forge a national vision of education in Chile that transforms it into a common cause for the coming years.

Good policies need to be dynamic to adapt to contextual changes and stakeholders' needs, while managing to continuously keep evidence at their core. This may require constantly balancing emerging tensions (for example, between trust and accountability, or consensus-building and making difficult choices) in order to reach objectives. In the context of Chile's large scope of reforms, this also requires constantly adopting a "whole system" approach to understand how different policies come together, as well as their implications for the rest of the system (Snyder, 2013; Burns and Köster, 2016).

Drawing on findings in this report and on international evidence, this chapter of final reflections proposes general principles of policy implementation that can aid the current and future government administrations in Chile, organising some of the recommendations proposed in this report into a shorter-term landscape of actions. These principles relate to:

1. Ensuring that student learning is kept as the true centre of the education system.
2. Supporting key actors across the education system to deliver the policies being promoted.
3. Aligning policies for coherence while adapting them as needed to ensure that structures, resources and processes effectively converge into a national vision of education.

Key principle 1

The Chilean government should constantly put student learning at the centre of education policies by assessing and ensuring that all education policies help students to improve their opportunities for the future.

Previous chapters have highlighted the significant progress Chile has made in recent years in terms of expanding the coverage and quality of the country's education system. More Chileans are being educated, and for a longer time, than ever before. Chile also has made improvements in terms of reading skills among 15-year-olds, as shown by recent PISA 2015 results.

However, while Chile had the highest performance on PISA in Latin America, it remained below the OECD average for the three main topics assessed (science, mathematics and reading). Chile's performance on the OECD Survey of Adult Skills also showed that the country needs to continue working to improve the level of skills of its adult population. At the same time, while Chile has shown improvements in equity since PISA 2006, it remains one of the OECD countries where students' socio-economic backgrounds significantly affect their performance. National assessments also show a strong influence of socio-economic background on student achievement in Chile (see Chapter 1).

As stated in this report, the Chilean government has made many recent efforts to improve the quality of the education system in the country. These efforts include:

- Expanding coverage of early childhood education and care and higher education institutions (through the creation of fifteen state technical training centres [CFT] and two new state universities).
- Improving quality assurance in the system (e.g. by creating or reforming different national quality assurance mechanisms across education levels).
- Creating mechanisms to promote a more socially inclusive education system (e.g. through the Inclusion Law for schools and through programmes facilitating transitions and access to higher education).
- Improving the governance of the system at all education levels (e.g. through the ECEC reform, the higher education reform and the promotion of the New Public Education Reform).

The Chilean government needs to ensure, however, that student learning remains the central mission driving each of these efforts. Some ways of doing this are: making learning relevant to students on a continuous basis, supporting them by teaching them how to manage their own learning and develop deeper understanding of the learning process itself, adopting a perspective of the education life cycle and strengthening a broader understanding of inclusiveness across the system.

a) "Why am I learning this?" Making learning relevant to students and increasing expectations of what they can achieve.

What students learn and how they learn is at the core of any education system. A system's capacity to help students answer the question, "Why am I learning this?", is also crucial for their motivation. At the preschool and school levels, a good curriculum is at the core of the system. A good curriculum promotes the development of students using a

comprehensive perspective. It should be broad, but clear and relevant, so that learning objectives and how they come together are comprehensible to anyone in the school. This allows administrators, teachers and students alike to understand the curriculum's objectives and relevance, and to help them achieve their different potentials. This curriculum, however, needs to be taught in ways that make it tangible and alive in the minds and everyday experiences of students (see Chapter 2). Evidence underscoring this recommendation includes PISA 2015 findings that show that students whose teachers explained science concepts by providing relevant examples scored higher on average (OECD, 2016).

Yet, a curriculum's relevance to a student's interests and skills is also related to that student's expectations of what he or she can achieve. Studies of successful education systems show that an important part of turning around a school or an education system has been modifying students, schools and communities' perceptions of what students can achieve. One of the first obstacles successful education systems overcome is low expectations of students based on socio-economic status, cultural background or gender. Once systems raise these expectations, students will have better chance of receiving a higher-quality, more supportive and challenging education. Examples of policies provided to overcome this challenge include developing positive teacher-student and peer relationships, and ensuring adequate student counselling and mentoring to support students and achieve smoother transitions across their education (see Chapters 2 and 4; OECD, 2016; OECD, 2012).

b) "How much have I learnt?" Supporting students so they can "learn how to learn".

Another question that students in Chile should be able to answer is, "How much have I learnt?" A key goal of every education system should be helping students be aware of their own thought processes. This involves developing their capacities to personally monitor their learning, and to adapt it to achieve deeper understanding (e.g. by engaging in self-assessment, peer assessment or even formative standardised tests in the classroom). Teachers and schools are key partners in this process. Teaching students about their own learning requires a change in mindsets in the classroom. Through assessment, teachers can develop an idea of where students stand, and develop strategies to further support them. In addition, students themselves can learn how to identify what they already know, and what they need to work on further (OECD, 2013). This continuous diagnostic capacity in class is particularly useful in increasingly diverse classrooms, where teachers also need to develop the capacity to identify a wider array of learning needs among students and adapt their teaching to address those needs (OECD, 2013, 2015). Successful examples of policies aimed at transforming instructional practice in this way exist in Ontario (Canada), but also in Latin America, such as in Mexico and Colombia (see Chapter 2). At the higher education level, emerging evidence shows that problem-based learning (PBL) can have positive effects in that it can help prepare students to work and live in innovation-driven societies (Chapter 4).

In order to improve motivation, however, what has been learnt and what can be learnt need to be clear to all actors in the education system. During post-compulsory education, qualifications frameworks can be useful to clarify expectations students, employers and society have regarding the value of a diploma and its relevance in the labour market (Chapters 4 and 5).

c) Adopting a perspective of learning as "inclusive building blocks" over a person's life cycle.

As discussed in Chapter 2, increasing the chances of individuals' success while still in compulsory education will help these individuals to better reap the benefits received through education later on. This will then increase their chances of remaining in the education system, and gaining access to other educational and professional opportunities later in their lives. Therefore, the earlier in education a government invests in achieving a good education system and creating education levels that effectively prepare students for the next education stage, the higher the payoff will be for individuals and society (OECD, 2012). According to international evidence, one method for accomplishing this is intervening as early as needed to provide support when learning difficulties are identified. It is also important to ensure effective transitions into upper secondary or professional-technical training (VET) by enhancing advice and allowing greater permeability between VET and general education (see Chapters 2, 4 and 5) (OECD, 2012).

In the same way, a broader vision of inclusiveness needs to permeate the system. Inclusiveness enhances disadvantaged students' access to high-quality education options. It also helps ensure that public schools and ECEC institutions are seen as effective education alternatives by parents and communities across socio-economic and cultural backgrounds. This positive perception can promote greater social heterogeneity in schools, thereby providing even greater benefits to disadvantaged students as well (see Chapter 2).

Box 6.1. Key principle 1 – Basic pointers for action in the context of the ongoing reforms

- **Curriculum:** Content is at the core of every education system. It should live in the minds of students and teachers, and be embedded in the everyday experience of the school community. It is therefore critical to ensure that curricular expectations are articulated in simple terms so that anyone in the school system can understand and communicate what they are. The way these expectations connect to everyday activities and how the curriculum will be useful to students in the future should also be evident. It is also crucial that all participants feel some ownership of Chile's educational vision, through effective engagement. (Chapter 1 and 2)

- **ECEC:** Establishing high expectations for all students starts by providing them with the strongest foundations to succeed later in life. Providing access to quality ECEC across the country, particularly for those at most disadvantage, should therefore remain a policy priority. Furthermore, it is important that Chile strengthens co-ordination across education levels, from ECEC through secondary education, in order to support student transitions from one level to another. (Chapter 2)

- **Inclusiveness:** Strengthening the inclusiveness of the education system is also a key pre-condition to provide students with equitable opportunities to excel. Chile should continue the implementation of its Inclusion Law, understanding that its main challenge is making inclusiveness go beyond access at schools. Education inclusiveness in Chile should be about the everyday processes in schools that define the opportunities that children can receive for a meaningful and empowering education. (Chapter 2)

- **Clearer shared expectations:** As students progress through their education pathways, a qualifications framework can provide a better picture of what students can expect to learn. This will bring benefits for students, employers and society. Good career guidance services that are accessible to all should also be developed. (Chapters 4, 5)

Box 6.1. Key principle 1 – Basic pointers for action in the context of the ongoing reforms *(continued)*

- **Higher Education:** Chile needs its higher education system to be of the highest possible quality, while being relevant to the wider society and economy. The challenges to Chile's education, skills and innovation needs cannot be resolved by the higher education sector alone though. Addressing challenges in equity and quality of education from early childhood, during compulsory education, and while transitioning into higher education is essential to achieve quality and equity in Higher Education. At the same time, the actors in Chile's higher education system must do their part to create a more equitable quality learning environment in the country, prioritising initiatives most likely to be effective in expanding participation among the most vulnerable qualified Chileans. (Chapter 4)

- **VET:** The Chilean government needs to ensure that the country's VET programmes meet both the needs of students looking for fulfilling jobs and the needs of employers looking for employees with the right skills for the short and longer term. Providing students with a good balance of technical skills and more fundamental literacy and numeracy skills is key for students and employers, and for Chile's longer-term development vision. This balance will allow students to continue learning later on, either through further education or even in their jobs as they adapt to new labour market needs and contribute to the evolving economy. (Chapter 5)

Key principle 2

The Chilean government needs to support key actors across the system to deliver the education policies designed

The Chilean government is working hard to consolidate an education system that has been atomised at all education levels. This atomisation has made it difficult and costly to monitor policy implementation, and to enforce education changes if the benefits of such changes are less clear to the different actors who should implement them. Wide-ranging education reforms need to ensure that actors at all governance levels have the clarity, skills, competencies and tools they need to drive improvement. Responding to key actors' main capacity needs can also help to create ownership and trust in the system.

Chile can support key actors by effectively engaging stakeholders, and by being strategic in terms of the most urgent capacities the system needs developed.

a) Effectively engaging stakeholders.

Ensuring basic and regular ways of collecting feedback on reforms is important, both for effectively communicating changes to the education system with members of society, and as an opportunity to better adapt the implementation of reforms according to society's needs. Effectively engaging stakeholders refers to facilitating regular feedback mechanisms that can give greater clarity on the local and national needs of the system, identifying possible solutions and assessing their success and the factors contributing to this success. However, although dialogue among educational actors is essential, there also needs to be awareness that strong beliefs acquired beforehand can exist in education, which are strongly tied both to stakeholders' identities and experiences (Burns and Köster, 2016). Therefore, while stakeholder engagement is necessary and beneficial to

help the system improve, it is also important to ensure that evidence (e.g. indicators, research studies or policy evaluations), is also kept at the centre of discussions.

Furthermore, implementation of new practices in education is more likely to be sustainable if trust is maintained in the system. Clear communication between the different levels of authority and a high degree of trust among all stakeholders are therefore necessary for successful implementation (Hopfenbeck et al., 2013).

The Chilean government needs to cultivate a focused, clear communication and stakeholder engagement strategy which involves all stakeholders (including students, parents, grandparents, teachers, community, industry, businesses and politicians) in order to promote and implement a shared vision of education. This can be done by facilitating regular exchange platforms aiming to collect proposals and feedback, and explore solutions based on evidence. For example, in Ontario (Canada), education reform guiding documents are adapted on a continuous basis to reflect the evolving needs and goals of the system. (Chapter 2).

b) Being strategic in building capacities across the system.

Education stakeholders need adequate knowledge of educational policy goals and consequences. They also need to feel they have some ownership of the education system, and they have to be willing to make change. Finally, stakeholders in the education system need to be given the tools to implement a reform as planned. Often, reforms focus capacity-building efforts on the local institution level, but capacity-building is needed at every level of governance in a system. Furthermore, in order to foster stakeholder engagement, the government needs to create participatory mechanisms that facilitate effective inclusion beyond those more vocal or technologically savvy actors (Burns and Köster, 2016) (see Chapters 2 and 3).

Building capacities is an important, but also complex task. To meet capacity-building needs, the Chilean government must establish clear and basic goals (for example, building capacity for teachers and school leaders through professional frameworks). These goals need to be aligned with the key objectives that are set at the national level. That said, the government needs to build capacity in a selective manner in order to avoid overwhelming actors and institutions with change. A good first step is to identify priorities for student learning (e.g. strong literacy and numeracy skills for all students, decreased dropout and higher youth employment). Then the Chilean government can focus on these areas, developing key skills, knowledge and other capacities required from actors across the system to support students. In developing a capacity-building plan, educational authorities should ask the following basic questions: What is the objective? Who is in charge of what? What skills do those in charge need to have to support other actors in delivering capacity-building resources and practices? How can engagement be ensured internally, at the school level? (Chapters 2 and 3).

The Chilean government may wish to consider starting by developing one or two capacities across the education system, which would later underpin further improvement in the system. For example, while teaching students about their own learning through formative assessment is an important aspect of student learning, the practice can also be a useful tool for teachers, school principals and mid-level local education services. Teachers will also need specific training on formative assessment in order to implement it in the classroom. This is because it gets teachers thinking about how learning happens, learning differences, and how to cater to different needs. It can also help develop critical thinking which is a skill that will help students learn in many different fields. Some

countries have made important efforts in terms of formative assessment, with positive outcomes. Norway has had positive outcomes with its Assessment for Learning initiative, which aims to build formative assessment capacity across schools (OECD, 2015). Also, Sweden has developed several "Boost" policies for collaborative learning among teachers. Successful results in collaborative learning practices achieved in one area have driven the development of other "Boost" initiatives in other areas, such as special education needs (Chapter 3).

Box 6.2. Key principle 2 – Basic pointers for action in the context of the ongoing reforms

- **Curriculum:** A curriculum will only be as good as the capacity of schools to implement it. The Chilean government needs to define what good teaching of the curriculum means, and strengthen teachers' and school leaders' capacities to use their professional judgement to implement it. (Chapter 2)

- **Strengthening teaching at schools:** The new System of Teacher Education and Professional Development is an initiative that has large potential to strengthen the teaching and school leadership profession in Chile. During the implementation process, the Chilean government should foster sustained stakeholder engagement, and craft a communication strategy that clarifies Chile's educational vision. This vision should be shared by all, including teachers and school leaders, parents, students, owners, and administrators. That said, the new System would benefit from the addition of aligned professional standards to better inform and support the quality of initial teacher education programs. Such professional standards could better delineate teacher positions and progression through the new career structure. Also, while Chile has been working to establish the basic quality core of the teaching and school leadership profession, care should be given into eventually developing tools for improvement that take into account the diversity of the teaching profession (such as the specific needs of ECEC teachers, VET teachers, teachers in urban, rural schools, etc). These efforts should be linked with the improvement of delivery of education services. (Chapter 3)

- **Improving the delivery of education services to schools:** Local education services represent an important step in developing the basic infrastructure of capacity building and support for school improvement. In the short term, the Chilean government should focus on defining with as much clarity as possible the envisioned role of the local education services (Servicios Locales de Educación), attracting the most highly qualified candidates and establishing basic structures and routines of support and capacity-building for schools. In the middle to long term, attention should be placed on establishing routines for organisational learning and improvement at the local education services and at the ministry level, as well as on simplifying the provision of support services to schools. (Chapter 2)

- **Higher education:** Efforts to improve the quality of higher education should continue, in order to ensure that an effective system can emerge, with participation of employers and other relevant actors that could help make education pertinent to the evolving economic, social and democratic needs of the country. In the same way, the government and institutions should pursue efforts to strengthen the initial and continuous development of faculty, in terms of both teaching and research. (Chapter 4)

- **VET:** The Chilean government can also improve the quality and relevance of the programmes offered by engaging employers and ensuring quality, as well as by strengthening public upper secondary VET schools. In the same way, the Chilean government should invest in the professional development of school-based career counsellors who are trained in the use of labour market data. (Chapter 5)

Key principle 3

Chile needs to align policies for coherence, while adapting them as needed to ensure that structures, resources and processes effectively continue to converge into a national vision of education

While aiming to forge a long-term vision of the Chilean education system, the government needs to keep in mind some possible systemic tensions that can emerge in addition to those mentioned earlier in this chapter. These include: continuity and change, innovation and risk avoidance, and centralisation and regional adaptations. The government needs to maintain a continuous focus on processes, rather than structures. Finding the best way to ameliorate these tensions often depends on the context and history of the education system, as well as the country's vision for the future (Burns and Köster, 2016). This can be done through mechanisms of policy aligning across policies if new or current policies are implemented, modified or finalised.

a) Aligning actors and resources for coherence.

The education system in Chile is currently creating or working to strengthen several structures to help run the system, but it is necessary to ensure that these structures actually reach educational institutions (e.g. early childhood education centres, schools and tertiary-level institutions) in an effective way, and without duplication of resources. The National System for Quality Assurance of Early Childhood, Basic and Upper Secondary Education (Sistema Nacional de Aseguramiento de la Calidad de la Educación Parvularia, Básica y Media, SAC) and the National System for Quality Assurance in Higher Education (Sistema Nacional de Aseguramiento de la Calidad de la Educación Superior, SINAC-ES) can be very helpful to this end, provided that they can achieve an internal model of collaboration comprising of the different institutions under their directions. Co-ordination across these institutions will help educational authorities to better identify how to better support students as they progress through the education system (Chapters 1, 2, 3, 4 and 5). It will also help the government to identify gaps or problems, as well as successes and areas of potential collaboration.

Furthermore, while Chile needs a strong education system at all education levels, resource investments in education need to ensure that investing at upper education levels does not hinder efforts to improve quality and equity at earlier levels, and especially for the most disadvantaged. This will help make the entire system more inclusive in the future. Students who would have otherwise dropped out or endured school failure will remain in school, and will have better alternatives and opportunities of further education or employment (Chapters 2 and 4).

b) Gradually adapting reforms as needed, but according to a goal.

Education contexts can change unexpectedly across countries. These changes can create new pressures for governments. These pressures can make it difficult for governments to continue pursuing longer-term goals. Therefore, regardless of the level of decentralisation of a system, a government's capacity to "co-ordinate through partnership" (developing clear guidelines and goals, and providing feedback on the progress on those goals) remains very important to staying on track so that these longer-term goals can be achieved (Burns and Köster, 2016).

Similarly, while policy continuity can be a strength, policies should have sufficient flexibility to adapt as needed. Failing to do so will turn continuity into inefficiency. A way of achieving balance is by introducing policy-monitoring mechanisms into reforms. These mechanisms allow governments to measure, on a continuous basis, what aspects of certain policies need to remain or be modified. Integrating monitoring mechanisms into reform processes can further increase the chances for reform adaptation and success, particularly where reforms are introduced incrementally (Golden, forthcoming). As a part of this process, the government needs to adopt a whole system approach. Such an approach continuously and intentionally makes all actors in the system aware of connections among policies, which will be for the greater benefit for students in their future.

Box 6.3. Key principle 3 – Basic pointers for action in the context of the ongoing reforms

- **A strategy for schools:** Chile needs to develop a strategy for improvement at schools. This strategy could include seven interdependent features: 1) ensuring a shared vision across the system concerning what students should learn and why; 2) making effective instructional and school management practices visible across the entire school system; 3) stimulating and supporting the development of collaborative cultures focused on examining and improving instructional practices within and among schools; 4) developing new and more comprehensive measures of school quality, making them easy to understand and use; 5) intensifying school- and classroom-level support for public municipal schools and government-dependent private schools serving large proportions of students under conditions of vulnerability; 6) prioritising implementation and developing system coherence; 7) gradually shifting the relationship between the Ministry of Education and schools from one of hierarchical separation, compliance and external accountability to one of partnership, support and learning alongside teachers, school leaders and communities. (Chapter 2)

- **A strategy for Higher Education:** Chile also needs to ensure that the higher education system is strategically co-ordinated so that resources are used effectively, public goals are attained and individual learners and researchers are supported so that they can fulfil their potentials. The first step must be to develop a comprehensive and coherent vision for the future of tertiary education to guide future policy development over the medium and long term. In the absence of this vision, policy reform initiatives, however well intentioned, are unlikely to fulfil their potentials. Aligned efforts should also continue to establish the various structures and instruments required to accomplish the system vision and help institutions pursue continuous improvement. Priorities include strengthening leadership across the system, improving the licensing and accreditation of institutions, introducing more performance-based funding, and strengthening information collection and transparency. These efforts should always acknowledge institutions' diverse roles within both the university and technical-professional subsystems, and could be supported by performance agreements and institutional governance codes. (Chapter 4)

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Annex A
Biographies of the OECD review team

OECD Secretariat

Pauline Musset is a policy analyst at the Skills beyond School Division at the OECD Directorate for Education and Skills. She leads the OECD Reviews of Post-Secondary Vocational Education and Training project, and the Skills Beyond School project. She has worked in several countries, including Austria, England (UK) and Peru. Pauline has also worked on the OECD Adult Learning and Skills project, which draws on the results of the Survey of Adult Skills and looks at the challenges countries face in improving basic skills. Before joining the Skills beyond School team, she worked on the OECD review, *Overcoming School Failure: Policies that Work*, and is one of the co-authors of the 2012 publication, *Equity and Quality in Education: Supporting Disadvantaged Schools and Students*. She holds a dual Master's degree in International Economics and Political Sciences from Sciences Po in Paris.

Diana Toledo Figueroa is a policy analyst at the Policy Advice and Implementation Division at the OECD Directorate for Education and Skills. Diana is the project leader of this review of national policies for education in Chile and of the Education Policy Outlook project. She has also led other policy advice and knowledge mobilisation initiatives. Since 2007, she has collaborated as well as co-author of different OECD projects on policy implementation (Improving Schools), policy advice (Country Reviews), indicators (PISA, Education at a Glance and TALIS), research (The Teacher Knowledge Survey), and thematic analysis (Reviews of Evaluation and Assessment in Education). She previously did work with the International Council of Museums (ICOM) and the International Social Science Council (ISSC) at UNESCO House. A Mexican and French national, Diana holds a PhD in Development Socio-Economics from EHESS in France.

Richard Yelland served as head of the Policy Advice and Implementation Division (PAI) at the OECD Directorate for Education and Skills until July 2016. Drawing on data, evidence and analysis developed by the Directorate for Education and Skills' teams of statisticians and analysts, PAI co-ordinates the provision of advice on education policy to OECD members and other countries, both collectively and individually, across all sectors of education. Prior to joining the OECD in 1986, Richard worked in the United Kingdom Department for Education and Science. During his 30 years at OECD, he led work on education infrastructure and higher education management, and took part in a wide range of evaluations of education policy at national, regional and sectoral levels.

Juliana Zapata is a research assistant at the Sciences Po Laboratory for Interdisciplinary Evaluation of Public Policies (LIEPP). In addition, she currently teaches at Sciences Po. Juliana worked at the OECD Directorate for Education and Skills until 2016. During that time, she collaborated on the first stage of this review *Education in Chile*, as well as *Education in Colombia* and *Education of Costa Rica*, both part of the series Reviews of National Policies for Education. Since joining the OECD in 2010, Juliana worked on a range of education policy issues across OECD countries, and participated in the Education Policy Outlook series and the Improving Schools projects of Iceland and Wales. Previously, Juliana worked as a primary school teacher in both New York City and Paris. She holds a Master's of Public Affairs from Sciences Po in Paris, a Master's in Urban Education from Mercy College in the United States and a BA in International Affairs from Tufts University in the United States.

International Experts

Lauritz B. Holm-Nielsen is the director of the Sino-Danish Centre in Beijing, President of Euroscience in Strasbourg, chairman of the Danish Nature Fund and a member of the Board of Gothenburg University. Previously, Lauritz was Rector for Aarhus University (2005-13). He worked abroad for 18 years, in positions that included Lead Specialist at The World Bank (1993-2005) and professor at the Universidad Católica del Ecuador, Quito (1979-81). He has been member of the Prime Minister's Growth Forum, member of the Africa Commission, Vice Chairman of the Research Commission, Vice President of the European University Association, Chairman of the Nordic University Association, Rector of the Research Academy, Chairman of the Science Research Council and the Danish Council for Development Research. He is Commander of Dannebrog, and is Gran Oficial del Orden Gabriela Mistral, Chile. Lauritz has a degree in botany from Aarhus University.

Santiago Rincón-Gallardo is chief research officer at Michael Fullan's international consulting team. He conducts research and advises leaders and educators in North America and Latin America to improve teaching and learning across entire educational systems. He has led, studied and consulted two movements that turned thousands of public rural schools into learning communities in Mexico and Colombia, dramatically improving student outcomes. Santiago has published his work on school and system improvement in journals that include the *Harvard Educational Review*, the *Journal of Educational Change*, the *Journal of Professional Capital and Community*, *Educational Policy Analysis Archives* and *Revista DIDAC*, as well as in four books in Spanish. He holds an EdD in Education Policy, Leadership and Instructional Practice from Harvard University, and completed post-doctoral studies as a Banting Postdoctoral Fellow at the Ontario Institute for Studies in Education at the University of Toronto.

Shelagh Whittleston is the European Representative for Queensland University of Technology (QUT), where she is responsible for QUT's strategic engagement with key partners in Germany, the United Kingdom and France. Prior to joining QUT in 2015, Shelagh was the Australian Government Department of Education representative, and worked with the European Commission, the OECD and UNESCO on education and skills. Shelagh has also held a number of senior positions in the Australian Federal Department of Education across three education sectors: schools, higher education and vocational education and skills. Shelagh was responsible for the establishment of the Australian Institute for Teaching and School Leadership (AITSL), and became the Deputy Chief Executive Officer of AITSL, contributing to strategic leadership and management. She was also responsible for the development of the AITSL professional standards for school leaders. Shelagh holds an honours degree and graduate diploma from Flinders University, and a graduate diploma in public policy from the Australian National University.

Jonathan Williams is an external consultant with the Policy Advice and Implementation Division (PAI) of the OECD Directorate for Education and Skills. With PAI, Jonathan has completed a Review of Public Policies for Institutional Collaboration and Consolidation in Higher Education on behalf of the Government of Finland, and contributed to an ongoing higher education policy review for the Government of Portugal. Jonathan has also worked in higher education policy in Canada, as a Policy Analyst with Higher Education Strategy Associates and as the Executive Director of a regional student advocacy organisation. Jonathan has a Master's in Public Policy from the Harvard Kennedy School of Government.

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