Reviews of National Policies for Education

Education for a Bright Future in Greece

OECD

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BETTER POLICIES FOR BETTER LIVES

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Foreword

Countries across the OECD and beyond are implementing reforms to build education systems that combine excellence with equity. They are aiming to go beyond traditional skills and to help students develop a new set of skills for a more challenging, digital and multicultural world. Today, education systems should focus on nurturing new values, self-awareness, sensitivity and a better understanding of the need to build a more human world. They should also empower students with new competencies to be able to tackle change, to develop and use new technologies, to take on jobs that may not even exist at present and to thrive in a highly interconnected world. At the same time, it is crucial to focus on the development of social, emotional and critical thinking, team work, openness, empathy, tolerance and intercultural understanding in order to build democratic and respectful societies. These are some of the complex challenges faced by many countries and by Greece in particular.

This is a foundational moment for Greece. Emerging from a severe economic and social crisis that has greatly affected its economy, society and education system, it has engaged in a number of important reforms to re-establish the conditions for its education system to thrive. In this context, the OECD was requested by the Government of Greece to pursue an Education Review with the aim of identifying key challenges in the education system and putting forward recommendations to effectively tackle them.

OECD analysis recognises that there are several encouraging factors underpinning the Greek education system today. Education is a priority in Greece. Powered by a qualified and well-engaged teacher workforce, educational attainment rates are high in upper secondary and tertiary education, and students are highly motivated to study in schools and value their teachers. Building on these strengths, Greece has recently taken a range of actions towards educational improvement, with initiatives such as all-day schools, the new database of school indicators, and the introduction of school self-evaluation mechanisms. There is also a clear national commitment to achieving greater equity in educational provision and student outcomes.

Despite these positive factors, significant challenges persist. Results from comparative data such as the OECD Programme for International Students Assessment (PISA), show that the performance of 15-year-old students in reading, mathematics and science has not been improving and remains below the OECD average. The basic skills of adults in Greece are also lower than average, as measured in the Survey of Adult Skills (from the OECD Programme for International Assessment of Adult Competencies (PIAAC)). Other more structural challenges include a highly centralised system, a lack of comparable educational funding data and a lack of consensus on the best approach to manage the system's way out from the constraints imposed by the economic crisis.

In addition, the economic and social conditions remain difficult. Public educational expenditure has not increased during the years of the crisis, and low resourced schools have up to 14% of teachers with temporary contracts, an increasingly diverse student

body, including high levels of child poverty and a larger proportion of migrant and refugee students.

Education for a Bright Future in Greece provides an in-depth analysis of the context and the underlying policy issues. The aim is to help the Greek government address some of the key questions that need to be answered to strengthen the education system. For example:

- How can the governance and funding of the education system be more effective? How can "school units" become schools with more professional autonomy and support? How can the current appointment of temporary teachers be solved in order to ensure stability in schools?

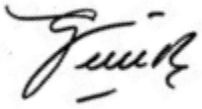
- How can Greek students be ensured a high quality public education and not necessarily need to attend shadow education? How can refugees and migrants be better integrated into schools?

- How can schools, the work of their teachers and school leaders be best supported in terms of workforce management and professional learning opportunities? What type of evaluation and assessment framework can underpin a nascent accountability culture?

- What are the pre-conditions for tertiary education to be more effective? How to provide greater autonomy to tertiary education institutions while having accountability for outcomes?

To address some of these and other questions, the study highlights the importance of, providing greater autonomy and stronger roles to school principals, as well as to local and regional authorities; maintaining a strong focus on educators' professionalism, including the recruitment, development and retention of excellent teachers and leaders; developing a shared vision with the tertiary education sector to further support its development; communicating clear education policy goals, and building public perceptions and support for these goals; and continuing to build the institutions and infrastructure which support educational improvement, among other actions.

I hope that this analysis and recommendations, can contribute towards enriching the debate to support Greece in the implementation of its education reforms and help build a stronger, more inclusive and more effective education system that can contribute to a brighter future in Greece.



Gabriela Ramos

Special Counsellor to the OECD Secretary-General

OECD Chief of Staff and Sherpa

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The report has a special background: it is part of a request by the Government of Greece and the European Commission Structural Reform Support Service (SRSS) that aligns to the Memorandum of Understanding concluded between Greece and the European Stability Mechanism (ESM) in August 2015. It also forms part of the work that the OECD has undertaken under the OECD-Greece Joint Steering Committee, established in March 2015.

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Executive summary

Greek society places a strong value on education. Its importance for personal, social and economic development – and for addressing challenges of the current crisis – is well understood. This has greatly affected the education system at different levels: it has created pressures on government educational spending, in educational staff hiring; in job prospects, leading to the emigration of tertiary graduates; while increases in immigration and refugees are also requiring educational responses.

In this challenging environment, average student performance in Greece has declined, as measured in by the OECDs Programme for International Student Assessment (PISA) – to below OECD average levels. In 2015, almost one out of three students in Greece did not reach the PISA baseline level of performance in science, with similar proportions of low performers in numeracy and literacy. Other indicators show more positive trends and demonstrate the capacity of the education system to perform in terms of equity, attainment of tertiary education, and high student motivation.

Greece has recognised the need for improvement and has engaged in a series of reforms that tackle some of their key education policy challenges. A three-year education plan (2017) outlined guidelines and proposals in a range of priority areas for 2017-19. Actions have been taken on a number of fronts and have involved consultation processes among key education stakeholders. Some of the initiatives undertaken, covered in this report, include the founding of all-day primary schools, the modernisation of school curricula, the proposal to develop a new support scheme for primary and secondary education, the development of school self-assessment and school leadership appraisal, a higher education governance reform and the further rationalization of graduate studies.

To continue its reform path, it is important for the Greek education system to focus its efforts on strengthening the delivery of education in its schools and universities. High quality education delivery can ensure that Greek students have the knowledge and skills needed to contribute to improve growth and social development and boost well-being in Greece in the future.

Policy issues

Greece is now slowly emerging from a decade of severe economic crisis. Building on the current education reform agenda, a future orientation can focus on placing the students more clearly at the centre of education policy and on deciding what kind of future Greece wants for its children. To achieve this, it is important to identify and respond to the core policy issues at stake.

Governance and funding

Greek education, like all other sectors in the public sphere, is embedded in a large administrative pyramidal structure; schools are units in a larger system. "School units" have fragmented and diffused responsibilities and finances, low levels of autonomy and high levels of prescription. A lack of comparable educational funding data does not allow to make clear policy choices about the potential underfunding of the system, or to unlock the challenges raised by the short-term recruitment and allocation of substitute teachers, which can lead to inefficiencies.

A focus on student learning

There is a national commitment to achieving greater equity in educational provision as well as to student outcomes. Current challenges are related to how the system targets inequities, including through Education Priority Zones (ZEP), all-day schools and support for refugee education. All-day schools are specifically targeted towards helping many students and their families by creating an environment conducive for additional school help and other activities.

More generally, the current curricular and upper secondary education reforms provide an opportunity to define and enhance learning for all students. The high stakes associated with the Panhellenic university entrance exam will need to be addressed. Widespread shadow education attendance undermines the role of the schools and the proper educational benefits as opposed to learning techniques to pass exams, which is the exclusive role of the shadow education. Furthermore, the increasing dependence of primary and secondary education on substitute teachers is creating a number of serious problems on the educational system.

An emerging school improvement culture

With a qualified and well-engaged teacher workforce in Greece, there are opportunities to promote school improvement, including by: recruiting high-quality teachers and school principals, reviewing working conditions, and the allocation of teachers to schools, and continuing support for teacher professionalisation. An incipient culture of accountability and the use of data to support improvement is reflected in initiatives such as the new MySchool database of school indicators, the introduction of school self-evaluation, of school principal appraisal, and establishment of the Authority for Quality Assurance in Primary and Secondary Education (ADIPPDE).

High value placed on tertiary education

Greek society places a high value on higher education. Yet, even before the economic crisis, graduate employment in Greece was still lower than in most European countries. The Greek tertiary education system has been undergoing sweeping changes in recent years. An incipient accountability system is gathering traction. There is increasing consensus on the best approach for the system to manage its way out of the constraints invoked by the economic crisis. The highly detailed and technical character of the Greek legislative style, allied with frequent legislative changes, has led to highly complex governance and funding arrangements in the sector.

Recommendations

Analyses of high-performing education systems' policies and practices show that there are some core principles that can guide governments: having clear goals, with public understanding and support; maintaining a strong focus on educators' professionalism, including new recruitments and development of excellent teachers and leaders in the system; building institutions and infrastructure to support educational improvement: ensuring reporting systems provide objective information on outcomes for accountability and improvement; and maintaining a focus on the work of individual schools, where teaching and learning take place. Improvements across an entire education system can come with strong, consistent and sustained political support and leadership.

Greece has introduced a number of reforms targeting many of the relevant policy areas. The OECD suggests that Greece should continue to focus on improving the quality and equity of its education system and on student learning and proposes a series of policy recommendations:

Align governance and funding to be more school centred

Streamlining and improving the governance and financing of Greek education are necessary for the education system and its schools to function well. For individual schools to thrive, governance and funding need to be aligned. This requires developing an overall future-oriented vision of education for Greece, providing financial clarity on resources available, developing and supporting school founding organs, giving schools an identity and capacities of their own, and creating a permanent teacher workforce in schools which can contribute to develop strong educational institutions delivering high-quality education for their students.

Support learning for all students

Greece's commitment to equity can be balanced by raising efforts to maintain and improve equity and quality across the board while focusing on the more disadvantaged. More concretely, ensuring that all students reach higher levels of performance can be achieved by raising expectations, adapting the education system to the future building on the current curricular reform, reducing the impact of the high-stakes Panhellenic examinations and reviewing the impact of shadow education on the public system. At the same time, it is important to continue to focus on targeted interventions for disadvantaged students and schools.

Support school improvement

Greece has a committed teaching body which is accomplishing average results. An environment where school improvement can take place is needed. This includes: improving workforce management in terms of allocating, supporting individual and collective professional development of teachers and principals, and developing capacity and a strategy for evaluation and assessment for accountability and improvement of schools. In addition, a focus on developing effective tools and processes for school evaluation and for appraisal of educators, as well as valid and reliable student assessments will be necessary pre-conditions for success.

Establish the pre-conditions for tertiary education to be effective

With high participation in higher education, but relatively lower proficiency in literacy, numeracy and problem solving among Greek tertiary graduates in comparison to countries participating in an international survey(PIAAC), it is important to continue investing in the pre-conditions for the tertiary education system to function effectively and with high quality and performance.

One aspect that may be targeted is to focus further on improving the governance of the tertiary education system as a whole and of its institutions. A progressive approach to providing greater autonomy to institutions, improving the alignment between the funding system and the government's strategy for higher education, and counterbalancing increased autonomy with greater accountability for outcomes is needed.

Chapter 1. The Greek education system in context

This chapter describes the background under which this review was undertaken and the methodology employed. It sets out the economic, social, and demographic factors currently influencing education in Greece: an ageing and increasingly diverse population (including unprecedented numbers of refugees); the impact of the economic crisis; and the often political nature of education policymaking in the country. The overview of the education system of Greece that follows describes the current state of schools and tertiary institutions, teacher policy, governance, student performance, regional issues affecting the delivery of education, and the ongoing influence of shadow education.

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1.1. Introduction and background to the report

1.1.1. Investing in education for a brighter future in Greece

Over the past decade, Greece has faced a sustained recession that has greatly affected its economy and society. Between 2009 and 2015, GDP fell annually by an average of nearly 4% – a fall of around 26% in real terms over the period (OECD, 2017[1]) (OECD, 2016[2]). National debt was 183% of GDP in 2016, second only to Japan among OECD countries, and well above the OECD average of 114%. The level of debt has caused very significant pressure on government spending, leading to severe cuts affecting most aspects of government activity, including education (OECD, 2016[2]).

This challenging context is affecting many dimensions of Greek lives and the education system. The decline in GDP has meant that material conditions for Greek households have also declined significantly: both disposable income and average earnings are now far below the OECD average. The long-term unemployment rate, currently at 19.5%, rose 15.6 percentage points between 2009 and 2014, the highest in the OECD, and the level of labour market insecurity is among the highest in the OECD. Youth unemployment and the proportion of young people neither employed nor in education or training (NEETS) have increased, with challenging labour market opportunities for young people (OECD, 2016[3]). Poverty levels have risen, especially for the unemployed and the self-employed.

This context has taken a toll on the education system. Over the past decade, public spending in education declined by 36% (in nominal terms), with cuts affecting teachers, especially wages and hiring (OECD, 2017[4]). A recruitment freeze of public civil servants has resulted in the hiring of new teachers through short-term contracts, a situation that is having a negative impact on the quality of schools and the education system as a whole.

At the same time, a refugee crisis during 2015-17 resulted in at least 12 000 school-age children joining the education system, adding challenges to a system already struggling with resource limits. While many refugees intended to transit to other European countries, a number of them have begun to leave their refugee camps for more permanent accommodation in Greece, and their children are being integrated into local schools.

In this challenging environment, average student performance in Greece has declined in science and reading, as measured in OECD Programme for International Student Assessment (PISA), to below OECD average levels. In this comparative assessment, in 2015, nearly one in three students in Greece did not reach the baseline level of performance in science, with similar proportions in mathematics and reading. At the same time, fewer than seven in ten 15-year-old students report high levels of life satisfaction and well-being, which is lower than the OECD average (OECD, 2016[5]; OECD, 2017[6]).

Other comparative indicators show more positive trends and demonstrate the capacity of the education system to perform:

- The Greek education system stands around the OECD average in equity, measured as the impact of students' socio-economic background on their educational performance, as measured by PISA (OECD, 2016[7]).
- Greek 15-year-old students are motivated and have a strong sense of school belonging, higher than the OECD average (OECD, 2017[6]).
- Greece has among the lowest dropout rates across European Union countries. At 6.2%, the early school leaving rate was below the EU-28 average of 10.7% in 2015 (Eurostat, 2017[8]).

- Greece has improved the educational attainment of 25-34 year-olds. This has been especially high in tertiary education, moving from 31% of 25-34 year-olds having completed tertiary education in 2010 to 41% in 2016, situated around the OECD and EU-22 average (OECD, 2017[4]).

In current conditions, it is important for the Greek education system to focus its efforts on strengthening the delivery of education in its schools and tertiary education institutions. High-quality education delivery can ensure that Greek students have the knowledge and skills needed to contribute to improve growth and social development and boost well-being in Greece in the future.

Greece has recognised the need for improvement and has engaged in a series of reforms to tackle key policy areas. A wave of reforms has been implemented since 2011. More recently, efforts have been renewed to address ongoing challenges, including the teaching workforce, school decentralisation, equity and tertiary education.

Many of these reforms thus focus on educational improvement, quality and equity, and the governance of schools and education institutions and resources. It is important to review the specific issues and challenges that underpin the need for reform so they can contribute to transition towards a 21st century education system that supports growth and well-being in Greece.

The Ministry has engaged in consultations with different stakeholders to develop recommendations for progress in education. A three-year education plan was adopted in 2017, with guidelines and proposals in a range of priority areas for 2017-19. These include targeted measures to improve teacher quality, school leadership and school self-evaluation, updates to the curriculum, all-day school provision, and actions targeted to the different levels of education (early childhood education, primary, secondary education, and tertiary education). The three-year plan also highlights the need for education policies to take into account the geographical specificities of Greece, including islands, isolated mountainous areas, and sparsely populated villages across the country.

Within this context, the OECD was invited to conduct an analysis of the education system and to deliver recommendations on selected policy areas that are part of its three-year plan, and also to cover education policy more broadly. The OECD review aims to provide a broad perspective on a series of issues that can contribute to raise the quality of education in Greece:

- developing effective governance: decentralisation, autonomy and funding
- achieving efficiency, equity and quality of the education system
- targeting school improvement: teacher professionalism, evaluation and assessment
- developing the conditions for quality, governance and funding in tertiary education.

In these areas, the OECD has been asked to draw upon lessons from research and best practice and to highlight policy options that can guide and enhance current Greek reform efforts to improve its education system and student performance.

This report presents an analysis and policy options from the OECD Education Policy Review of Greece, bringing an international perspective to this work. It explores the international evidence on the impact of different policy interventions which aim to support student achievement and well-being. It also describes how different countries have approached these issues – providing a range of “lessons learned” – and

recommendations as to how their experiences might inform to Greece's own path forward. Each chapter also suggests a long-term strategy for introducing changes.

More concretely, the report suggests that Greece is at a crossroads, following a hard crisis which has left the country in a challenging state. Education is a priority in Greece, and building on the progress already made, more efficient investments in schools, teacher and leaders and in universities with the aim of improving student outcomes for all, can contribute to encouraging a bright future for Greece.

To this end, it is important for Greece to develop the pre-conditions for these investments to be effective. These can be helped by:

- developing an overall vision that is centred on students and the future of Greece
- developing a long-term coherent educational strategy with sequential and strategic approaches that are politically feasible, and taking into consideration resources available and the implementation capacity of the system and the educational profession
- considering broad public consultation or stakeholder engagement to ensure the sustainability of the vision and its implementation
- improving the development and use of educational data, including on school and student outcomes, teacher well-being, educational funding, and the participation of private resources in education, such as in shadow education.

1.1.2. Background and methodology

In spring 2016, the OECD conducted a preliminary assessment of education policy development in Greece. This work resulted in the report *Education Policy in Greece: A Preliminary Assessment* (OECD, 2017[4]), presenting policy options for the development of more autonomy for educational institutions to achieve better student outcomes, strengthening teacher professionalism, and providing institutional support, with accountability and tools to support the education system as whole, including better data. It also made recommendations on ways to improve learning outcomes and to ease students' transition into adult life and the labour market.

Building on this initial assessment, a second phase of the work was agreed between Greece, the European Commission Structural Reform Support Service (SRSS) and the OECD to undertake a full education policy review following the standard OECD country review methodology (Box 1.1), which includes background information provided by the country, quantitative and qualitative analysis developed by the OECD. These are complemented by review visits by an OECD review team to meet with a range of education stakeholders, discuss and understand the context (Annex A). The review is part of OECD's overall efforts to support countries in their education reforms.

This document presents the findings and policy options identified during the review. It builds on desk-based analysis and other sources of information, a partial country background report provided by Greece, selected data from the European Union, EURIDYCE, the Centre for Educational Policy Development of the General Federation of Greek Workers (KANEP/GSEE), OECD Programme for International Student Assessment (PISA) and Programme for the International Assessment of Adult Competencies (PIAAC) data, among other sources. In addition, the OECD review team undertook three review visits: 29 May-1 June 2017, 25-29 September 2017 and 6 December 2017 (see Annex B for a description of meetings held throughout the review). During the review visits, the OECD team had the opportunity to exchange with a

range of education stakeholders at various levels of the education system, including through visits to educational institutions and meetings with policy makers.

Box 1.1. The OECD education policy review process

OECD Reviews of National Policies for Education can cover a wide range of topics and subsectors tailored to the needs of the country. They are based on in-depth analysis of strengths and weaknesses, using various sources of available data, such as PISA, national statistics and research documents. The reviews draw on policy lessons from benchmarking countries and economies, with expert analysis of the key aspects of education policy and practice being investigated.

Reviews include one or more visits to the county by an OECD review team with specific expertise on the topic(s) being investigated (often with one or more international and/or local experts). An OECD Education Policy Review typically takes from eight months to a year, depending on its scope, and consists of six phases: 1) definition of the scope; 2) preparation of a background report by the country; 3) desk review and preliminary visit to the country; 4) main review visit by a team of experts; 5) drafting of the report; and 6) launch of the report.

The methodology aims to provide tailored analysis for effective policy design. 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.

OECD Reviews of National Policies for Education are conducted in OECD member and non-member countries, usually upon request of the country. In addition, countries can now request support in the implementation of their education reforms.

For more information:

- Website: www.oecd.org/edu/policyadvice.htm.
- Brochure: www.oecd.org/edu/OECD-Work-Education-Skills-Policy-Products-Services-for-Countries.pdf.

1.2. Contextual economic, social and demographic factors influencing education

1.2.1. An ageing and more diverse population

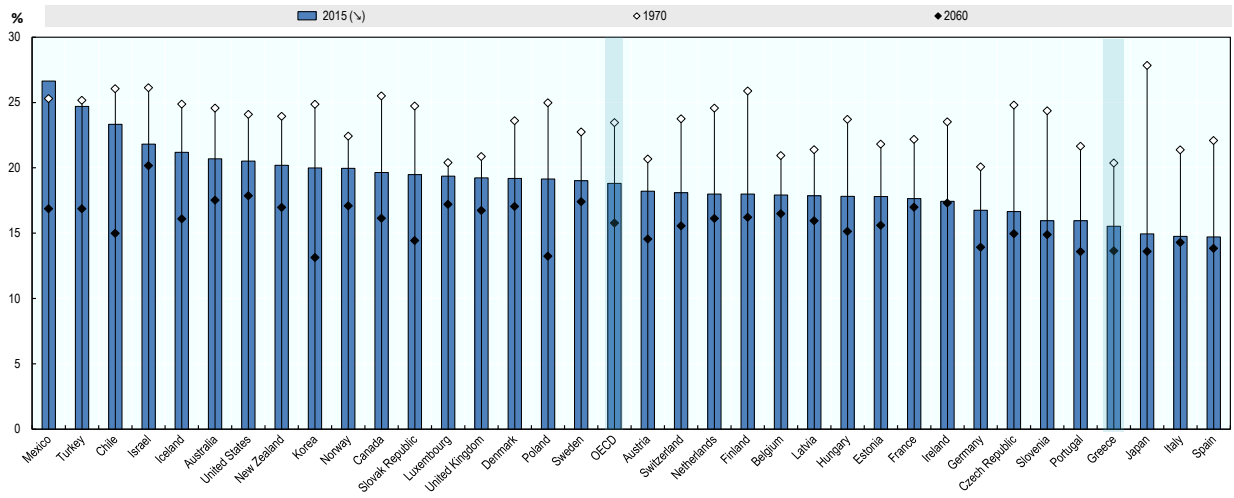
Greece (officially the Third Hellenic Republic) is located at the south-eastern end of continental Europe. The country is bordered by Turkey to the East, and Albania, the Former Yugoslav Republic of Macedonia and Bulgaria to the north. Greece has a unique geography, as it is bordered by sea (the Aegean Sea to the east, the Mediterranean Sea to the south and the Ionian Sea to the west), and encompasses as many as 1 500 islands, with around 227 of them populated. It also is one of the most mountainous countries in Europe (OECD, 2011[9]).

Of the total of 10.9 million Greek citizens in 2014 (Hellenic Statistical Authority, 2014[10]; Eurydice, 2016[11]) more than 76% of the population is living in urban or suburban areas (in 2011), an increase from 72.8% in 2001. This drift to the cities, long observed in Greece, now seems to have reached its peak (Eurydice, 2016[11]).

Over the last two decades, the population has been declining due to ageing and a low birth rate. Greece's fertility rate is 1.3 births per woman – the lowest of the OECD after Korea, below the OECD average of 1.7 and lower than the replacement level of 2.1 (Hellenic Statistical Authority, 2017[12]; OECD, 2017[13]). This has resulted in a decline in the proportion of young people, comprising 14.7% of the total population, among the lowest of OECD countries. Older cohorts of 65 years and over have increased to 20% of the population. There has been a slight compensation in the productive age population - driven by rising levels of immigration (Eurydice, 2016[11]).

Figure 1.1. Decline of the share of youth in total population in most countries

Number of young people (aged 15-29) in total population, percentages, in 1970, 2015 and 2060



Source: OECD (2016[14]), *Society at a Glance 2016: OECD Social Indicators*, http://dx.doi.org/10.1787/9789264261488-en, Fig. 3.15.

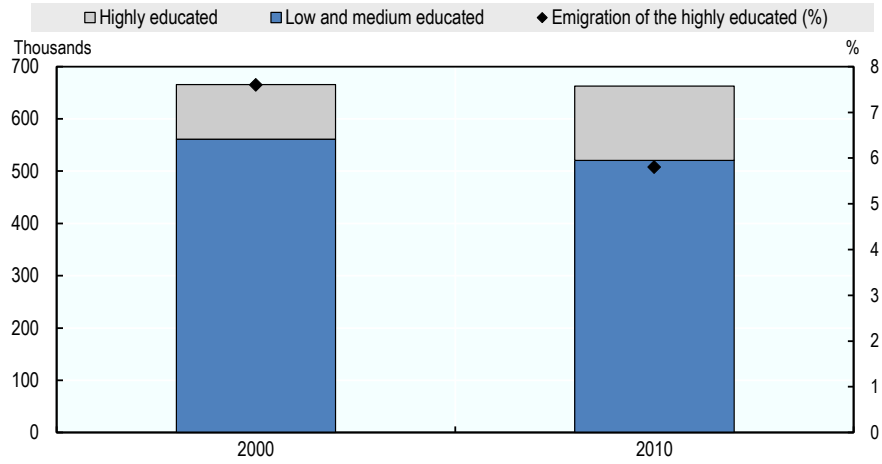
StatLink http://dx.doi.org/10.1787/888933405255

Greece's overall population shrinkage has also been affected by recent waves of emigration, driven by the economic crisis. Between 2008 and 2013 an estimated 427 000 Greeks, including nearly 223 000 young people (aged 25-39) left Greece permanently to seek work in other countries – mostly in Germany, the United Kingdom, and Australia. A further 106 000 were estimated to have left in 2014.

This trend is likely linked to a lack of economic or employment opportunities. A third of those aged 15-24 have indicated that they would move permanently abroad if they had the opportunity to do so (Lazaretou, 2016[15]; OECD, 2017[16]). The current emigrant population consists primarily of young professionals. Three quarters of emigrants were college graduates and one third of them were post-graduates or medical and engineering graduates (Pratsinakis, 2014[17]; OECD, 2017[16]; Labrianidis and Pratsinakis, 2016[18]; Theodoropoulos et al., 2014[19]).

Figure 1.2. A growing Greek emigrant population in OECD countries, 2010

Total Greek emigrant population (aged 15 and over) and share of the population, 2000, 2010



Source: OECD (2015[20]), *Connecting with Emigrants: A Global Profile of Diasporas*, http://dx.doi.org/10.1787/9789264239845-en.

StatLink http://dx.doi.org/10.1787/888933270083

At the same time, Greece has faced increasing immigration. While around 6.2% of the Greek population in 2013 had been born abroad, putting Greece among OECD countries with the smallest foreign-born population, there has been a massive increase in refugees. In 2015 Greece received nearly one million refugees. While many intended to move on to other European countries, around 50 000 applications for asylum (mostly from Syria, Iraq and Pakistan) were made, many with the intention of staying in Greece. Compared with an annual average of just under 9 000 applications for asylum in 2012-14, this represents a 338% increase (OECD, 2017[16]). As of September 2017, nearly 50 000 refugees were in Greece, most of them residing in Refugee Accommodation Sites. Of these, more than 40% were children (UNHCR, 2017[21]).

1.2.2. The impact of the economic crisis

Greece has suffered an economic crisis which has had a marked impact on the education system. Following a deep and prolonged depression, during which real GDP fell by 26% between 2009 and 2016, the economy is projected to start growing again (Gourinchas, Philippou and Vayanos, 2016[22]; OECD, 2016[23]).

Since 2009, material conditions for people in Greece have declined significantly: average household net adjusted disposable income per capita fell by 31.6% and average earnings dropped by 15.6% in 2013. Both now lie far below the OECD average. While the poverty rate has risen to one-third of the population, not all groups have been equally affected: the impact was greater for men than women, for children and young adults (aged 30-44), students and the unemployed. Employment rates have fallen for those with only upper secondary education (European Commission, 2015[24]). While relative poverty also declines sharply with the level of educational attainment, no group, including university graduates, was spared (OECD, 2013[25]).

Wide differences in educational deprivation between children from high and low socio-economic backgrounds have emerged: in 2012, 9.8 per thousand from a low socio-

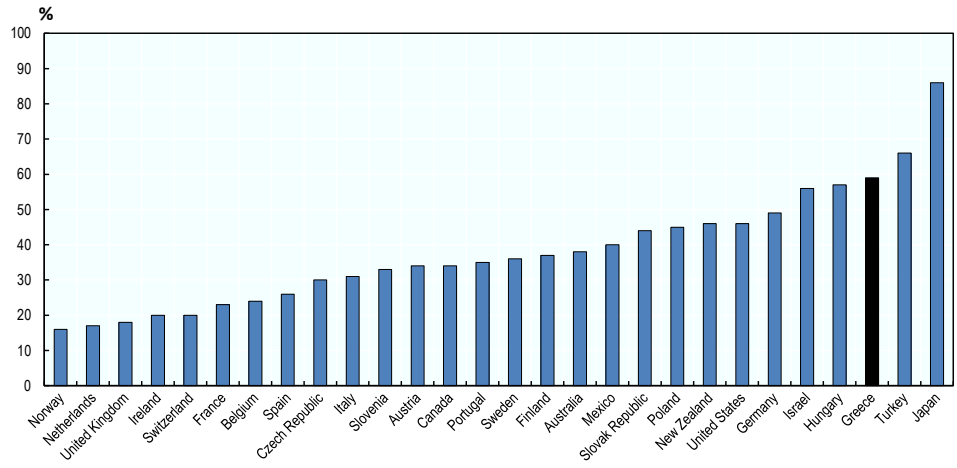
economic background were likely to lack such at-home basics as a desk, a quiet place to study, books for school and a computer for school work, while just 0.9 per thousand from a high socio-economic status were similarly deprived (OECD, 2016[26])

Labour market insecurity in Greece is among the highest in the OECD. The unemployment rate stood at 22.4% in the first quarter of 2017, the highest in the OECD and well in excess of the EU-28 average of 7.9% (OECD, 2017[27]) with youth unemployment standing at 46.6% in March 2017. Tertiary-educated young adults endure the highest rate of unemployment of all OECD countries, at 28% compared to an average of 6.6% and 7.4% across OECD and EU-22 countries (OECD, 2017[28]).

Despite this, a recent survey shows that many Greek firms report that they find it difficult to find candidates with the right skills to fill their current vacancies (Figure 1.3). Firms report that one of the top reasons why they find it hard to fill jobs is the lack of available applicants with the technical competencies required (Manpower Group, 2016[29]).

Figure 1.3. Firms facing skills shortages, 2016

As a percentage of all firms with ten or more employees

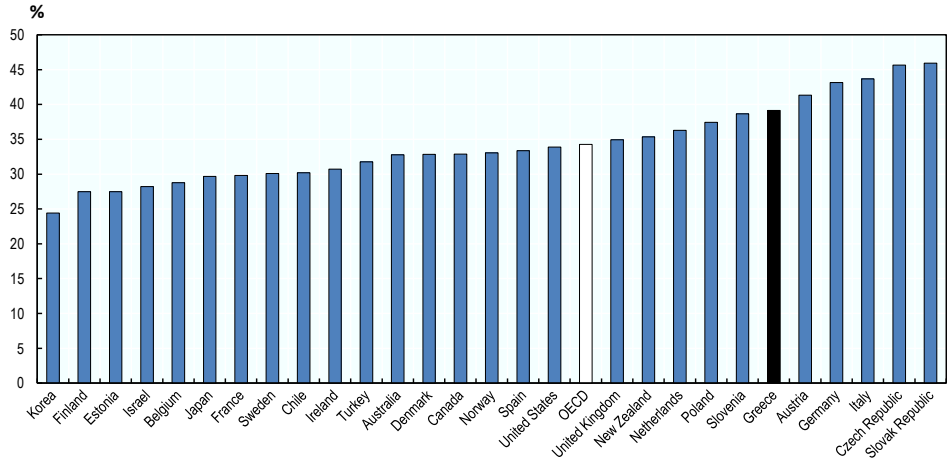


Note: Survey based. Firms are classified as facing a skills shortage if they report having difficulties filling jobs.
Source: Manpower Group, *Talent Shortage Survey*, various years, cited in OECD (2017[30]), *OECD Economic Surveys: New Zealand 2017*, http://dx.doi.org/10.1787/eco_surveys-nzl-2017-en.

New production technologies will play increasingly important roles in determining the availability and nature of work (OECD, 2017[31]). Benedikt Frey and Osborne (2013[32]) have estimated the risk for some occupations in the United States to be automated out of existence in the coming decades. In terms of tasks that could be automated with likely advances in artificial intelligence, one estimate is that nearly 40% of current Greek employment is in occupations at significant (30-70% risk) or high (more than 70%) risk of automation. This is far higher than the OECD average of 34% (Figure 1.4) and represents a long-term challenge for the country. And while such predictions are always prone to fluctuation or change based on disruptive events, other studies confirm the looming risk for Greece, even if there are ongoing disagreements on its likely scale (Arntz, Gregory and Zierahn, 2016[33]; OECD, 2017[31]).

Figure 1.4. Risk of job automation, 2015

Occupations at significant or high risk of automation



Note: Jobs are at high risk (significant risk) of being automated if at least 70% (50-69%) of their tasks are automatable. Data correspond to 2012 for countries participating in the first round of the Survey of Adult Skills: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway, Poland, Slovak Republic, Spain, Sweden, United States and United Kingdom. Data correspond to 2015 for countries participating in the second round of the Survey of Adult Skills: Chile, Greece, Israel, New Zealand, Slovenia and Turkey.
Source: OECD calculations based on OECD (2017[34]), *OECD Survey of Adult Skills (2012, 2015)*, OECD Survey of Adult Skills (database), http://www.oecd.org/skills/piaac/ (accessed on 13 September 2017); M. Arntz et al. (2016[35]), "The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis", *OECD Social, Employment and Migration Working Papers*, No. 189, http://dx.doi.org/10.1787/5jlz9h56dvq7-en.

1.2.3. The political context

The current Greek political landscape has been influenced by the economic crisis, the rise in public debt and decline in public expenditure, as well as the need to respond quickly to the memoranda signed between Greece and the European Commission, and their implementation as monitored by the Commission, and the European Central Bank and the International Monetary Fund as major providers of financial assistance.

The political sphere has a strong influence on education and many other areas of public service. Greece has a long tradition of highly centralised government with a strong commitment to social equity and an egalitarian society, values which are enshrined in the Constitution of Greece (Article 4). The Greek system, through its legislation, seeks to develop the conditions to avoid privilege and differentiation. This is the case in education, where there are efforts to prevent selection among students, teachers, schools or regions on any basis other than “objective criteria” defined at a national level.

The government also plays an important role in the labour market, with almost 20% of total employment in the public sector. While public employees may have higher benefits and employment security than those in the private sector, the proportion of total employment in this sector has been declining recently (OECD, 2017[4]). This is also the case for teachers and other education employees.

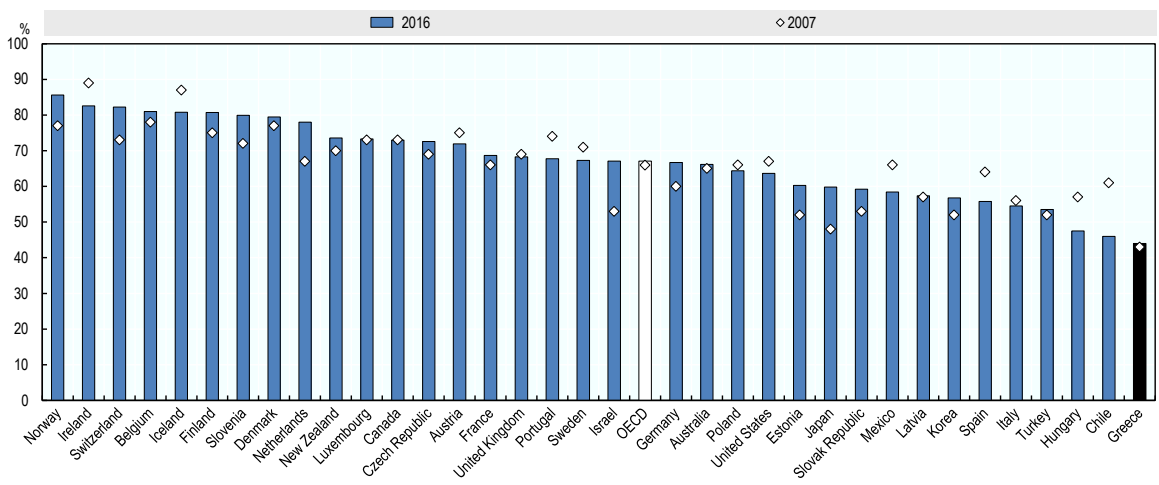
It is important to recognise the impact of the public sector on equity, as highlighted in the OECD Economic Survey for Greece (OECD, 2013[25]). During the pre-crisis period, public employment played a social role, though at the expense of efficiency (OECD,

2009[36]). For a very long period, hiring in the public sector has been driven by a clientelist political culture. The fact that the public sector pay structure often favoured employees from more disadvantaged groups may have induced higher participation among these groups, reducing social exclusion (OECD, 2011[37]).

At the same time, there are other contextual governance issues that shape educational provision. There are concerns of a long-standing culture of clientelism and mistrust of governmental initiatives more generally. Within the education system, educators are wary of any kind of external or internal evaluation of school or teacher performance, lest the results be misused. At the same time, there are concerns about corruption, the misuse of public funds, or public employment for private purposes. This culture of clientelism has long been recognised in Greece and has proved difficult to change, with recent efforts through legislation, according to Greek authorities. This culture may be most visible in the analysis of corruption. A recent Eurobarometer survey asked European Union population about the existence of corruption in their countries, and more than half (52%) of Greeks who responded expressed that it was "very widespread", and 44% "fairly widespread" (European Union, 2017[38]).

While in education the extent of corruption is perceived to be low in terms of individuals and educational institutions, according to both Eurobarometer and national surveys (the most recent of which found that 68% of respondents said they "trusted" public universities and schools (Dawn, 2016[39])) the culture of clientelism can be an issue when developing policy. Nevertheless, overall satisfaction with schools and the education system, already the lowest in the OECD in 2007, at 43%, against an OECD average of 66% remained among the lowest at 44% in 2016, as shown in Figure 1.5 (OECD, 2016[26]; OECD, 2017[16]).

Figure 1.5. Citizen satisfaction with the education system and schools is low, 2016



Note: Data refer to the percentage of "yes" answers to the question: "In the city or area where you live, are you satisfied or dissatisfied with the educational system or the schools?" Data for China are for 2013 rather than 2016.

Sources: Gallup World Poll (database), in OECD (2017[40]), *Government at a Glance*, http://dx.doi.org/10.1787/gov_glance-2017-en.

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Other factors also affect the efficient and sustainable delivery of public services. A recent OECD Public Governance Review of Greece identified a variety of issues in public sector human resources management in terms of ensuring that employees with the right talent and skills are being utilised effectively. The economic and political climate in Greece has highlighted these challenges, which if not addressed, could have an adverse impact on the future quality of education. In particular, the selection, training and promotion procedures of civil servants, including those working in education, have not been updated as necessary to deliver the reforms required for education improvement. The OECD report suggests that the lack of clarity in the human resource strategy and the governments' difficulties in implementing reforms and in modernising systems "limits the ability of management to increase efficiency in service delivery, promote organisational innovation and forward plan" (OECD, 2011[41]).

Recent developments have also had an impact on the public sector more generally. Since the onset of the European sovereign debt crisis, Greece has embarked upon a range of reforms which have affected public sector employment. Since 2011, retiring staff have been replaced at a rate of 20% (OECD, 2011[41]), while retirements for many have been delayed. Devolution of authority and general restructuring have also had an impact on employment.

1.3. Education in Greece: Overview, governance, outcomes

1.3.1. An overview of the Greek education system

Education in Greece is enshrined in Article 16, Section 4 of the Greek Constitution, which sets out that:

> *Education constitutes a basic mission for the State and shall aim at the moral, intellectual, professional and physical training of Greeks, the development of national and religious consciousness and at their formation as free and responsible citizens.*

The same article also guarantees that "Art and science, research and teaching shall be free and their development and promotion shall be an obligation of the State" (Hellenic Republic, 2008[42]).

The Greek education system is under the central responsibility and supervision of the Ministry of Education, Research and Religious Affairs (MofERRA). Early childhood education usually starts at age 4 (although with low enrolment rates) and pre-primary, primary and lower secondary education is, since March 2018, now compulsory between the ages of 4 and 14/15. Primary education (*Demotiko*) lasts six years, and lower secondary education (*Gymnasium*) lasts three years. Student tracking starts at the end of lower secondary education, when 15-year-old students choose between vocational or academic tracks. Upper secondary education – unified upper secondary school (*Lyceum*) and vocational upper secondary school (*Epaggelmatiko Lyckeio, EPAL*) – lasts three years. Enrolment in vocational programmes is relatively low: in 2015, 14% of 15-19 year-olds were enrolled in such programmes, and only 2% in apprenticeships. Increasing enrolment in vocational programmes of all types is a major policy priority for the current government (OECD, 2017[28]; European Commission, 2015[24]). Students who want to go into tertiary education take the Panhellenic examination which gives access into higher education institutions (HEIs), which include 22 universities as well as 14 Technological Education Institutes (TEIs) across Greece. Universities deliver a general academic education, while TEIs have a mission to conduct higher education at bachelor and

postgraduate level in science, technology and arts, but with an applied and vocational focus (European University Association, 2014[43]).

In 2015 there were around 13 000 pre-primary to secondary schools in Greece, with around 1 368 000 students and about 135 000 teachers in public education (see Table 1.1).

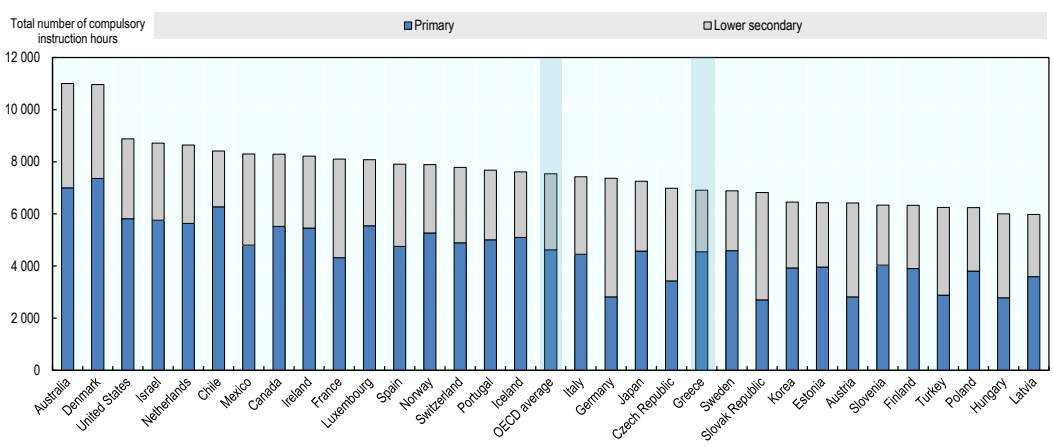
Table 1.1. Number of schools, students and permanent teachers in Greece, 2015

School types	Number of schools	Number of students	Number of permanent teachers
Kindergarten (all kinds) [*Nipiagogeio*]	5 224	137 585	12 432
Primary school (all kinds) [*Dimotiko Scholeio*]	4 566	604 497	59 310
Secondary school (all kinds and levels)	3 437	617 280	69 181
Lower secondary school (all kinds) [*Gymnasio*]	1 747	296 865	32 207
Upper secondary vocational school [*Epaggelmatiko Lykeio* - EPAL]	399	86 038	11 634
Upper secondary general school [*Geniko Lykeio* - GEL]	1 059	230 239	20 266
Other	232	3 004	803

Source: Institute of Educational Policy (2016[44]), "Experts' Reports", Report prepared by the Institute of Educational Policy and academic experts for the OECD review team, March 2016.

In these schools, students in Greece are currently expected to receive a total of around 7 000 hours of instruction during their mandatory primary and lower secondary education. This is slightly less than the OECD average of 7 540 hours (Figure 1.6). Recent efforts have been to lengthen the school day, moving towards provision of all-day schools (see Chapter 3). According to the MofERRA sources, primary and lower secondary non-compulsory curriculum hours have increased and since 2016/17, attendance of students in lower secondary education has increased by three additional weeks in comparison to 2015/16.

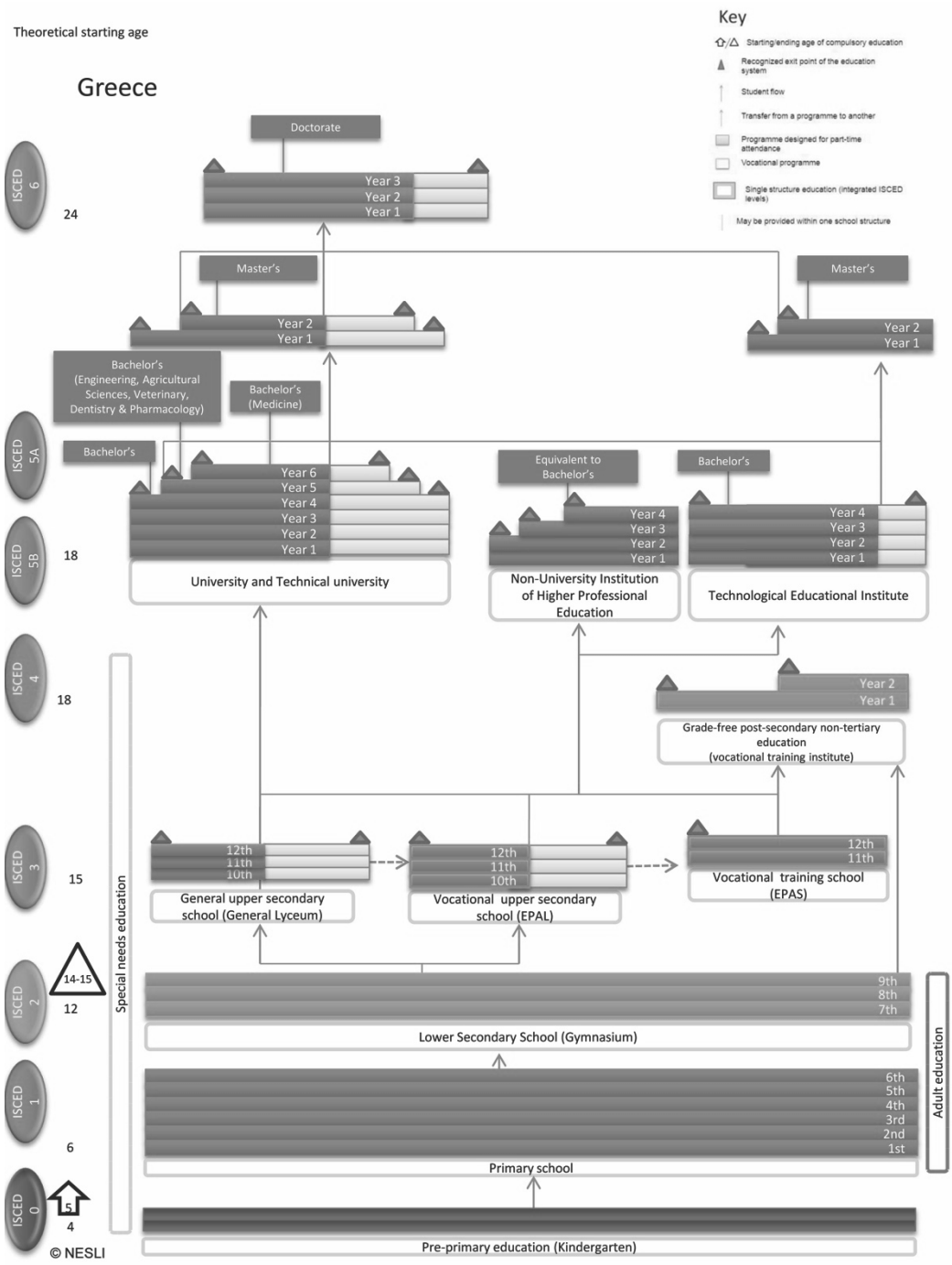
Figure 1.6. Mandatory instruction time in general education, 2017



Source: OECD (2017[29]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en

StatLink http://dx.doi.org/10.1787/888933558629

Figure 1.7. An overview of pathways through the Greek education system by level, 2016



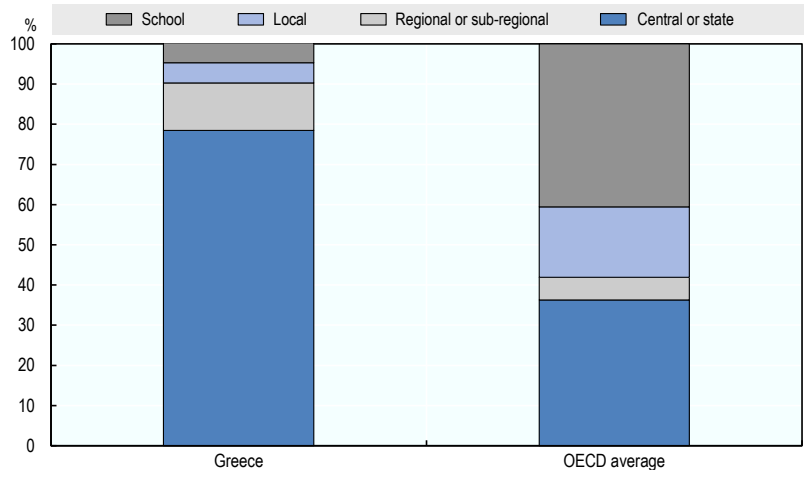
Source: OECD (2016[47]), "Diagram of the education system: Greece", OECD Education GPS, http://gpseducation.oecd.org/CountryProfile?primaryCountry=GRC.

1.3.2. Education governance and funding

The education system in Greece is highly centralised: the main responsibilities in all education sectors are with the national Ministry of Education, Research and Religious Affairs. A 1982 OECD review described the system as "highly centralised", and governed by "Parliamentary laws and executive acts", managed "by a powerful centralised bureaucracy" (OECD, 1982[48]). The system remains centralised, with low levels of responsibility at the regional and local level, as shown in Figure 1.8. According to PISA data, autonomy over curriculum and assessment in Greek schools is below the OECD average. There is also a below-average level of autonomy for allocation of resources such as hiring and dismissal of teachers.

Figure 1.8. Education decisions in lower secondary education, 2011

Percentage of decisions taken in public lower secondary schools at each level of government



Source: OECD (2012[49]), *Education at a Glance 2012: OECD Indicators*, http://dx.doi.org/10.1787/eag-2012-en.

StatLink http://dx.doi.org/10.1787/888932663872

Public spending on education in Greece has been deeply affected by the economic crisis. While the total public spending on education increased by more than 80% between 2000 and 2008, it has decreased sharply since then (OECD, 2017[50]). The latest available figures for 2014 general government expenditure in education was 4.4% of GDP, lower than either the EU-28 average (4.9%) or the OECD average (5.2%) (European Commission, 2016[51]; OECD, 2017[52]). The 2017 Parliament State Budget Discussion estimates that 2.9% of GDP will be spent on education in 2017 (Roussakis, 2017[53]). Recent data reported from the Greek Statistical Authority suggests public education expenditure of 4.1% of GDP and private expenditure to be at 1.6% of GDP in 2016. Basic public expenditure data in education and administrative data on numbers of students and teachers are often unreliable and internally inconsistent. The OECD review team found limited coherence across the different levels of the system and a lack of consistency between the data gathered by the Ministry of Education, Research and Religious Affairs (MofERRA) and the Hellenic Statistical Authority (ELSTAT). In comparing what was budgeted in 2013 and actual expenditure, the KANEP/GSEE found a 1.3% of GDP (EUR 2.37 million) discrepancy (Centre for Education Policy Development, 2016[54]).

In spite of the impact the economic crisis has had on household income, many families spend significant amounts on *frontistirio* fees (i.e. after-school tutoring, also referred to as "shadow education") to support their children's education but mostly to improve their chances of securing a place at a highly-ranked university. Participation in after-school tutoring of 15-year-olds is the highest among OECD countries (OECD, 2013[55]). Discussion of the impact of household expenditure on shadow education follows in Chapter 2 and 3.

Public schools receive funding from the state budget via several ministries and for some expenditures, through intermediary authorities. The MofERRA provides funds through block grants to the Directorates for Education (for school unit staff costs, as these bodies allocate teaching and non-teaching staff to schools), as well as to the state-run infrastructure agencies K.Y.S.A. (for equipment), and DIOFANTOS (for the provision of text books). Following the administrative reform of education, through the "Kallikrates" programme, pedagogical guidance of education has been transferred to these regional Directorates of Education. Each Directorate formulates, among other responsibilities, scientific and pedagogical guidance for education in the region. The Directorates supervise the implementation of national education policy, while tailoring policy to match the specific regional requirements and connecting regional educational services with the central education (Institute of Educational Policy, 2016[44]). In addition, the MoFERRA and the Ministry of Interior both provide funds to municipal level school committees for maintenance of school buildings. The Ministry of Interior provides additional funds to school boards for operational goods and services. The Ministry of Infrastructure, Transport and Networks provides capital funding to schools through the K.Y.S.A., which is only to be used for repairs, maintenance, and land and building acquisitions. Municipalities estimate school unit needs based on the number of students and staff and other input-based criteria (such as working in inaccessible, remote or problematic areas, as well as distances between schools).

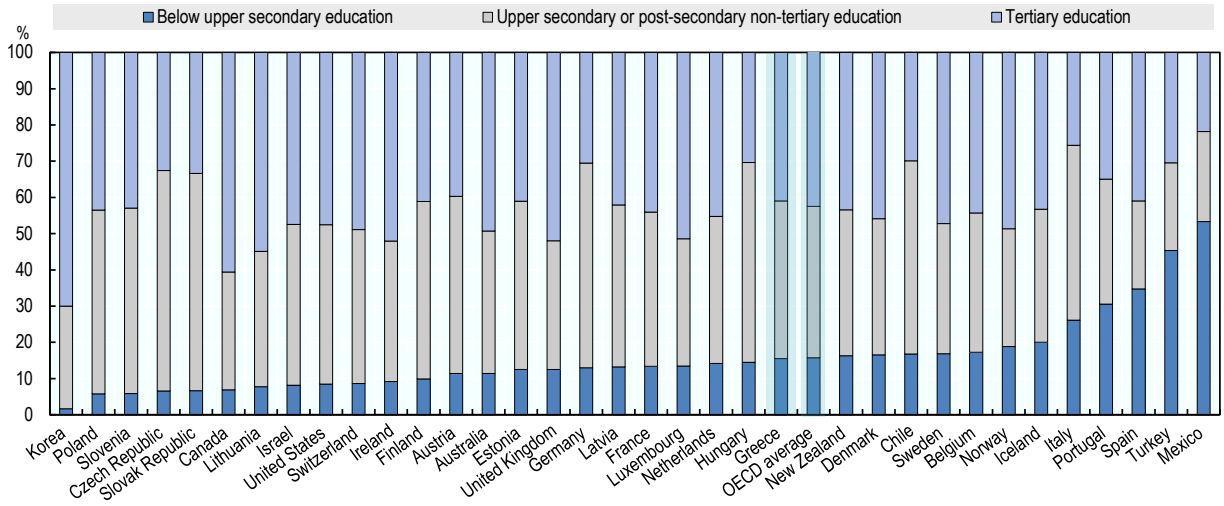
Public tertiary education institutions (TEIs) are centrally financed by the state budget and the Public Investments Programme on Higher Education. The budget for TEIs is based on a four-year development plan. TEIs are entitled to generate income, but by constitutional law, they cannot charge tuition fees to first-cycle full-time students. In the second-cycle, students may pay fees. Student support mechanisms are available in the form of scholarships, merit-based grants, loans and family allowances. Around 1% of students enrolled in tertiary education receive a scholarship for undergraduate studies. A discussion of the small private tertiary education sector is provided in Chapter 5.

1.3.3. Student performance: From completion towards higher equity with quality

It is worth recalling how far Greece has progressed: the 50-year-olds of today were born in and started school at the end of the 1960s, when altogether one third of the Greek population had no schooling, when only six years of primary education was mandatory, and when any major changes to the system established in 1927 were still a decade away (Garrouste, 2010[56]). Completion rates overall have risen, with an increase in the proportion of adults who have completed upper secondary (from 32% to 44%) and higher education (from 20% of those aged 55-64 to 40% for those aged 25-34) (OECD, 2016[57]).

Figure 1.9. Educational attainment of 25-34 year-olds, 2016

Proportion of 25-34 year-olds per level of education



Source: OECD (2017[28]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

StatLink http://dx.doi.org/10.1787/888933556957

The participation rate in early childhood education and care (ECEC) is low in relation to the OECD average, but has been increasing. Participation of two-year-old children in 2014 was 29%, five percentage points below the OECD average, and 44% for those aged three, when the OECD average was 71% (OECD, 2017[4]) the participation of four-year-olds up until to compulsory school age was 79.6% in 2015, in comparison to an EU average of 94.8% (Eurostat, 2018[58]). PISA analyses reveal that students who had attended pre-primary education for more than one year outperformed the rest, in many countries by more than one school year, even when taking account of the student's socio-economic background (OECD, 2013[59]). In Greece, students who were low performers in mathematics at age 15 were far more likely to have not attended pre-primary school.

Participation increases with age, and while the number of people with at least upper secondary education in Greece is roughly equivalent to the OECD average, the number of those with tertiary education, at around 39%, is slightly over EU-28 average but lower than the OECD average (OECD, 2015[60]).

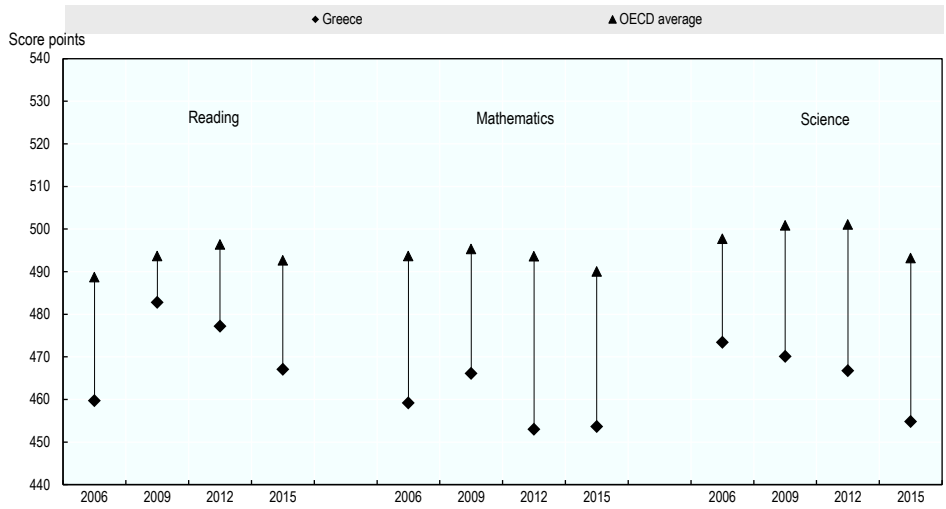
In terms of skills and competencies, the Greek results in the OECD Programme for International Students Assessment (PISA, which measures the performance of 15-year-old students in reading, mathematics and science), while close to the OECD average and have not improved over recent cycles. More concretely:

- In science literacy, mathematics and reading performance, Greek students scored below the OECD average in 2015, and the average performance of 15-year-old students was one of the lowest among OECD countries (454 in mathematics in comparison to an OECD average of 493).
- In 2015, more than one-third of Greek 15-year-olds participating in PISA were low achievers (scoring below Level 2) in mathematics (36% compared to an

OECD average of 23%), and only 4% scored at the highest levels – Level 5 and 6 (compared to an OECD average of 11%).

In addition, progress has varied across the different domains. While results in mathematics have been stable since 2006, results in science and reading have declined sharply between the 2009 and 2015 rounds, dropping by 19 PISA score points in science (OECD, 2016[61]) and by 16 PISA score points in reading (OECD, 2016[61]).

Figure 1.10. Trends in PISA performance in Greece, 2000-15



Sources: OECD (2014[62]), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014)*, http://dx.doi.org/10.1787/9789264208780-en, Annex B4: Trends in mathematics, reading and science performance, OECD countries and OECD (2016[63]), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, http://dx.doi.org/10.1787/9789264266490-en, Table I.4.4a.

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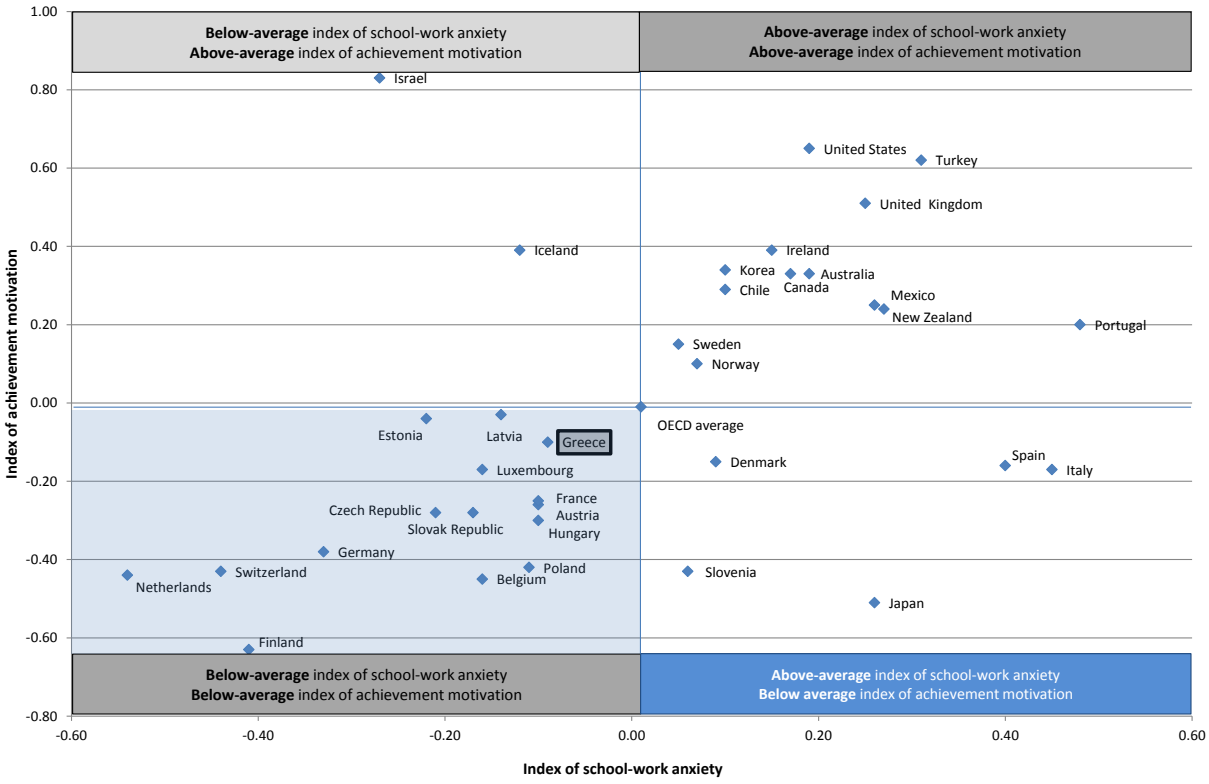
The review team was informed that in Greece the PISA assessment of competencies is not considered to be well-aligned with the Greek curriculum, which has a strong content focus (Breakspear, 2012[64]). Nevertheless, besides student completion information, there are no other national data available by which to analyse student performance at a national level. PISA data provide an international overview of student performance in relation to other OECD and European Union countries and the trends indicate that student performance is either static or has declined since 2009 (Figure 1.10).

Both student achievement and motivation, as reported by students, are lower than the OECD average. Figure 1.11 shows Greece located below average in both schoolwork-related anxiety, and in achievement and motivation.

Figure 1.11. Students' achievement motivation and schoolwork-related anxiety, 2015



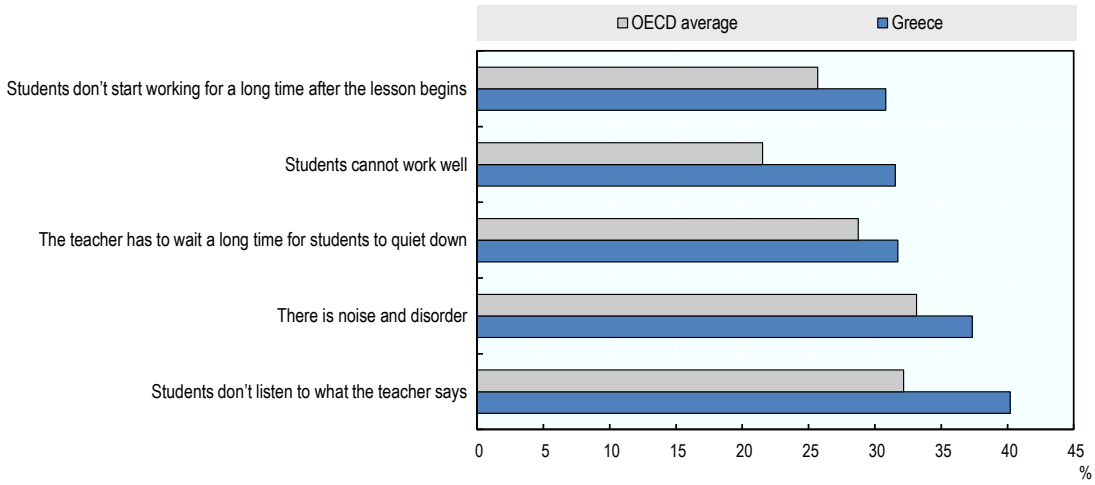
Source: OECD (2017[6]), *PISA 2015 Results (Volume III): Students' Well-Being*, http://dx.doi.org/10.1787/888933470611.

StatLink http://dx.doi.org/10.1787/888933710439

At the same time, PISA data reveal low levels of classroom discipline, with students waiting a long time to start work in lessons, not working well and not listening to their teachers, as shown in Figure 1.12 (OECD, 2016[65]). Another indicator often used for school environment is school attendance. In Greece, 42% of 15-year-old students reported that they had skipped at least one class in the two weeks before the PISA test and 23% had skipped at least one entire day (OECD, 2013[66]). Across OECD countries, these levels stood at 18% of students reporting they had skipped at least one class and 15% reporting that they had skipped at least an entire day of school without authorisation in the two weeks before the 2012 PISA test.

Figure 1.12. Disciplinary climate in Greek secondary schools is low, 2015

Percentage of students reporting that:



Source: OECD (2016[65]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

StatLink http://dx.doi.org/10.1787/888933436489

Equity in the Greek education system

Greece has a relatively inclusive school system. The school system is comprehensive and so does not separate students into different academic tracks. This is a positive approach, as early student selection has a negative impact on students assigned to lower tracks, without raising the performance of the whole student population (OECD, 2012[67]). All students follow a similar curriculum until age 16. PISA results show that on average the impact of a student's socio-economic background on performance is around the OECD average (Figure 1.13).

Across most countries, socio-economically disadvantaged students not only score lower, they also have lower levels of engagement, drive, motivation and self-belief. Greece, achieves lower than average levels of performance with average equity in education outcomes as assessed in PISA 2015.

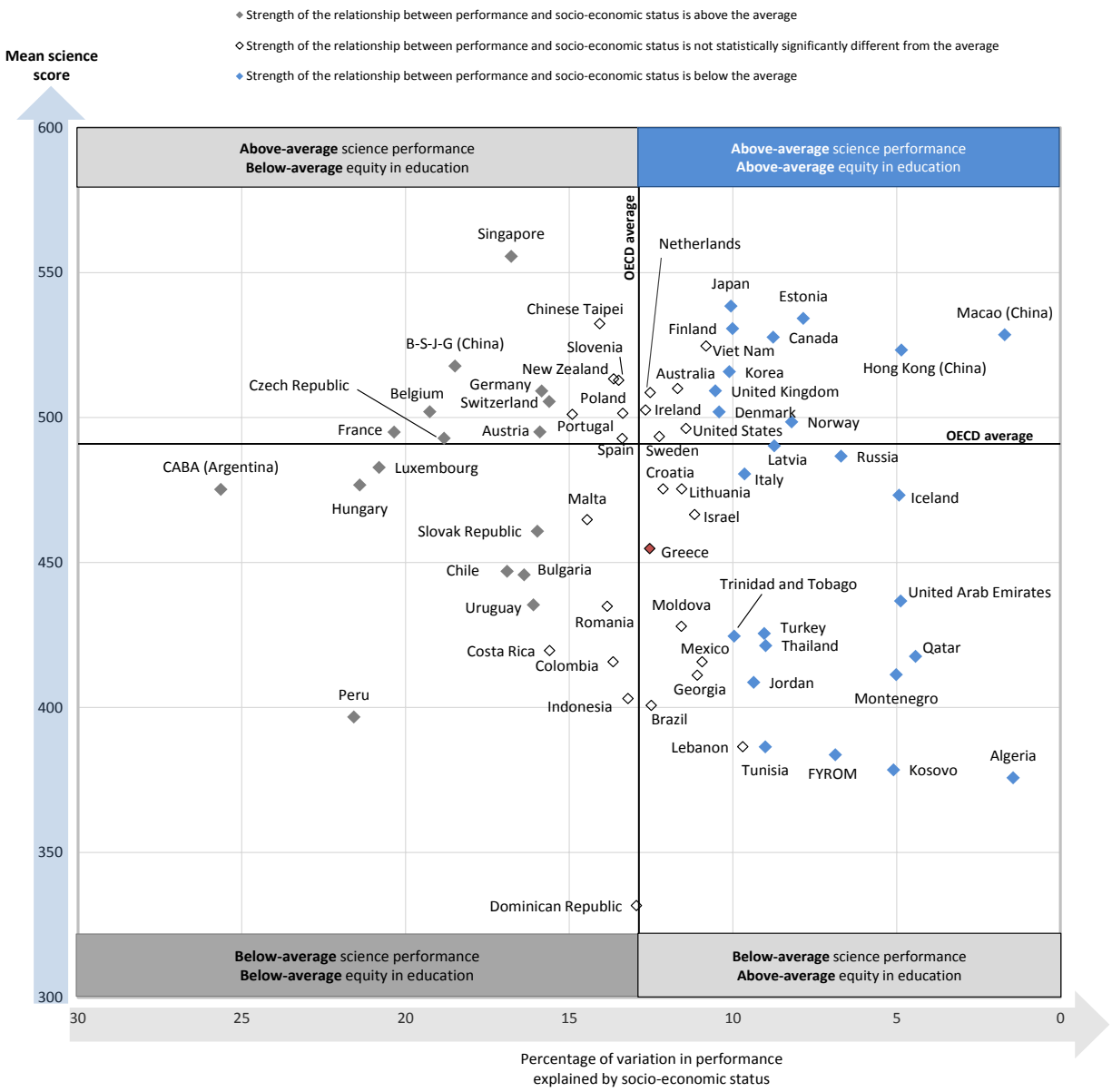
When analysing the skills and competencies of adults, data from the OECD Survey of Adult Skills (PIAAC) reveal that tertiary-educated adults in Greece have relatively low proficiency in literacy, numeracy and problem solving in technology-rich environments.

It would appear that the expansion of educational attainment in Greece has not translated into improved skills. In Greece 50% of 55-65 year-olds did not complete upper secondary education, but only 15% of 25-34 year-olds do not have this level of educational attainment; 19.9% of 55-65 year-olds have a tertiary qualification, compared to 27.3% of 25-34 year-olds (OECD, 2016[3]). However, despite the increase in secondary and tertiary attainment for young people, 25-34 year-olds score only 6 points higher in literacy than 55-65 year-olds, while the OECD average difference for these age groups is 29 points.

Overall, in the OECD Survey of Adult Skills (PIAAC), Greek adults showed low levels of proficiency in literacy and numeracy in comparison to other countries participating in

the survey. They also had a higher share of adults scoring at Level 1[1] or below in both proficiency domains, which are levels considered (Figure 1.14).

Figure 1.13. Science performance and equity, 2015

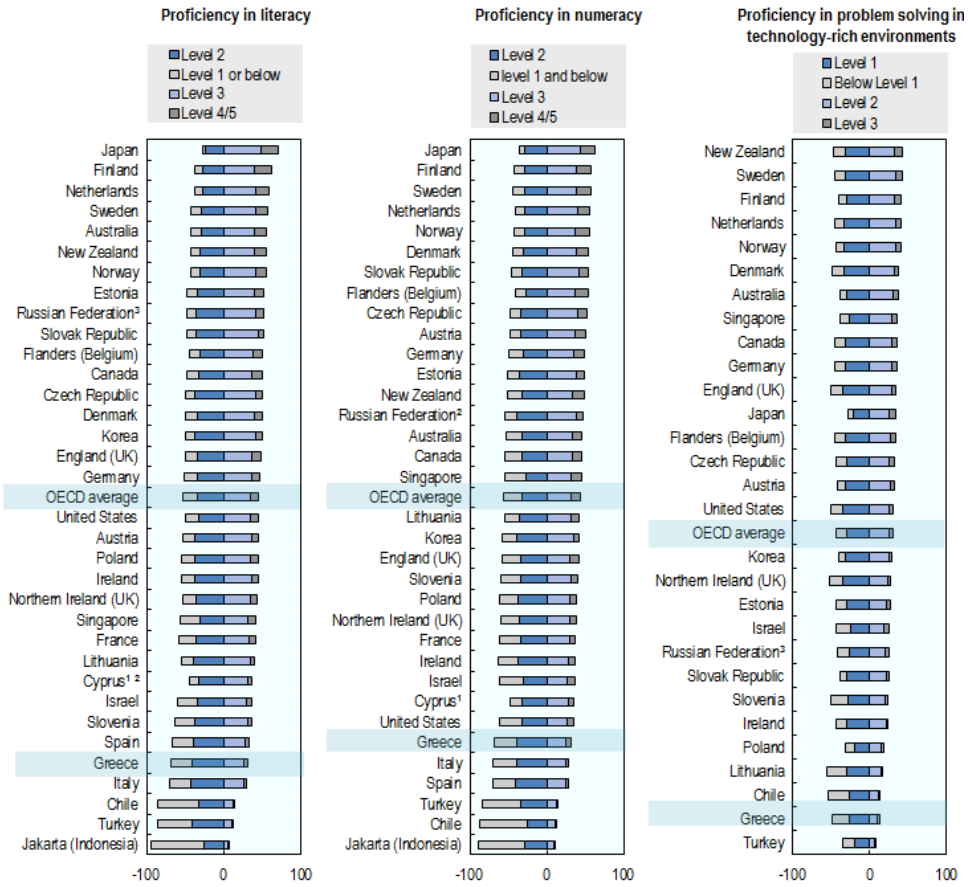


Notes: B-S-J-G (China) refers to the four PISA-participating China provinces: Beijing, Shanghai, Jiangsu and Guangdong. FYROM refers to the Former Yugoslav Republic of Macedonia. Argentina: Only data for the adjudicated region of Ciudad Autónoma de Buenos Aires (CABA) are reported.
Source: OECD (2016[61]), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, http://dx.doi.org/10.1787/9789264266490-en.

StatLink http://dx.doi.org/10.1787/888933432747

Figure 1.14. Proficiency of adults, 2012

Percentage of adults scoring at each proficiency level in literacy, numeracy and problem solving in technology-rich environments



Notes: Note 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".

Note 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.

Source: OECD (2016[68]), *Skills Matter: Further Results from the Survey of Adult Skills*, http://dx.doi.org/10.1787/9789264258051-en.

StatLink http://dx.doi.org/10.1787/888932900365

StatLink http://dx.doi.org/10.1787/888932900479

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Almost 2 million adults (27% of all) between the ages of 16 and 65 have low literacy skills, and 2 030 000 individuals have low numeracy skills (29%) (below Level 2 in the Survey)[2]. These are people who struggle with basic quantitative reasoning or have difficulty with simple written information, and for them, entering and progressing in working life and engaging in civic life is becoming more and more difficult. One third of

people aged 55-65 have weak foundation skills (in both literacy and numeracy). In contrast to what is observed in other countries, 25-34 year-old adults in Greece have similar literacy levels as 55-65 year-olds. Figure 1.14 shows that about 5% of adults aged 16-65 in Greece perform at the highest levels (Level 4/5) on literacy compared to the average of 11% of adults in all participating OECD countries.

Problem solving in technology-rich environments is also measured in the OECD Survey of Adult Skills. Proficiency reflects the capacity to use ICT devices and applications to solve the types of problems adults commonly face as ICT users. PIAAC results show that Greek adults are at low levels in proficiency in this area. Only 17% of adults perform at the highest levels of problem solving, which is significantly lower than the average countries participating in PIAAC (31%) (OECD, 2013[69]).

The regional dimension of education

While equity in education appears to be close to the OECD average, there is also selected evidence pointing to regional disparities in educational attainment (such as early school leaving rates). These data indicate that regional disparities in terms of educational attainment are the fifth largest among OECD countries [(OECD, 2017[70]); KANEP/GSEE, 2008, 2009 and 2011 cited in (Ballas et al., 2012[71])]. The data on regional school and student performance while, limited, suggest a correlation between the state of educational provision and educational outcomes in individual prefectures and the socio-economic conditions of the area (Ballas et al., 2012[71]).

Table 1.2. Geographical distribution of nurseries, primary and secondary schools, 2017

District	Overall number of primary schools	Number of difficult to access primary schools	Percentage of difficult to access primary schools	Overall number of secondary schools	Number of difficult to access secondary schools	Percentage of difficult to access primary schools
Attica	2 047	4	0.2%	865	2	0.2%
Central Greece	631	35	5.6%	218	7	3.2%
Central Macedonia	1 756	31	1.8%	556	9	1.6%
Crete	769	22	2.9%	218	9	4.1%
Eastern Macedonia and Thrace	705	47	6.7%	186	23	12.4%
Epirus	429	m	M	147	3	2.0%
Ionian Islands	262	15	5.7%	89	12	13.5%
North Aegean	292	40	13.7%	107	24	22.4%
Peloponnese	603	23	3.8%	219	12	5.5%
South Aegean	411	63	15.3%	147	50	34.0%
Thessaly	827	19	2.3%	238	8	3.4%
Western Greece	847	38	4.5%	260	15	5.8%
Western Macedonia	351	9	2.6%	122	12	9.8%

Source: Roussakis, Y. (2017[53]), *OECD Review, Partial Background Report for Greece*, Ministry of Education, Research and Religious Affairs.

In fact, the geography of Greece – with its islands and mountainous regions – strongly influences the provision of education (see Table 1.2). In primary education, while 30% of the nursery and primary schools are located in the large urban centres (Athens-Attiki and Thessaloniki-Central Macedonia), almost every small town and village has its own school: 18% of nursery and primary schools are located on islands; 3.5% of schools are

classified as "difficult to access". In secondary education the situation is very similar: 34% of schools are located in large urban centres (Athens-Attiki and Thessaloniki-Central Macedonia) but the rest are much more sparsely distributed; 18% of the schools are located on islands; 5.5% of schools, of which more than half are located on islands, are classified as "difficult to access". This has direct consequences for the financing and management of the system.

Shadow education

One of the major issues for public debate of education policy in Greece is the question of criteria for access to different levels of schooling, especially university (Varnava-Skoura, Vergidis and Kassimi, 2008[72]). Before the expansion of the country's tertiary offer in the 1980s, each year only one-third of all candidates could expect to secure a place at one of the then 18 universities and 12 Technological Education Institutions (TEIs) in Greece[3] (Tsakloglou and Antoninis, 1999[73]). Despite the now expanded university and TEIs offer, in 2017 there were just over 96 000 students sitting the entrance exams, as compared to just over 70 000 places available at state institutions around the country (see Table 3.2). As long as there is a cap on the number of places available in tertiary institutions, as well as significant disparity in the prestige of different tertiary institutions, the Panhellenic examinations at the end of upper secondary education will remain a key moment in a young person's life. As discussed in detail Chapter 5 of this volume, a young person's results in these exams have major consequences for their life and career prospects.

Several historical events and social factors have driven a long-standing demand for private tutoring in Greece:

- Following the Greek-Turkish War of 1919-22, over one million Greeks (or those identified as such) were forcibly relocated from eastern Thrace and Asia Minor and around 350 000 Turks were expelled from the Greek mainland and islands between 1923 and 1930 (Özsu, 2017[74]). This sudden influx (which represented a 25% increase in population) led to a simultaneous decrease in the quality of secondary schools and an increased demand for higher education. As a result, entrance examinations for higher education institutions were instituted and the foundations for a shadow education sector were laid (Kassotakis and Verdis, 2013[75]; Polychronakis, 2004, p. 38[76]).
- After the Greek Civil War of 1946-49, many school teachers with left-wing affiliations were forced from their posts; a number of these began to work as private tutors (Kassotakis and Verdis, 2013[75]).
- Under the dictatorship of 1967-74 teachers who opposed the regime were excluded from teaching at state schools. At the primary and secondary education level, more than 250 teachers were reportedly dismissed from state schools together with about fifty officials from the Ministry of Education (Anonymous, 1972[77]). Many of these teachers offered private lessons instead (Kassotakis and Verdis, 2013[75]).

Mark Bray first popularised the term "shadow" education for this for-profit, after-school tutoring because it mimicked the regular curriculum, used many of the same materials and existed in something of a shadow of legitimacy and legality (Bray, 2009[78]; Bray and Lykins, 2012[79]). On the other hand, private tutoring has also been characterised as a form of supplementary education which can compensate for limited schooling opportunities and serve individual needs for academic remediation. The policy challenge

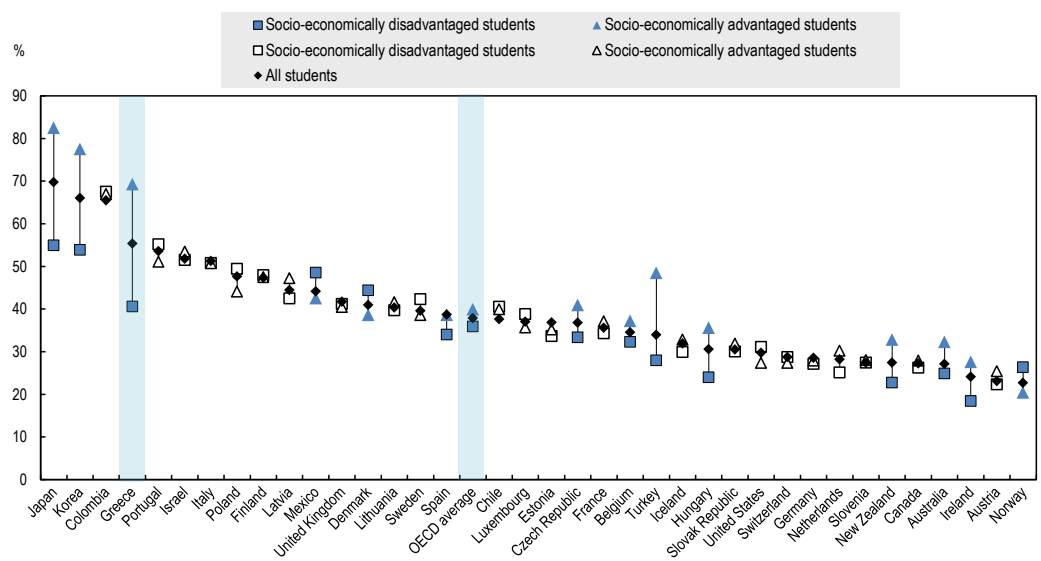
is therefore to capitalise on any improvement to academic excellence and equity in public education it might bring, while counteracting its potential threats to public schools (Lee, 2007[80]).

Shadow education is a growing industry worldwide. It is estimated that approximately 90% of Korean and approximately 60% of West Bengali elementary school students participate in some form of shadow education, as do approximately 85% of Chinese students and 60% of students at upper secondary school in Kazakhstan (Bray and Lykins, 2012[79]). In both Greece and Japan there is a widespread belief among parents that investment in shadow education leads to higher levels of educational achievement (and with it admission to high-ranking tertiary institutions) (Bray and Lykins, 2012[79]). Another key driver was dissatisfaction with school quality: this was a common reason given by parents for sending their children to shadow education in Japan although contrary to the Korean experience, where enrolment rates in shadow education fell when school quality improved, parents in Japan have continued to send their children even though school performance is strong (Jones, 2013[81]; Jones, 2011[82]).

According to PISA 2012, overall 55% of 15-year-olds reported attending after-school lessons in mathematics. This share of after-school mathematics was among the highest in OECD countries and is significantly higher than the OECD average of 38%. In particular, socio-economically advantaged students are far more likely to attend after-school lessons in mathematics than disadvantaged students (see Figure 1.15). The difference between the two groups in Greece is also among the largest across OECD, along with Japan and Korea (OECD, 2013[59]).

Figure 1.15. Percentage of students taking after-school lessons, 2012

Percentage of students attending after-school mathematics lessons



Note: White symbols represent differences that are not statistically significant. ESCS refers to the PISA index of economic, social and cultural status. OECD member countries are ranked in descending order of the difference in the percentages between students who are in the bottom quarter of ESCS and those in the top quarter (top-bottom).
Source: OECD (2013[55]), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, http://dx.doi.org/10.1787/9789264201156-en.

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It is difficult to find reliable data on the number of students participating in shadow education in Greece. A 2014 study of 534 households showed that 99% of students in their final year of secondary school attended either a *frontistirio* (54%), private lessons (21%), or both (24%). Only 1% of respondents' children had not resorted to shadow education in preparation for the university entrance exam (Liodaki and Liodakis, 2016[83]; Palmos Analysis, 2015[84]). PISA 2012 asked students if they attended supplementary education in after-school lessons (see Figure 1.15).

Private tutoring in Greece is often referred to as *παραπαιδεία (parapedi* – parallel education), which has highly negative connotations[4]. The MofERRA's 2017 three-year plan refers to it in these terms:

> *Secondary education has been replaced by shadow education (private tuition centres), a fact which undermines the educational process itself. The effects of this situation were particularly devastating for the upper classes of the upper secondary school or Lyceum]. This problem is not only educational but also profoundly social* (Ministry of Education Research and Religious Affairs, 2017[85]).

A 2011 survey of 1 200 secondary school students in Georgia, perhaps comparable given the cultural ties and the Greek diaspora living there, found that 25% of them had received after-school tutoring, with the rates rising to 35% in the capital city and as low as 19% in villages (Machabeli, Bregvadze and Apkhazava, 2011[86]). This urban/rural divide is also to be found in Greece (Table 1.3), with a 14 percentage point difference between access to and use of out-of-school tutoring in rural and urban areas. Given the widely perceived positive correlation between out-of-school tutoring and success in the Panhellenic examination for admission to higher education, this would indicate a further source of inequality between these groups.

Table 1.3. Out-of-school tutoring use in urban, semi-urban and rural areas, 2015

	Urban (population more than 10 000)	Semi-urban (population up to 10 000)	Rural (population up to 2 000)
Receive out-of-school support:	84%	84%	70%
● At a Frontistirio	61%	45%	50%
● With a private tutor only	28%	47%	38%
● At a Frontistirio *and* with a private tutor	9%	5%	12%

Source: Palmos Analysis (2015[84]), *Pan-Hellenic Research for the Association of Teachers of Attica (TEFA): Out-of-school Support in Secondary Education (in Greek)*, Association of Educational Tutors of Attica (SEFA), Athens, http://palmosanalysis.com/panelladiki-ereyna-gia-sefa/.

Shadow education in Greece takes place in groups at afternoon and evening cram schools (referred to collectively as *frontistiria* – an individual school is a *frontistirio*) and in one-on-one private lessons known as *idietera mathimata*, or *idietera*. Typically, *frontistiria* offer classes between 4 and 7 p.m. This is only possible because obligatory classes in public school units begin at 8:10 in the morning and conclude at 2:10 in early afternoon. There are sometimes also classes on Saturday mornings. *Frontistiria* offer classroom-based education, but with small classes of between five and eight students. The price for parents depends on class size, so in poorer areas class sizes may be larger. Parallel to *frontistiria*, there are also individual private tutors, charging higher prices, and sometimes

operating in the shadow economy. *Frontistiria* follow the same prescriptive and tightly organised teaching schedule as public school units. This is because the goal for most is to help their students pass the Panhellenic examination, which they consider to be closely aligned with the obligatory teaching schedule. There is anecdotal evidence that some of them even plan their work in such a way that specific subject topics are covered by *frontistirio* teachers before they are covered in public school units, for example a week earlier. In this way they prepare their students not only for the Panhellenic examination, but also, facilitate their participation and learning in the public school unit, which may contribute to their success.

Frontistiria can further be divided into those that prepare students for the Panhellenic examination and those that support lower secondary students, teach foreign languages, music lessons and digital skills that are not covered adequately in the formal education system (Kassotakis and Verdis, 2013[75]). All *frontistiria* are licensed by the MofERRA and on opening their premises inspected, but no quality control on their teaching, materials or staff is imposed by the MofERRA (Kassotakis and Verdis, 2013[75]). Shadow education is often, but not always, organised in illegal or semi-legal manner, with unmonitored scope, unregulated activities, and undeclared, untaxed revenues. Greek shadow education is startlingly different from this typical image. In Greece, much of the shadow education sector takes the form of a legal and publicly recognised parallel education system, well regulated by the state, and functioning in a competitive environment.

In order to start a *frontistirio*, an individual or a company needs to receive a permit from the MofERRA, which is issued after the MofERRA checks the facilities for safety and collects start-up fee (Kassotakis and Verdis, 2013[75]). The review team noted that some experts of the MofERRA are drawn from the *frontistiria* establishment. There are also active associations of *frontistirio* owners and of *frontistirio* teachers. Many *frontistiria* advertise heavily on the Internet and in the print media. Like any business, *frontistiria* are also subject to the same laws on false or misleading advertising. For example, many *frontistiria* publish data about the success rate of their students in the Panhellenic examination, clearly taking full credit for students' success and assuming that public school units did not contribute in any way. Some *frontistiria* publish their own textbooks (although some of these are limited to sets of exercises with and without solutions).

Frontistiria operate in large, well-equipped facilities, often located close to the secondary school units from which they draw much of their enrolment. There is nevertheless a city-wide market for these supplemental educational services, at least in larger cities.

It is difficult to find reliable data on the number of students participating in out-of-school tutoring beyond the self-reported data in PISA. Nevertheless, the national association of *frontistiria* owners (which does not include all *frontistiria*) reported that in the 2013/14 school year, their members enrolled 183 000 students (61% in the upper secondary level and 35% in lower secondary level) at 2 200 separate establishments – down from 2 500 in the year 2000 (Panayotopoulos, 2000[87]). These numbers reflect a remarkable resurgence as compared to historical trends and demonstrate that high rates of shadow education participation are by no means inevitable: in 1979/80 there were an estimated 1 232 Ministry-approved *frontistiria* enrolling just over 176 000 students, but by 1983/84 their number had shrunk to 1 132 and student numbers had fallen to 82 598 (OECD, 1997[88]). According to official (but unpublished) data, in the 2010/11 school year, over 149 000 students attended 2 352 secondary *frontistiria*, which employed 18 159 teachers (Kassotakis and Verdis, 2013[75]). This represents about 45% of all students of general

and vocational upper secondary schools. In comparison, in the same school year there were 1 788 public upper secondary schools operating in Greece. Some estimate that almost *all* upper secondary school students in their last year attend either a *frontistirio*, individual private tutoring, or both (Kassotakis and Verdis, 2013[75]). The 2013/14 participation rates represent 20% of the total lower secondary school enrolment of 319 950 in 2013/14 and 30% of the entire upper secondary school student population of 369 889 for the same school year. Students who had the assistance of private tutors can be added to this number (Palmos Analysis, 2015[84]). A 2014 survey of 534 households whose children had taken the Panhellenic examination in the last five years found that 99% of students in their final year of upper secondary school attended either a *frontistirio* (54%), private lessons (21%), or both (24%) (Liodaki and Liodakis, 2016[83]). A random survey of 2 370 first year students in 58 departments across seven major Greek universities in the spring of 2014 found that almost half (48.9%) attended *frontistiria*, 14.2% engaged private tutors, and approximately one third of the sample did both (Ioakimidis et al., 2000[89]).

It is therefore safe to say that much of the shadow education in Greece, unlike in many other countries, does not operate in the shadows at all. It is a visible, vibrant, regulated, official, competitive component of the Greek education system, enrolling a clear majority of secondary school students. This position of the shadow education system would not be possible if it did not serve vital, indispensable education purposes, in parallel and in addition to the public education sector. This ensures its stability, as evidenced in multiple reviews over many years (OECD, 1997[88]). There is also some adaptation of the public school unit system to the existence and needs of shadow education, as seen for example in extremely short school days (unlike in many European Union and OECD countries, public school units in Greece offer remarkably few afternoon, after-class activities, allowing their students to attend long sessions at *fronstistiria* – see Figure 3.3 in Chapter 3). Any plans to scale down or eliminate the shadow education would require major reforms of the overall functioning of Greek education.

1.3.4. School curriculum

In primary education, there is a single type of all-day primary education services are provided at all primary schools with a revised timetable and curriculum. Primary education is free, including the distribution of school textbooks and supplementary learning resources for all students. Curricula are centrally developed and nationally implemented for all schools and at all levels of Greek education.

Current primary education national curricula fall under the Cross Thematic Curriculum Framework for Compulsory Education (DEPPS) (Ministerial Decision 21072β/Γ2/28-2-2003). This cross-thematic approach defines the structure of teaching on the basis of a balanced horizontal and vertical distribution of educational material. It promotes cognitive subjects interconnection as well as comprehensive analysis of key concepts. In addition, a "Flexible Zone of Interdisciplinary and Creative Activities" has been added to the framework (Eurydice, 2016[45]).

National curricula for each subject are organised into six levels (each of them corresponding to one out of six primary school grades or into fewer levels depending on the subject). The national curricula specify subjects' aims, educational objectives, thematic units, indicative activities and cross-thematic projects. The syllabus for the subjects taught during mainstream school hours is compulsory for all students at all primary school grades, with the following subjects taught: Greek, mathematics, natural

sciences, geography, history, social and political studies as well as foreign languages, arts education, information communication technology (ICT) skills, physical education and the "flexible zone", with the aim to improve the capacities and skills of primary students through activities centred on specific objectives (OECD, 2009[36]; Eurydice, 2016[45]).

In lower secondary education, the curricula concentrates on Greek language and literature, sciences, humanities and social sciences, foreign languages, technology and ICT, physical education, home economics and culture. The school day starts at 8:15 a.m. and ends at 2:15 p.m. Subjects taught in lower secondary schools are compulsory for all students of the same class, except for the second foreign language subject which, in accordance with Ministerial Decisions 137429/Γ2/02-09-2014 and121072/Δ2/22-6-2016, comes with three (3) language options: French, German and Italian.

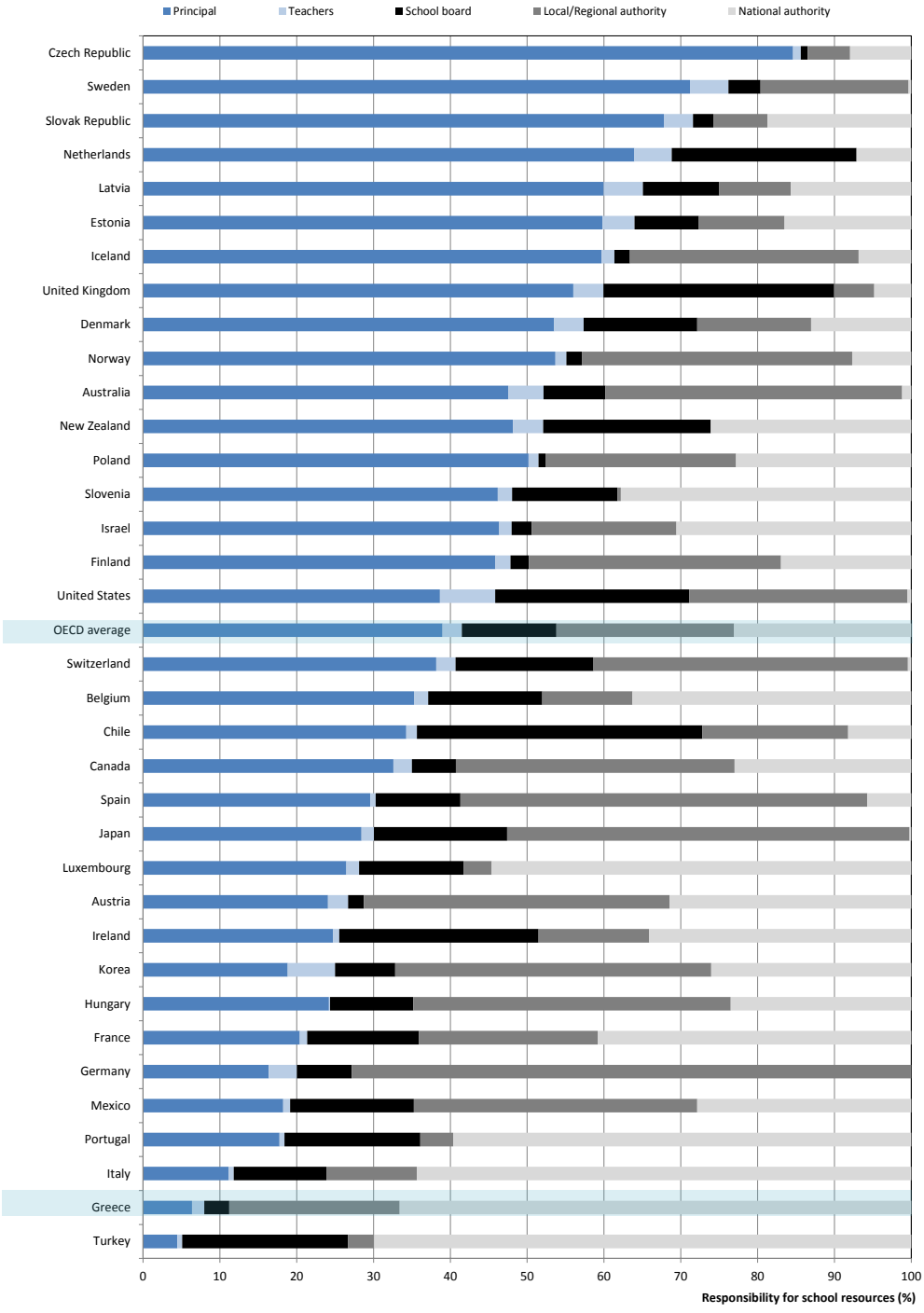
In upper secondary education provides general non-compulsory education (*Lyceum*). Attendance lasts for three years and includes grades A, B, and C. The first year is focused on general education for a total of 35 hours per week. There are nine general education subjects for all students plus two elective subjects chosen among four subjects (Eurydice, 2017[46]).

1.3.5. School governance and leadership

Schools in Greece operate in an environment of low autonomy, according to international comparative data from the OECD Education at a Glance and PISA. More than 80% of school decisions are adopted by the national government in Greece, in relation to 35% across OECD countries (Figure 1.16). This is also the case for curricular decisions, resources or assessment policies (Figure 1.16). This reflects the way in which education governance is structured in Greece, with the central government making decisions on all areas related to schools, including the selection of teachers and educational staff. Schools, their principals and teachers have little freedom at the school level.

Figure 1.16. Distribution across the education system of responsibility for school resources, 2015

Responsibility for: hiring and dismissing teachers, establishing their starting salaries and any salary increases, formulating the school budget and deciding on budget allocations within a school (weighted equally)



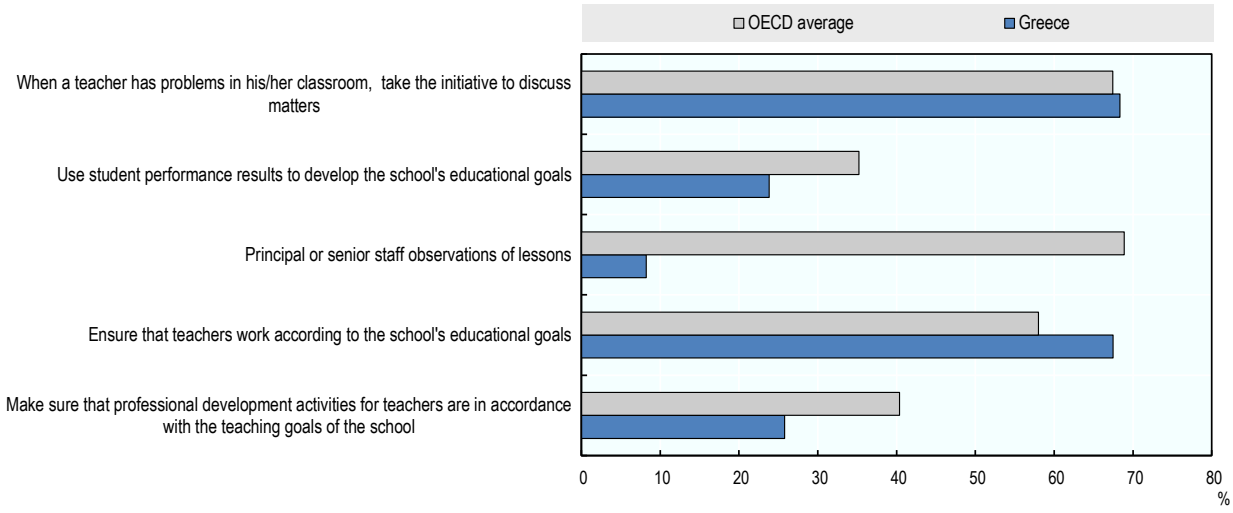
Source: OECD (2016[90]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

StatLink http://dx.doi.org/10.1787/888933435811

PISA results suggest that school autonomy in relation to content is more closely associated with educational performance than is autonomy in decision making concerning resource allocation. School systems that provide schools with greater discretion in decisions on student assessment policies, courses offered, course content and textbooks used, tend to perform at higher levels in PISA (OECD, 2012[91]; OECD, 2016[90]). However, further evidence also shows that while autonomy in content can contribute to make a difference, this depends on the capacity and quality of those working in schools to be able to use such autonomy effectively (Hanushek and Woessmann, 2014[92]).

In Greece, school principals have traditionally played a more administrative and management role. Figure 1.17 shows the lower levels of engagement in more pedagogical issues around teachers and schools.

Figure 1.17. School directors levels of pedagogical leadership, 2012



Source: OECD (2013[55]), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, http://dx.doi.org/10.1787/9789264201156-en.

StatLink http://dx.doi.org/10.1787/888932957498

In Greece, the selection process for principals has been based on academic qualifications, years in service, and contribution to educational work and personality (assessed through a secret teacher ballot) in the school to which they are applying, and could benefit from a more professional process aligned to expectations. In 2017, this process has been complemented with the assessment of the candidate through an interview and other criteria, presented in Chapter 4.

In terms of training, a 2010 law (Law L.3848/2010) established that attainment of a certificate of administrative capacity should be required as a selection criterion for school principals, but this apparently has not been implemented. Conversely, the MofERRA reports that since 2012, the Institute of Training of the National Centre of Public Administration and Local Government has designed and implemented specialised training programmes for principals, but there is lack of quantitative or qualitative data on the outcomes of these programmes.

School principal appraisal appears to be limited to the selection and recruitment process, and this appears to be of a more administrative nature than focused on improvement (OECD, 2015[60]).

1.3.6. The teaching profession

With regards to the teaching profession, prospective teachers in primary education and secondary education must complete a first cycle degree (UNESCO, 2015[93]). Those secondary school teachers that study in teacher faculties are expected to follow a pre-service teacher training programme of four years. They are trained and qualified in the undergraduate programmes of study offered by the relevant university departments and have a mandatory teaching practicum (OECD, 2015[60]). However, prospective teachers can also follow more general tertiary courses and add a Certificate of Educational Attainment in order to qualify as a teacher. New teachers must participate in an induction programme, which lasts less than a year. The OECD review team was told that many teachers have higher levels of education (master and PhD level), although no statistics were available at the time of writing to support this.

Recruitment, which is competitive, is centrally administered. All teacher candidates for permanent or substitute positions participate in the Supreme Council for Civil Personnel Selection (ASEP) examination. Appointment to schools, if places are available, is then based on a ranking system, which takes into account the ASEP examination results, academic qualifications, individual preferences, the time of application, social criteria, and prior teaching service (European Commission, 2013[94]; UNESCO, 2015[93]). However, with the freeze in teacher hiring, the ASEP examination has not been administered since 2008.

Table 1.4. Years of service and teaching hours: Primary and secondary, 2017

Primary education teachers serving in schools with more than 4 classes				
Years of service	0-10	10-15	15-20	>20
Weekly teaching hours	24	23	22	21
Secondary education PE scale (teachers with university degrees)				
Years of service	0-6	7-12	13-20	>20
Weekly teaching hours	23	21	20	18
Secondary education TE scale (teachers with TEI or equivalent degrees)				
Years of service	0-7	8-13	14-20	> 20
Weekly teaching hours	24	21	20	18
Secondary education DE scale (teachers with non-tertiary education degrees - VET)				
Years of service	0-20		>20	
Weekly teaching hours	28 (chief-technicians) 30 (technicians)		26 (chief-technicians) 30 (technicians)	

Note: Teachers in small schools (1-3 classes) teach 25 hours a week, whatever their length of service.
Source: Roussakis, Y. (2017[53]), *OECD Review, Partial Background Report for Greece*, Ministry of Education, Research and Religious Affairs.

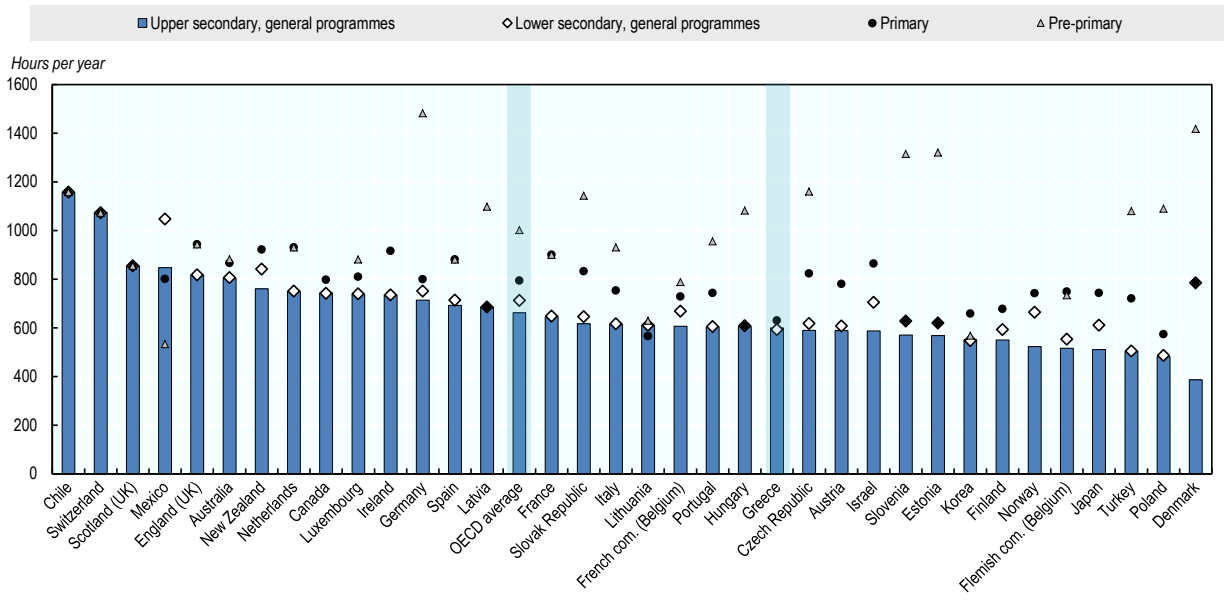
In Greece, the starting statutory salary for teachers at the pre-primary, primary, lower and upper secondary general secondary teachers is exactly the same. In real terms, teachers' salaries in Greece are among the lowest in the OECD. In 2015, the average statutory salary in Greece for teachers with 15 years' experience was USD 25 077 across all levels of education, compared to an average of USD 44 623 at lower secondary level, and USD 46 631 at upper secondary level across OECD member countries.

Greek teachers also have one of the lightest teaching loads in the OECD, according to comparative data. Annually, a Greek general lower secondary education teacher teaches nearly 120 hours fewer than the OECD average. Greek authorities report that this is partly explained by the multiple non-teaching tasks teachers take on in light of the lack of administrative staff in Greek schools.

In terms of career progression, the number of overall hours decreases with the number of years of service, implying that those with more experience teach fewer hours than younger teachers (Table 1.4, Figure 1.18). Greek authorities report that this is a measure to alleviate teacher burn-out, as there are no possibilities for teachers to reduce their load for professional development (MofERRA, 2018[95]).

Figure 1.18. Number of teaching hours per year in general lower secondary education, 2015

Net statutory contact time in public institutions



Note: Countries and economies are ranked in descending order of the number of teaching hours per year in general upper secondary education in 2015.
Source: OECD (2017[28]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

StatLink http://dx.doi.org/10.1787/888933558876

The crisis has had an impact for teachers on several fronts. Teachers' salaries had, by 2017, decreased to 74% of their 2008 level (OECD, 2017[4]). In addition, as there has been a freeze in the hiring of teachers as civil servants, teachers hired since the crisis have substitute status, with annual contracts instead of long-term civil service status. According to the MofERRA, the teacher workforce now includes 22 000 substitute teachers, the majority of whom move between schools each year. In 2015/16, substitute teachers represented up a 14.1% of all teachers (up from 8% in 2011/12) (Roussakis, 2017[53]).

In terms of teaching practice, teachers can have some stability challenges. While teachers may request to work in a specific region, not all requests can be fulfilled. The result is a

rotation of a significant portion of the workforce as substitute teachers sent to different schools every year and sometimes well into the school year.

Officials within the Ministry have expressed their concern as to the impact the economic crisis has had on teacher morale and resulting low levels of trust in the education system. A recent European study on the attractiveness of the teaching profession confirms these observations. It found that the MofERRA in Greece had presented a negative picture of teachers in the media, accusing them of being lazy and of resisting change. The study, which was carried out in 2012, also included a large-scale online survey of stakeholders in the education system. When teachers asked if they might envisage looking for another job, more than 60% of Greek teachers answered affirmatively (European Commission, 2013[94])[5].

It should also be noted that while the MofERRA is appropriately focusing on improving teachers' working conditions, less attention may have been paid to supporting effective teaching practices or to providing strong support for professional development.

To support teachers and schools, there are a range of programmes and arrangements. School units have school advisors, whose role is to support teachers in the implementation of effective teaching methods. They are responsible for providing scientific and pedagogic support and guidance for teachers of school units in the school district within their jurisdiction. More concretely, they advocate the implementation of innovations in education, undertake initiatives regarding teachers' training, and encourage the use of modern education technology tools.

In addition, there are different programmes that the Ministry or Regional Offices of Education provide to schools and that come through different channels. These may include counselling services for youth, national science laboratories, information technology centres, physical education offices, culture offices, health education, environmental education and other support services which have different responsible offices and structures and don't necessarily collaborate with each other.

1.3.7. Student assessment practices in Greece

In Greece, there are limited data on student outcomes. Rather, attention is focused on the high-stakes Panhellenic university admissions examination, which is administered only at the end of the student's career, and only for those who seek to enter higher education. There are no national assessments to track student performance comparatively across schools. In individual schools, while teachers use formative and summative assessments to track their own students' progress, these assessments are not comparable at a regional or national level. The absence of national student assessment means that there are few data to guide policy decisions to support the equity and quality of student learning.

In primary education, students are assessed by their teachers at the beginning of the school term with an initial diagnostic assessment, complemented with formative assessment throughout the term, and a final summative assessment for the year or on completion of the course. These types of assessments are developed by individual teachers (Eurydice, 2016[96]). At the end of secondary education, there are promotion and school leaving examinations which are delivered by the schools and their teachers. These are not nationally comparable as they reflect only local school tests. Nevertheless, in an effort to improve transparency, since 2013 the assessment results have been recorded in the online MySchool system. The MySchool database aims to collect and exploit available data and information on education in Greece. All school unit heads are

responsible for entering data on personnel administration, student administration (including grades) and activities such as events and excursions into this online system on a daily basis (Eurydice, 2014[97]).

In 2013, efforts to create a more national approach to student assessment were initiated. This included the development of national test banks making available question items at different levels of difficulty. The intention was to use them for half of the questions in the end-of-year assessments of selected school subjects in upper secondary education. In 2015 the use of these test banks was abandoned, given concerns about equity and early school leaving. The test banks have not been replaced with national student assessments. Some have argued that national student assessments would cause competition and inequalities among schools by creating a crude hierarchy of "good" and "bad" schools, with debatable benefits for the quality of the education (Institute of Educational Policy, 2016[98]).The converse argument is that information on student performance, along with adequate contextual information on the social background of the student population, would clarify which schools are doing well relative to their student population. The same standard would be maintained for all schools and those lagging behind would have support.

The Panhellenic university entrance examinations administered at the end of upper secondary education are nationally recognised as a measure of student performance. These are national, but annual changes in the test design means that comparisons over time are not possible. Nevertheless, these examination results are the most widely used informal indicators of the quality of the school system in Greece.

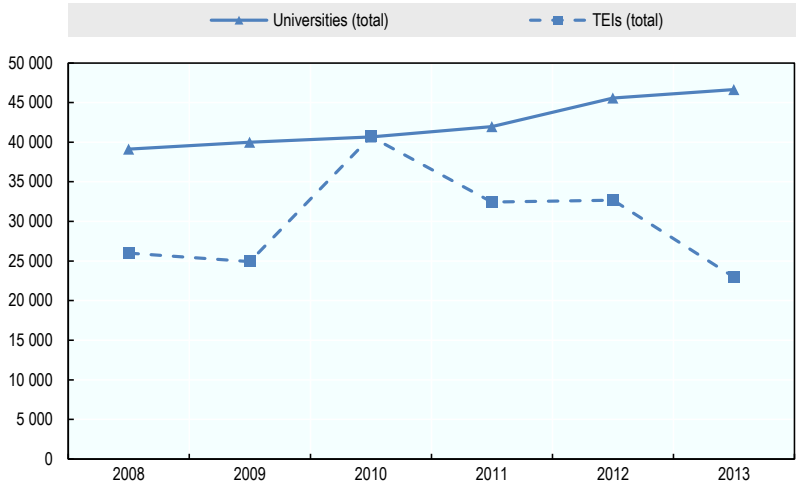
1.3.8. Tertiary education: Highly valued

The Greek tertiary education system is characterised by a high attendance. Many young people in Greece transition between school and the labour market via some form of tertiary education. Tertiary education, and especially university education is highly valued and is considered an important part of someone's overall education relatively independent of employment prospects. In the context of the economic crisis, and an exceptionally difficult youth labour market and high rates of graduate unemployment, the management of this phase of education, however, is critical to labour market outcomes. It is therefore worrying that the mechanisms that would normally link provision of tertiary education opportunities with labour market requirements are very weak in Greece.

The governance of tertiary education in Greece is not as highly centralised as it is for the country's schools, but it is the still the most centralised in the European Union (European University Association, 2015[100]). There are also many thorny issues in the relationships between different post-secondary sectors, with particular challenges arising in the post-secondary vocational sector and Technological Educational Institutes (TEIs).

The number of places available in each university department is decided by MofERRA following on consultations with the university senates. Prospective students are asked to specify the disciplines and institutions where they wish to study, ranked in order of preference, including for the city in which they wish to study, and are then allocated to one of their choices based on exam results and places available. In 2011, only 6% of TEI candidates obtained their first, second or even their third choice of city of study, and only 18% of university candidates were admitted to universities in the city of their choice (KANEP/GSEE, 2014[99]).

Figure 1.19. Evolution of the number of tertiary education students in Greece, 2013



Source: KANEP/GSEE (2014[99]), "Annual report on education – Part B: The national reference context of tertiary education", www.kanep-gsee.gr.

Young people are therefore typically offered a university or TEI course in which they are only mildly interested. Students dissatisfied with their programme cannot transfer to another subject. Most students take longer than four years to graduate (see Table 1.5), making years in university among the longest for students in OECD countries.

Table 1.5. Length of study in tertiary education, 2015

Number of students per category of Institution	TOTAL	Registered in the regular period of 4+2 years (for univ.) and 3.5 years + practical exp. (for TEIs)		Over the regular period (four years)	
		n.	%	n.	%
Universities	403 933	190 835	47.2%	213 098	52.8%
TEIs + Military and Religious Academies	223 109	105 924	47.5%	117 185	52.5%

Source: Institute of Educational Policy (2016[98]), *Greek Experts' Preliminary Reports*, Unpublished.

1.4. The political economy of change in Greece

The OECD review team noted that Greek society places a strong value on education, also highlighted by previous OECD reviews (OECD, 2011[9]; OECD, 1997[88]; OECD, 1982[48]). Its importance for personal, social and economic development – and for addressing challenges of the current crisis – is well understood. Education is considered as an important means for social and economic mobility for low socio-economic status (SES) individuals and families (Kalyvas, 2015[101]). For example, in spite of the impact the economic crisis has had on household income (which has decreased by 31.6% since 2009), many families continue to invest significant amounts in *frontistiria* (i.e. as described above, after-school tutoring, also referred to as "shadow education") believing this will support their children's education and improve their chances of securing a place at a highly-ranked university. Participation in after-school tutoring of 15-year-olds, while

controversial, is among the highest in OECD countries (OECD, 2013[55]) and has a key impact in the Greek education system.

The OECD review team observed the absence of a clearly articulated and universally accepted long-term vision to guide education in the future, or a clear focus on students and their learning. This may be because, in light of the crisis, the MofERRA is preoccupied with administrative and resource challenges to meeting the needs of students, and certainly they need to be addressed. Nevertheless, these challenges can be met with clear vision and shared sense of mission around which to rally stakeholders. This could encompass the development of skills necessary for learning, work and life, including for critical thinking and problem solving, creativity, initiative and other competences, as suggested by the European Union in its strategy to improve the development of key competencies for personal fulfilment and development for all people throughout life in the 21st century (European Commission, 2007[102])[6]. Developing a well-articulated vision and mission can also reinforce the focus on student learning and well-being (Carpenter and Gong, 2016[103]). A clear vision supports the articulation between the aims of learning, school effectiveness, evaluation and assessment, and of quality school leadership and teaching.

This may be part of a process that has been characterised by piecemeal policy making, with reforms and changes that do not come together in a coherent approach and that has only recently focused on engaging stakeholders in design and implementation (Table 1.6 details policies and reforms passed in recent years). In addition, OECD research on successful education reform has revealed that there are some key factors for education policy success: the most effective policies are designed around students and learning, build teachers' capacity, and engage all stakeholders (OECD, 2015[104]).

In most OECD countries, teachers' unions and business organisations, in particular, are increasingly involved in the policy development process. Teachers' unions, including those that the review team met in Greece, are calling for more structured dialogue with government, while the business sector is keen to establish closer links with education systems.

In Greece, the MofERRA has initiated consultation with different stakeholders to develop recommendations for education development and policy. More concretely, three committees have been developed or engaged with the MofERRA: (between December 2015 and June 2016):

- the Committee for National and Social Dialogue for Education
- the Standing Committee on Education of the Greek Parliament
- the Committee on the Economics of Education to assess the actual financial costs of the education system from pre-school to university and to identify areas for improvement, including the cost of potential changes.

In addition, in the development of its recent policies, the government has engaged in a number of consultations with a range of stakeholders.

Table 1.6. Major education legislation and Ministerial decrees enacted since 2010

2010	Zones of Education Priority (ZEP) and Law on Development of Lifelong Learning
2011	Law on the Structure, Operation, Quality Assurance of Studies and Internationalisation of Higher Education Institutions
2011	Institute of Educational Policy
2012	In-service Education and Training of Teachers (INSET)
2013	Law on Organisation and Operation of the Institute of Youth and Lifelong Learning and of the National Organisation for the Certification of Qualifications and Vocational Guidance and Other Provisions
2013	Authority for Quality Assurance in Primary and Secondary Education (ADIPPDE)
2013	Evaluation of Education Practice (Ministerial Decision 3 0972/G1/5-3-2013) Procedures for the general lyceum [upper secondary school] examinations in Greece, with the system of admission to higher education established by Law 4186/2013 G
2013	Creation of a Directorate of Economic Affairs in the Ministry of Education (Ministerial Decision no.110101/?/22-08-2013)
2013	Presidential Decree 152/2013 on Teacher Appraisal
2013	MySchool information system
2013	National Lifelong Learning Programme (2013-2015)
2013	National Plan for Youth Employment
2013	Vocational Training Schools (Law 4186/2013)
2015	Urgent measures for primary, secondary and tertiary education and other provisions
2016	Regulations on Educational Priority Zones (ZEP)- Foundation of reception classes ZEP, enhancement coaching courses for refugees education ZEP (DYEP ZEP) in primary schools
2016	Private Education Act (incorporated as part of Law. 4416/2016).
2016	Regulations for research and other provisions
2016	New vocational education upper secondary schools – Institutional framework: 4386/2016 Article 66 (Replacing 2013 law)
2016	New all-day school model ('cohesive all-day primary school') 4386/2016
2017	Self-evaluation of school educational work and evaluation of educational leadership, new criteria for staff selection and staff responsible for infrastructure
2017	Higher education governance (Replacing 2011 law)
2017	Creation of ZEP reception classes in lower secondary and upper secondary schools
2018*	Law on upper secondary education (lyceum) reform
2018*	Law to reform and rationalise school curricula

Note: *Projected law.
Source: OECD (2017[50]), *Education Policy Outlook: Greece*, OECD Publishing, Paris, www.oecd.org/edu/profiles.htm, OECD Secretariat correspondence and research.

A number of reforms have been advanced. A three-year education plan was passed in 2017. The plan outlines guidelines and proposals in a range of priority areas for 2017-19, including measures targeted to improve teacher, school leadership, and school quality through self-evaluation; updates to the curriculum; all-day school provision; and other actions targeted to the different levels of education (early childhood education, primary, secondary education, and tertiary education). The three-year plan also pointed to the need for education policies to recognise and take into account the geographical specificities of Greece, including islands, isolated mountainous areas, and sparsely populated villages across the country.

Since the three-year plan was approved in 2017, a number of actions have been taken and legislation passed (up to the time of drafting this report in January 2018). These actions target the selection criteria for school leadership, the criteria for Education Priority Zones

(ZEP) – that is, disadvantaged areas which receive additional support to combat school failure. A redefinition of the school network is aiming to restructure the functions and responsibilities of primary and secondary schools, to improve the effectiveness of the education system and the quality of educational work.

In tertiary education, a 2017 reform (Law 4485/2017) consolidated decision making in the MofERRA, regulated fees and reviewed the status of universities. It defines in detail how institutions are to be organised and how decisions are to be made. It consolidates governance and much of the management of institutional decision making of institutions into the MofERRA and removes external input into institutional decision making – which had been introduced in a previous law 4009/2011. It also regulates (and limits) how fees are calculated for master degrees.

Many of these reforms target quality and equity, the governance of schools and education institutions and the allocation of resources. It is important to review the specific issues and challenges that underpin the need for education reform in these areas and see how they can contribute in a transition towards a 21st century education system that supports growth and well-being for Greece.

1.5. Developing a long-term strategy for education reform in Greece

Greece faces educational system challenges together with a combination of a significant decline in national income, reductions in public expenditure and increased levels of unemployment in the context of a devastating economic crisis and global shifts in the nature of the economy and work. A major refugee crisis continues, and there have been significant reductions in education budgets, resulting in an intense and difficult context for education policy.

In the face of these challenges, the current conditions of low levels of student performance and well-being at many levels of the system, low levels of citizen satisfaction, and current poor employment prospects for its graduates make the case that Greece must invest in education and enact reforms that focus on the future of education in Greece.

Investing effectively in education can contribute to a positive path to the future. A forward-looking orientation is important to move beyond the crisis, and ensure that current conditions do not become entrenched or accentuated. Instead, Greece can benefit from the current moment to develop and sustain a highly skilled population that can create the conditions for growth, prosperity and well-being.

Greece has recognised the challenges of the system, and the MofERRA has proposed a number of reforms to address them. These proposals steer Greek education toward more open public participation in education, greater transparency and attention to evaluation and monitoring. They maintain the MofERRA's focus on equity and quality that have been so important for success of high-performing OECD education systems. The MofERRA's proposals also orient the system toward greater pedagogical autonomy for schools and teachers. School self-evaluation and stronger roles for teachers in summative and formative assessment have been introduced. Recent proposals aim to lower the very high stakes attached to the Panhellenic university entrance examination and to include teachers' assessment in admissions decisions. Work is ongoing in terms of tertiary education.

A number of these reforms and proposals represent initial steps towards more significant long-term change. Indeed, the conditions for educational reform are challenging, but also provide an opportunity for the government to continue its path and take coherent action in education, which is a priority for the Greek population. More effective education can provide the conditions for a brighter future in Greece. This chapter has highlighted some of the policy challenges that will be important for Greece to tackle to ensure effective policy implementation:

- A recognition of the need for a clearly articulated long-term vision to guide education in the future, centred on students and the future of Greece. This can contribute to canvas support and engagement, but more importantly, to build on education as a driver for a brighter future in Greece.
- A piecemeal policy approach that needs to be shifted towards a clear long-term coherent educational strategy with sequential and incremental approaches that are politically feasible, taking into consideration resources available and the capacity of the system and the educational profession to take it up.
- The need to continue investing in broad public consultation or stakeholder engagement to ensure the sustainability of reform and its implementation. Indeed, longer-term and more ambitious aims will require broad buy-in and support beyond the MofERRA; this can be achieved through early and ongoing consultation and stakeholder engagement – including teachers, principals, parents, local education authorities and others – in the process of policy development.
- The development and use of educational data in key education areas to inform and support improvement, including on school and student outcomes, teacher well-being, educational funding, and the participation of private resources in education, including in shadow education. In our knowledge-based societies, data can provide evidence to understand context, situation and required strategies or actions, as well as to monitor progress of students and of reform actions.

These are the threads that underpin the recommendations presented in the following chapters, aiming to ensure that the Greek education system can contribute to develop the conditions for a brighter future for the country: streamlining the governance and funding of the education system; raising the opportunities for student achievement and equity; developing the opportunities for school improvement; and lifting the performance of the Greek higher education system. The chapters present analysis and recommendations, informed by research evidence and relevant practices and lessons from relevant and high-performing education systems internationally. Together, they aim to provide a number of concrete interrelated policy options to form a comprehensive base for a national improvement strategy.

Notes

[1] The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC), provides a picture of adults' proficiency in three key information-processing skills: literacy – the ability to understand and respond appropriately to written texts; numeracy – the ability to use numerical and mathematical concepts; problem solving in technology-rich environments – the capacity to access, interpret and analyse information found, transformed and communicated in digital environments. Proficiency is described on a scale of 500 points divided into levels. Each level summarises what a person with a particular score can do. Six proficiency levels are defined for literacy and numeracy (Levels 1 through 5 plus below Level 1) and four are defined for problem solving in technology-rich environments (Levels 1 through 3 plus below Level 1) (OECD, 2016[107]).

[2] Demographic estimates for this calculation based on IndexMundi (2016[106]).

[3] By 2017, there were 20 universities as well as 14 Technological Education Institutes (TEIs). A fuller discussion of tertiary sector policy follows in Chapter 4. In other countries the stakes are even higher: in Japan the estimated candidate-place ratio at one of the prestigious national universities was four to one in 2006.

[4] "Many para-words explain the two realities of the Greek society and state…*Paranomos* is the term for the hidden resistance of ordinary people ignoring the laws, resulting for example, in a *parakonomia* – a shadow economy. Needless to say, the lack of trust in the state includes the education system, and *parapedia* is the term for private education" (Repousis and Leutzsch, 2017[105]).

[5] More than one third of teachers in 31 European countries surveyed did not exclude the possibility of looking for another job. The main reasons were related to high workload, stress and the increasing level of responsibilities. The survey was based on an overall sample of 80 682 responses to an online questionnaire targeted to teachers, university students, students in initial teacher education, teacher educators, school leaders and representatives of local authorities.

[6] The 2006 European Reference Framework of Key Competences (European Commission, 2007[102]) identifies eight key competences for personal fulfilment and development, active citizenship, social inclusion and employment in the 21st century. They are: communication in the mother tongue, communication in foreign languages, mathematical competence and basic competences in science and technology; sense of initiative and entrepreneurship; social and civic competences; learning to learn and digital competences. These are complemented by seven transversal skills, which are: problem solving; risk assessment; initiative; decision taking; constructive management of feelings; critical thinking and creativity. Updates to the 2006 Framework will be provided in 2018.

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Chapter 2. Streamlining the governance and financing of Greek education

This chapter addresses the extent to which current education governance and financing systems in Greece can fulfil their strategic, managerial and pedagogical objectives. Unnecessary bureaucratic burdens, delays and competency conflicts are ongoing challenges. The first section of the chapter reviews the context of education governance and finance, focusing on the features that are unique to Greece. These include the position of education, within the "administrative pyramid" which also defines the structure of the Greek public sector overall, and the near universal enrolment of secondary school students in shadow education institutions. The chapter then examines those areas of governance and finance in Greek education which are the most challenging. The final section sets out recommendations on how to address these issues and a possible sequence for introducing these reforms over time.

This chapter addresses the extent to which current governance and financing systems in Greek education can underpin and support educational quality. Education systems need sound governance and effective financing. Sound governance should allow each administrative level to focus on its specific functions, whether strategic, managerial or pedagogical preventing bureaucratic burdens or delays, or competency conflicts. Effective financing should allow limited resources to be directed to those areas of the education system where they can be used most effectively, preventing waste of public resources. Effective financing mechanisms need to be aligned and subordinate to governance structures, so that they can support overall system improvements.

2.1. Governance and funding of Greek school education

2.1.1. The administrative pyramid shapes overall educational provision

The "administrative pyramid" is the term Greeks use to describe the specific governance structure of their state. Clearly not restricted to the education sector, the pyramid exerts its influence over all sectors of the government. However, in education its impact is particularly visible, because it directly affects the relationships between teachers (as part of the administrative pyramid) and students. For this reason it deserves a more detailed review.

The Greek Republic is a unified state, in which 13 regions have administrative roles, without locally elected councils and without executive bodies to represent these councils. Instead, the regions, governed by appointed officials, are an extension of the central administration. Regional directorates of education, the district administrations and school units, analogous to the national administration, are staffed by public servants, who occupy “organic positions”. “Substitute teachers”, a specific group of education staff without organic positions, are an exception to this. Permanent public servants with organic positions have secure, life-long public sector employment. They can lose their status only through leaving the public service of their own will (a very rare occurrence), after reaching retirement age, or due to a court verdict. In regard to the latter, a special procedure, conducted by regional level disciplinary commissions, must be carried out. The OECD review team was told that in practice these disciplinary commissions meet very rarely and are considered not to be very effective. Moreover, permanent public servants cannot be transferred to another institution or demoted without their prior consent (Roussakis, 2017[1]).

This permanence of employment makes the career of public school teacher with an organic position very attractive. The only way to obtain an organic position is to succeed in a nationally organised competition. Candidates apply for different types of positions, not for a specific position in a specific institution (for example, in a specific school unit or in a specific city), although they can state their preferred placement. The nationally approved selection criteria are used to rank candidates. If a position of a given type is open, those at the top of the list will be employed. Similarly, those ranked higher in the list are more likely to be offered the position matching their preferences. Thus, public servants are employees of the state, not of specific institutions. Candidate lists are maintained at the central level of the administrative pyramid, and are updated and used to fill vacancies that may appear.

In order to manage the competitions for organic positions, a complex system of criteria is employed to assess and rank each candidate. The candidates are allocated points, which gives rise to a ranking system. The selection criteria (points used for rankings) include

ASEP (Supreme Council for Civil Personnel Selection) examination results, academic qualifications, prior work experience, and social criteria. The criteria, which are nationally mandated, are regularly adjusted and changed.

This centralised ranking system, based on objective criteria, if appropriately implemented, may prevent corruption within the system (i.e. the offer of a job or of goods and services in exchange for political support, or "rent-seeking behaviour"). In addition, this system ensures staffing in remote schools in the islands and mountains as new teachers may spend several years teaching in hard-to-staff remote islands while waiting for an organic position to become available elsewhere.

At the same time, due to the level of complexity and lack of transparency, the centralised system may be quite easily misused. Further, even if applied properly, the national competitions do not take into account the specific needs of educational institutions, in either the appointment of school principals or teachers. There are also social and pedagogical drawbacks to this centralised system for teacher deployment. In general, less experienced teachers are assigned to remote and/or disadvantaged schools. In these schools, they may be required to take on more challenging tasks – for example, teaching several different subjects to mixed-age student groups, as well as performing administrative and maintenance tasks for the school. On a personal level, families may endure separation in the hope that in the future, with additional points awarded for their service in the islands, they may be granted a position in an urban school, preferably in Athens.

The school units themselves do not have the option to choose their staff members or to influence the rankings. Each year, school principals may inform appropriate administrative structures of the number and type of teacher vacancies, but they cannot indicate the specific needs of the school unit (such as students coming from different backgrounds). This process does not allow for consideration of the overall balance of teacher competencies within the school, or the balance of more experienced and newer teachers (with more experienced teachers able to mentor their less experienced colleagues).

The central Ministry of Education bears a significant level of the administrative burden, but has a limited role in the budget process

The key element of the centrally run administrative pyramid is the Ministry of Education, Research and Religious Affairs (MofERRA). The institutional structure of the Ministry is well suited to managing the centralised bureaucratic apparatus, as is discussed below. At the same time, high-level officials are replaced with each change of the government or policy. Because of this, the centralised structure is accompanied by regular shifts in policy direction and staff, presenting challenges to the sustainability of the Ministry's strategic efforts.

The Ministry includes four secretariats-general. The largest one is the Secretariat-General of the Ministry of Education, Research and Religious Affairs, which is responsible for education. The other three cover the remaining areas of responsibility: religion, research and technology, life-long learning, and youth initiatives.

The Secretariat-General of the MofERRA is divided into several directorates-general[1]:

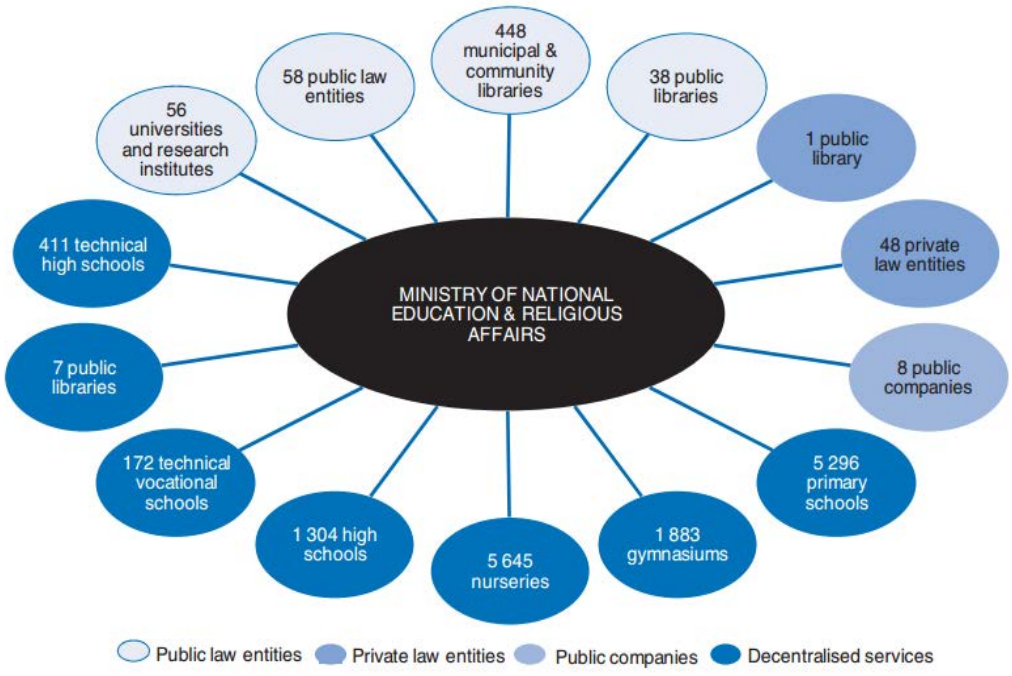
- Strategic Planning
- Financial Services
- Human Resources

- Studies in Primary and Secondary Education
- Staff in Primary and Secondary Education
- Tertiary Education
- Several autonomous directorates.

The role of the Directorate General for Financial Services is limited primarily to the budgeting of the Ministry itself and of institutions which are directly subordinate. No directorate collects or analyses data about overall financial flows and budgetary processes in education. As discussed below, this weakens the ability of the Ministry to effectively steer the education system and to introduce reforms. Similarly, the Directorate General for Staff in Primary and Secondary Education is involved in the oversight of the national competitions for organic positions (developing procedures, setting criteria, and maintaining candidate lists), but not in strategic planning for the needs of school units in different parts of the country and for different groups of teachers. Only recently has the Ministry begun to establish a national database of schools and students (often referred to as "education management information system").

Besides regional and district directorates of education, which are discussed below, the Ministry controls the activities of other institutions, as shown in Figure 2.1.

Figure 2.1. Education institutions supervised by the MofERRA



Source: OECD (2011[2]), *Greece: Review of the Central Administration*, http://dx.doi.org/10.1787/9789264102880-en.

Figure 2.1 indicates the high level of administrative and bureaucratic burden placed on the Ministry. It is necessary to add, however, that in the Greek system, this burden is especially heavy, because it includes the obligation to maintain and manage the organic positions of each of the subordinate institutions, including the obligation to conduct national competitions.

In this way, the Ministry is closely involved in staffing and other human resource management responsibilities for primary and secondary education. The main administrative tools to execute this function are the regional and district level directorates of education. At the same time, there is no unit in the Ministry responsible for monitoring of the education process in terms of inputs, processes, and especially of outcomes. Instead, the Ministry relies on its subordinate management structures to make the necessary reports. However, it is well recognised that if different units of the administrative pyramid themselves report on their own activities, the value of the reports is diminished. The absence of independent monitoring mechanisms or institutions limits the ability of the Ministry to strategically manage the education sector.

Regional and district directorates of education support implementation of national education policies

Besides the Ministry itself, the administrative pyramid includes the regional directorates of education (RDE). Ministry sources informed the OECD review team that RDE directors' selection process has been modified recently to strengthen its validity. They are expected to serve for a defined time period and are selected by a Central Education Council based on the same criteria as all education executives (including academic qualifications, teaching and counselling experience and an interview) (Ministry of Education, Research and Religious Affairs, 2018[3]). RDE staff, like Ministry staff, have organic positions and are appointed through the standard Greek procedures. RDE are deconcentrated services of the Ministry, and operate as a single structure for both primary and secondary education in the 13 Greek regions (Roussakis, 2017[1])[2]. They implement national education policies at the regional level, based on nationally mandated norms, regulations and procedures. Their responsibilities include administration and scientific and pedagogical guidance of education (Roussakis, 2017[1]). RDE select permanent teachers (teachers with organic positions) and school unit leaders. For all intents and purposes, they are a part of the state-wide administration.

The same is true of state administration extending further down, to the district level. Parallel district directorates of education for primary and secondary education (DDE) operate in all 116 districts or prefectural units (Roussakis, 2017[1]). They are a part of the national administration structure in the same way and sense as RDE, with their staff appointed through an analogous procedure. Interestingly, the Greek Republic has local governments, governed by democratically elected councils with local executive apparatus. However, the DDE are not subordinate to these local councils, but are financed directly by the state, and have very clearly separated functions. Their main role is to implement national education policy, oversee and control the activities of school units as regards compliance with the regulations and with new education policies, manage the allocation of seconded and substitute teachers at the local level, and provide pedagogical support to school units through the services of school advisors.

The structure described here is what is referred to as the administrative pyramid (this is also the terminology used by the Greek officials). The crucial fact is that, besides the Ministry and the regional and district directorates, this pyramid also includes the institutions where teaching and learning take place – the school units. These are examined in Section 0.

Information on the quality and equity of school and student performance is limited

As mentioned above, capacities to monitor education outcomes are limited. The only instrument allowing the Ministry to objectively measure the outcomes of teaching is the

Panhellenic examination, taken each year by students at the end of the 12th grade ("*lyceum* grade C") and used for the competitive selection process to universities. In particular, students with higher examination scores are able to enrol in better – or more sought-after – universities. However, this exam comes only at the end of the school career of students who want to enter into university. Moreover, the results are not comparable from year to year, and therefore are of limited use to the Ministry in its efforts to improve education quality.

The Panhellenic examination process is highly appreciated by parents and by most education experts met by the OECD review team. It is considered to be objective and reliable, and is the one element of the education system which is universally considered to be invulnerable to corruption. This system ensures that there is limited opportunity for "buying" grades or for illegally paying for admission to tertiary education. However, because this centrally developed and administered examination is used mainly for tertiary education admissions decisions, the stakes for participating students are extremely high. This leads to considerable distortions of teaching and learning in upper secondary schools, and seriously impacts the education system itself. For example, in the final year of upper secondary school, curricula for subjects covered in the Panhellenic are narrowed to focus almost exclusively on content that may be featured on the examination, while teaching of other subjects is reduced. The focus of the examination itself (through the design of test items) is on the acquisition of knowledge (an information reproduction approach) rather than application of that knowledge to address problems in specific contexts (a competency-based approach). This reinforces the rote-learning approach to teaching in upper secondary education, as schools at this level prepare their students to compete.

The process of preparing students for the Panhellenic examination also distorts the overall education system, as families devote a significant portion of their household income to shadow education, or private afternoon schools, which often serve one function only: preparation for this examination (see Section 2.1.5 in this chapter and Chapter 3 for a discussion of shadow education).

Finally, it is important to note that no single test can measure proficiencies in any given domain exhaustively, nor can it fully capture the quality of student capacities; when decisions are based on a single high-stakes tests, some very capable students may not succeed (see Chapter 3 for a discussion of the equity implications of the Panhellenic examination).

The Ministry's reported proposal to balance the Panhellenic examination with teachers' assessments may help to alleviate some of these distortions (with the Panhellenic counting for 80% and teachers' assessments counting for 20% of the score used to rank students for higher education admissions). The implications of this proposal for student equity and teacher capacity building are discussed in Chapter 3 and for school evaluation and student assessment in Chapter 4. Other instruments for monitoring education processes and outcomes, which are equally important for the Ministry to introduce and use are also covered in Chapter 4.

2.1.2. Stakeholder engagement within the administrative pyramid is limited

Education is a unique sector of any public administration in that a wide range of actors have their own, very different stakes in education outcomes. They include students, parents, teachers, employers, trade unions, public administrations at different levels, and thus, virtually the entire society. As indicated in Chapter 1, the current level of trust in the

education system in Greece, while higher than for some other public institutions, remains low. Stakeholder engagement is an important way to build this trust, and may extend from participation in the work of school units, through co-operation with local governments, through public dialogue at different levels, up to development of an overall vision for education.

Within Greece's administrative pyramid, however, stakeholders have had limited opportunities for engagement in education policy development at the national level, and even less at the local level. As described above, the governance structures and procedures in Greek education are focused on centralised management of human resources and do not provide channels and procedures for permanent public policy dialogue.

In recognition of this, the MofERRA has recently made efforts to gather stakeholder feedback on proposed policy reforms (Ministry of Education, Research and Religious Affairs, 2017[4]). While initially outreach included forums to support public dialogue, confrontations cut short these efforts. The failure of this *ad hoc*, but promising initiative is indicative of insufficient levels of trust in the system, or of underlying, unexpressed frustration, which the education governance procedures are unable to address. With the opportunity for direct public dialogue limited, the stakeholders have only the option to respond to reform proposals online, or to share their views in writing with regional or district directors. They may be able to vent their frustration, but do not have a pro-active role in developing a future-oriented vision for education – and for their children.

Another important channel for stakeholder feedback is co-operation with teacher trade unions. They have a unique role to play because they express the needs and aspirations of key education staff. There is institutionalised participation of teacher unions in central (KYSPE, KYSDE) and local Education Administrative Boards (PYSPE, PYSDE) and also in the selection boards of schools directors, which give them an important role in the administration of the Greek education system. However, tense relationships between the Ministry and teacher unions around areas where there is no agreement have stalled productive social dialogue on the way forward. While it is natural that top education administration and teacher trade unions have differing positions and only rarely are able to reach consensus, the exchange of the opposing views is crucial for strategic management of the system. In Greece, the lack of engagement of teacher trade unions in policy dialogue was underlined by their refusal to meet with the OECD review team to present their point of view. The Primary Teachers' Union (DOE) and the Federation of Secondary School Teachers (OLME) Teachers' Union have focused much of their attention on teachers' material working conditions (pensions, taxes, collective bargaining and agreements, and strike action), but have not insisted formally on having the opportunity to co-design policies on addressing problems of equity and exclusion, or of curricula and the textbooks (priorities are highlighted at www.olme.gr and www.doe.gr).

Research has highlighted the importance of engaging public servants in change processes, for example, through social dialogue and surveys on employee engagement (International Labour Organization, 2013[5]; OECD, 2016[6]). Demmke and Moilanen (2012[7]) found a strong relationship between the introduction of austerity measures and particular decreases in job satisfaction, trust in leadership, workplace commitment and loyalty in the European Union (EU) central administrations. On the other hand, employee engagement, is empirically linked to better organisational outcomes, such as efficiency, productivity, public sector innovation, citizen trust in public sector institutions, and employee trust in organisational leadership (OECD, 2016[6]). These findings are directly relevant to Greek education. Social dialogue with teachers and government accountability to ensure their

voices are included would go a long way to strengthening trust in the Greek education system. Teachers and families are the most consistent force for change within the Greek education system, and they need to be included throughout in order to ensure ownership and sustainability of reforms. To review the causes of current low level of engagement of teacher trade unions in policy dialogue goes beyond the scope of the present report, but the OECD review team has no doubt that the current state of relations represents an obstacle to further development of Greek education.

2.1.3. School units have low autonomy

Schools are universally referred to in Greece as school units (*Σχολική Μονάδα*), both legally and in common parlance. This is not a coincidence; the vocabulary of "school units" instead of "schools" indicates low levels of autonomy. School units are not separate institutions, with separate rights and roles, but are fully embedded in the administrative pyramid alongside the Ministry, RDE and DDE. As discussed below, they lack certain characteristics typical of schools in other countries, and are in fact administrative units. It is therefore appropriate for a discussion of the Greek education system to follow the Greek custom and use the terminology of "school units", not "schools". Recent policy initiatives indicate that school units may be granted some measure of pedagogical autonomy, but the scope of this is still under discussion (see Chapter 4). According to Ministry sources a number or initiatives to gradually increase autonomy include a thematic week established in 2016-17 in lower secondary schools, in which schools have freedom to design their own activities through teacher collaboration, or a new ministerial decision has established that each school should develop a framework for the organisation of school life at the beginning of the school year, following discussions across the school.

School units in Greece have appointed principals (school leaders), but their responsibilities are extremely limited and focused on administrative issues. The first limitation is that they cannot select their own staff, be they teachers with organic positions or substitute teachers (OECD, 2017[8]). Allowing principals greater input on staffing decisions, or indeed the right to select and employ school unit teachers, would mean that they would be better able to ensure a good fit between the teachers and the students, taking into account the teachers' competencies and the needs of the student population they will teach, consistent with the backgrounds and cultures of learners and their families. This is particularly important to ensure equitable teacher deployment throughout a school system. Another reason to consider the composition of the school's teaching team is that no individual teacher is likely to have all the competencies needed to support students to develop 21st century skills. Teachers with complementary competencies may bring more to collaborative work within schools and the school network. The competencies of the overall teacher team of the school therefore need to be considered.

Given the opportunity, principals and teaching staff may find ways to tailor the educational offer of the school units to local needs. However, very limited autonomy of Greek school units, beyond recent efforts to introduce a thematic week makes this very difficult[3]. The same is true of the ability of principals to engage parents and members of the local community, to use local resources outside of the school unit to enhance the educational process, to raise additional funds, or to engage staff and other members of the school community in developing innovative programmes. Consistent with the low level of school unit autonomy is the fact that principals do not receive any training in ways to successfully engage parents or in entrepreneurial skills.

School principals are currently barred from visiting classes conducted by teachers and from appraising the pedagogical process. This feature of the Greek education system is quite unique, and is contrary to standard OECD practices. It means that principals are not responsible for the pedagogical approach which teachers adopt, and hence also for the results of the teaching in their school unit (OECD/SSAT, 2008[9]). School principals are all teachers themselves, often with many years of practice in schools, and their experience and support could be of much value to other teachers, especially young staff and substitute teachers. Not to use these extremely valuable resources to improve the pedagogical process in school units is counterproductive.

School units do not have clearly defined pedagogical staff, with their teaching work force composed of several distinct groups of staff. Rather, there are two main groups of teachers: those with organic positions in school units (public servants), employed essentially for life, and the substitute teachers, who have short-term contracts (Roussakis, 2017[1]). Moreover, there are often several seconded teachers, that is teachers with an organic position in a different school unit from the school unit in which they were hired and where they maintain a post, or in the DDE, who in the given school unit give only several lessons per week.

School units have no defined budgets. Different budget lines are determined by different ministries and institutions. These include the following four major budget flows (see Section 2.2.3 below for further discussion):

- funds for teacher salaries managed by the Ministry of Finance
- funds for textbooks managed by the MofERRA through the state agency Diophantos CTI
- funds for building maintenance and for technical staff from the municipalities, based on a grant allocated by the Ministry of Internal Affairs
- funds for investments from agency K.Y.S.A. under the Ministry of Infrastructure, Transport and Networks.

The different budget lines are set in unrelated processes, are executed by different authorities, are reported separately, and are never put together in a single document, even for comparison. It is impossible to assess how much it costs to run a given school unit, or to compare per student costs in different school units. This indicates that school units are an integral part of the administrative pyramid also in terms of their budget. Further, principals have a very limited role in the budget process, which means that during the determination of next year's allocations for the school (from multiple sources), they have limited opportunities to formulate specific needs of their school units (European Commission/EACEA/Eurydice, 2014[10]).

To summarise the managerial position of school unit principals, they have no role in selection and appointment of their teachers, no role in shaping the pedagogical process in the school unit, and no role in the budget process. Compared with most OECD countries, Greek school units have weak leadership with low levels of autonomy to make decisions.

2.1.4. The economic crisis has had a significant impact on education

Adjustment to the crisis has been painful but successful

The smooth functioning of the administrative pyramid, which oversees the activities of primary and secondary education, was severely interrupted by the deep economic crisis. There were painful adjustments, including a serious decrease of teacher salaries and

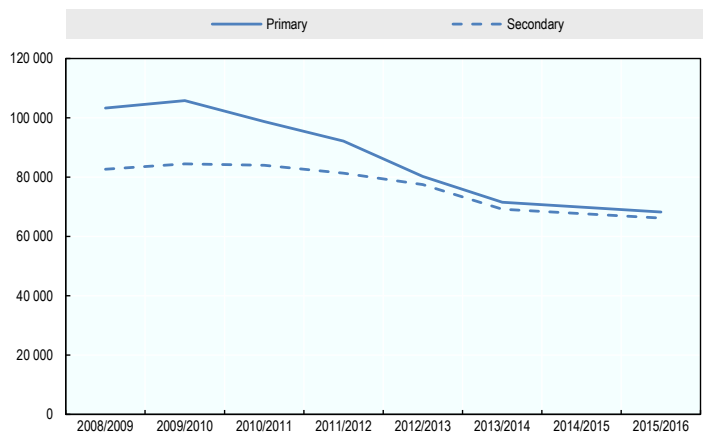
elimination of seasonal bonuses. In 2016, average teacher salaries amounted to 75% of their levels in 2009. Moreover, administrative support personnel such as secretaries, where provided, were withdrawn from school units, which put more pressure on other staff, especially on principals. However, these adjustments did not interrupt the work of school units. Similarly, despite fiscal constraints the provision of free textbooks to all students continued.

The crisis was most acutely felt in the employment and career advancement opportunities of teachers. The OECD review team was informed that the creation of new organic positions across the public sector was regulated in the Memorandum of Understanding, signed by the Greek government with representatives of the European Commission, the International Monetary Fund and the European Central Bank. Under the Memorandum there is an attrition rule in place, which specifies the ratio of employees lost due to retirement or having left the public sector, and new hires. The law specifies that this ratio was to be 5:1 in 2016, 4:1 in 2017 and 3:1 for 2018.

The choice of sector where the new organic positions are created is left to the discretion of the Greek authorities. The government decided that education is not a priority sector, and as a result, no new organic positions have been created in Greek education since 2009 (Roussakis, 2017[1]). Effectively, Greece has frozen hiring of new permanent teachers. This clearly gave Greek authorities more freedom to create organic positions in priority sectors, at the expense, however, of satisfying the needs of school units.

Over time, the natural retirement processes of teaching staff and teachers leaving school units have led to a serious decline of permanent staff in school units. Figure 2.2 presents number of teachers with organic positions in primary and secondary education.

Figure 2.2. Number of permanent teachers by level of education



Source: Roussakis, Y. (2017[1]), *OECD Review, Partial Background Report for Greece*, Greek Ministry of Education, Research and Religious Affairs.

In the period 2008 to 2015, the number of permanent teachers (public servants) declined by 28%. The decline is particularly severe in primary education (almost 34% reduction in the number of permanent staff). Indeed, since 2009 there has been no new hiring of permanent staff, and therefore no need to conduct national competitions for organic positions, as described above, with the last ASEP examination conducted was in 2009.

To summarise, three factors contributed to the severe problem of understaffing in public school units in Greece: the economic crisis, the limitation on creation of new organic positions, and the strategic choices of the Greek government regarding the sectors where new organic positions will be created.

Substitute teachers have become prevalent in school units

The resolution of the problem of fewer organic positions was quite ingenious, both from an administrative and a financial point of view. The workaround solution involved the use of substitute teachers, in agreement and with the co-operation of the European Commission. The substitute teachers are employed every year for up to ten months of the school year. They do not receive salaries during summer holidays, and after the holidays (and increasingly earlier) may apply for another short-term appointment. Thus, from a macroeconomic perspective, they do not represent an additional long-term liability to the national budget. Further, the European Commission has agreed that European Structural Funds may be used to cover the salaries of substitute teachers (formally, these expenditures do not represent salaries, but payment for educational services, which explains why they do not receive salaries during holidays, unlike permanent teachers in Greece or indeed in other EU countries).

Over time, as the pace of permanent teachers leaving their organic positions due to retirement continues, the number of substitute teachers in the sector has grown. Between 2011 and 2015, the number of substitute teachers in primary and secondary education increased from 14 000 to 18 900 – that is, by nearly 35%. In this period, the share of substitute teachers grew from 8% to 14.1% (Roussakis, 2017[1]).

Table 2.1 indicates the percentage of substitute teachers in the teacher workforce for different subsectors of education in the school year 2016/2017. Note that the table provides the number of teachers as physical persons, not as full-time teacher equivalents. This limits the accuracy of analysis, because in terms of their contribution to the work of school units, and the salary received, it is the full-time equivalency which counts. Central and regional education administrations are excluded from the table, because they do not employ substitute teachers. Further, unlike historical data cited above, the table includes preschool teachers as well as decentralised services (these are various professional support services working with students and with school units).

Table 2.1. Substitute teachers in Greek education, 2016/2017

	Number of all teachers	Number of substitute teachers	Share of substitute teachers	Distribution of substitute teachers
Preschool	14 052	2 557	18.2%	11.1%
Primary	66 649	12 304	18.5%	53.4%
Lower secondary (Gymnasium)	37 983	4 231	11.1%	18.4%
Upper secondary (Lyceum)	21 962	1 145	5.2%	5.0%
Vocational upper secondary	13 725	1 038	7.6%	4.5%
Specialised vocational	1 814	1 332	73.4%	5.8%
Decentralised services	1 666	434	26.1%	1.9%
Total	157 851	23 041	14.6%	100.0%

Source: The OECD review team calculations based on statistical data provided by the Greek Ministry of Education, Research and Religious Affairs.

As the table indicates, substitute teachers have become a key feature of Greek education, accounting for nearly 15% of the teacher workforce, and their work in school units is crucial for continued operations of the sector. They are especially prominent in preschool education and in primary education, where they represent over 18% of the regular teaching staff, less so in lower secondary school, and many fewer in general academic and vocational upper secondary schools. The high share of substitute teachers in special vocational school units appears to be an anomaly; this is a very small subsector of education.

The last column of Table 2.1 indicates that substitute teachers are concentrated in primary education (over 53% all substitute teachers) and in lower secondary education (over 18%).

The use of substitute teachers is a short-term solution

It is important to note that the use of substitute teachers under the present legislation is not a good long-term solution. There are two aspects to this problem. The first concerns the functioning of school units. With the teaching workforce composed of two very different groups, it is difficult to achieve team unity and co-operation. Teachers with organic positions enjoy complete job security, knowing that they will be teaching in the same school the following year, while substitute teachers are in a precarious professional situation (see below). And while in school units in affluent areas of large cities substitute teachers are often a small minority, the OECD review team was told that in some provincial school units, especially those located on islands, substitute teachers dominate. Moreover, the use of substitute teachers is associated with constant turnover of a considerable part of the teaching staff. This undermines the basis for planning of teacher in-service training and for introducing new teaching approaches. As a result, the ability of school units to adopt and execute school unit development plans is weakened. The planned introduction of school unit self-evaluation and of some pedagogical autonomy (see Chapter 4) may exacerbate these problems significantly.

The second aspect concerns the professional position and professional perspective of substitute teachers. Their position in the sector is extremely precarious, without any

certainty about their employment prospects in the following school year. Even if they find employment in a school unit the following year, which most of them will because of obvious demand for their services, this will very likely be in a different school. This seriously reduces their positive engagement in the school development plans and their motivation to closely co-operate with their students' parents. Further, not being paid for holiday periods makes their life more of a struggle. Substitute teachers may be therefore reluctant to make investments into their professional development, such as paying for additional courses to obtain new qualifications.

The Ministry understands the negative impact of substitute teachers on the functioning of Greek education. Their main policy response is to stress the underfinancing of the sector, and to postulate a return to unhindered employment of permanent teachers using the traditional mechanisms of the administrative pyramid described above (see Section 2.1). This clearly would dispense of the need for substitute teachers. And indeed, it seems probable that Greek education is underfinanced (see Section 2.2.4). However, given the lack of data, it is not easy to prove that point, or to present a clear picture of regional and social variation of this perceived underfinancing.

Similarly, it is certainly true that a complete freeze of new permanent employment in school units is harmful to education. If the system of organic positions remains in force, what is needed is a transparent and objective system of allocating organic or permanent positions to school units. Therefore, a simple return to pre-crisis approaches is a policy choice that may have negative consequences and would require in-depth discussion.

The Greek education system demonstrated flexibility and creativity in responding to the refugee crisis

The ability of the Greek education system to respond to a sudden and unexpected crisis was very clearly demonstrated when a massive inflow of refugees arrived in Greece in 2010 (Triandafyllidou and Gropas, 2014[11]). Initially, Greece was the main entry point of immigrants, although by 2017 this shifted to Italy (UNHCR, 2017[12]). Most of the immigrants have treated Greece as a stepping stone and continued their precarious journeys further north, through the Former Yugoslav Republic of Macedonia (FYROM) and Serbia.

From the start, there were many school-aged children among the refugees. Even though most families were intent on moving to central and northern EU countries, they often stayed with their children for considerable time in camps organised by the Greek authorities after travel routes out of Greece were blocked to them. This has created a serious challenge for the Greek education system to accommodate immigrant children, who very rarely have any previous knowledge of the Greek language, in local school units.

Remarkably, despite the bureaucratic burden of introducing new policies in Greece and the associated delays, the Greek education system soon began to respond to the challenge. This response occurred during the ongoing severe financial turmoil, which of course limited available resources. With many volunteers at different levels, Greeks managed to accommodate traumatised children, provide them a welcoming secure environment, ensure they could attend school units and begin learning (starting with the learning of Greek language, necessary for communication with other students and for classes). The good will of educators and the resilience of institutions revealed in times of crisis shows that Greek education governance structures have the resources and the capacities to respond both adequately and in a timely manner.

Interestingly and very innovatively, to provide additional necessary pedagogical staff to help immigrant children, Greek education used the system of substitute teachers. To fully use school unit facilities and to avoid potential conflicts, classes for newly arriving migrant students are typically organised in the afternoon, after day students have left the buildings. In many school units, these afternoon lessons have been organised with remarkable success, staffed by enthusiastic and caring substitute teachers. They have had to learn, largely on their own and through improvisation and trial and error, how to approach traumatised children, how to encourage them to attend classes, what pedagogical programme to adopt for their students, and how to adjust for cultural and social differences. In some ways, the allocation of necessary substitute teachers required less time and could be organised more quickly than would be the case for permanent teachers (whose deployment requires complex administrative procedures, and who could not be employed in any case, due to the freeze discussed in Section 2.1.4).

Nevertheless, it is important to point out the inherent dangers of this inventive, *ad hoc* solution. Recall (Section 2.1.4) that substitute teachers are employed for up to ten months only, and typically are appointed to another school, if they are employed the following school year at all. Moreover, their next year's employment need not involve working with migrant children, as this type of experience is not a part of standard ranking of candidates for substitute teachers. This creates risk that the experience and knowledge gained in working with migrant students will be lost, and new substitute teachers assigned to these students will need to start learning their new role. The same is true of the personal ties formed in the process between the teacher and the student, which obviously are of great importance when dealing with fragile and traumatised students.

2.1.5. Rates of privately funded shadow education are high

Greek society, for a variety of reasons and for a considerable period of time, has financed the education of its children *via* both taxes, to pay for public schools, and directly from household budgets, to pay for shadow education. A description of the sector is in Chapter 1, Section 1.3.3. The share of the second financing stream is extremely high by international comparisons and continues to grow. This may be a response to the possible underfinancing of public education (see Chapter 2, section 2.4), or to the perceived weakness of public school units (see Chapter 2, Section 2.3).

Available estimates of household expenditures on private tutoring in Greece are not fully reliable, as they report very different figures. Nevertheless, there is a consensus that they are likely to be the highest in the EU and among the highest in the world. Overall estimates on the amount spent on shadow education in Greece vary between 1% and 2% of GDP (European Commission, 2011[13]). Considerable variation over time has been recorded. It has been estimated that in 2004, on average, Greek households spent more than EUR 10 000 for every child attending shadow education in secondary education in preparation for the university entrance exam (Psacharopoulos and Papakonstantinou, 2005[14]). This would translate to an overall estimated expenditure of EUR 1.1 billion – more than government expenditure on secondary education at the time (Psacharopoulos and Tassoulas, 2004, p. 247[15]). For 2007, it was reported that yearly household expenditures on supplementary education was about EUR 1.7 billion (Liodakis, 2010[16]).

More recent estimates, although in aggregate rather than at household level, would indicate that this diminished as the impact of the crisis took hold. In 2008 for example, the estimates are lower: an estimated EUR 952 million was spent by households on private tutoring, of which EUR 340 million were for individual lessons and

EUR 612 million for *frontistiria* attendance (where per student prices are much lower). This represents over 20% of government expenditures on primary and secondary education in Greece, as well as over 18% of all household expenditures on education (KANEP/GSEE, 2011[17]), (European Commission, 2011[13]). Moreover, households spent an additional EUR 705 million on for private foreign language lessons.

Estimates by the same sources for 2013 are much higher. For 2013, it was estimated that total household expenditures on all private tutoring, including supplementary education, foreign languages, music and digital learning amounted to EUR 3.9 billion. This represented 80% of state budget expenditures on primary and secondary education, and nearly 2% of GDP [KANEP/GSEE (2016[18]), cited in Liodaki and Liodakis (2016[19])]. Expenditures on supplementary education (both *frontistiria* and individual lessons) represented 75% of this amount. This is a considerable financial burden on families (Kassotakis and Verdis, 2013[20]).

The *frontistiria* market adjusted to the economic crisis, in parallel to the public education sector (Liodaki and Liodakis, 2016[19]), in part through lowering of fees and adjusted educational offer. A small *social frontistiria* movement has attempted to provide after-school tutoring for those students who cannot afford even these diminished offerings (Zambeta and Kolofousi, 2014[21])

Based on these data, it can therefore be concluded that private investment in education, primarily in private tutoring, including *frontistiria*, represents considerable expenditure, comparable with the entire national budget allocation for primary and secondary education. The impact of this on schooling, on equity, and possible policy solutions are discussed in detail in Chapter 3, Section 3.2.5. However, even though *frontistiria* and private tutoring have important implications for the equity and quality of educational provision (as discussed in Chapter 3), a diversion of even a part of household education expenditures into the public school education system could be challenging and risky.

2.2. Policy issues

As discussed in the previous section, Greek education, like all other sectors in the public sphere, is embedded in a large administrative pyramidal structure. The impact of this rather unique governance model is clearly visible across all levels of education. It seems unlikely that any far-reaching governance and finance reform of Greek education system is feasible without addressing the questions of the administrative pyramid and of the organic positions. These two questions, however, which touch on the fundamental structure of the Greek state, are anchored in the Greek Constitution, and therefore cannot be tackled in a report focused on education.

In the present section, instead, specific policy issues of the current system of education governance and finance in Greece are identified; these issues were chosen because they are directly relevant to the problem of continuing self-improvement of Greek school units and do not raise constitutional issues.

2.2.1. Schools are seen as administrative units

Responsibility for school units is fragmented

Different groups of school unit staff are appointed by different institutions using different criteria. Today, the responsibility for different spheres of activities of school units is fragmented and diffused. Permanent teachers, who are public servants (teachers with

organic positions), are selected by a special national-level commission, using national criteria and a credit system. No opinion of principals is required or solicited during the process of allocating successful candidates to individual school units.

The same rules are followed when permanent teachers apply to change the school unit where they teach. From the point of view of the majority of teachers, the most attractive school units are in Athens and Thessaloniki, the least attractive on remote islands and in the mountains. Therefore, if a vacancy in one of the attractive school units appears, many permanent teachers working in remote areas are willing to transfer. In theory, this situation could give school unit leaders in urban areas some ability to structure their workforce according to the needs of students or to the specific teaching programme of the school unit. However, as should be clear from the preceding discussion, current legislation does not allow this.

Seconded permanent teachers and substitute teachers are allocated to school units by service councils, organised in each DDE, using a different system of criteria and credits. The selection of both permanent and temporary teachers is performed without taking into account the needs of specific school units; it is based entirely on the number of points candidates have earned (and thus, on characteristics of candidates). In practice, this leads to permanent turnover of substitute teachers, who are employed again at the start of every school year and for one school year only.

A separate question concerns the ability of principals to appraise the teachers in their school and to terminate the employment of those who, over several years, were appraised as not being competent. Current Greek legislation bars principals from appraising their teachers, and removing a weak permanent teacher from the profession is nearly impossible. The professional opinion of principals regarding teachers is not included as a criterion for national competitions for organic positions or for promotion. Similarly, a negative appraisal of a substitute teacher by their principal after one year of work in the school unit to which they were assigned has no impact on their future employment prospects as either a substitute or for their prospects to secure a permanent position.

Technical staff are selected and remunerated by local government officials. Here the discussions with principals are much easier, due to local presence of interested stakeholders, and a lack of national procedures and standards.

The main reason this situation is problematic is that it does not allow the school to develop responding to its specific needs, or to acquire a common approach to the pedagogical process within the school unit. Indeed, some of the Athens school units visited by the OECD review team were very proud of the fact that they have a stable teacher workforce, and explained in various ways how this contributes to better teaching. However, these school units also had either very small classes, or no substitute teachers. At the same time, the OECD review team was told that in the provinces, some school units change over half of their teacher workforce every school year. In other words, they do not have the stability so valued in prestigious urban school units, which are seen as desirable work placements for teachers.

The inability of the principal to shape the teaching workforce becomes challenging if a school unit is academically weak and needs a school improvement plan. Major elements of such plans involve teacher retraining, strengthening of teacher co-operation, elements of peer learning (including stronger teachers supporting those weaker or less experienced), and joint planning and evaluation of specific pedagogical interventions. All these elements require time to develop and implement, and therefore become challenging

if pedagogical staff varies considerably from year to year. School improvement plans cannot be effective without honest appraisal of the contribution made to the pedagogical process by every teacher, and ultimately without a path to discontinue employment of weak teachers.

Specific needs of school units are not identified

Many independent, non-cooperating agents are involved in the governance of school units. Each of these independent agents uses a separate set of nationally mandated procedures and national norms in their allocation of different resources. It is unavoidable that the same fragmentation appears in the budget sphere, with no single agent knowing, planning and managing the complete school budget (see Section 2.2.3). Therefore, the specific needs of the school units are not identified and may remain unaddressed.

These needs may be of quite different types. Some may be due to student characteristics. A heterogeneous student population, for example including non-native Greek speakers, or Greek students coming from very different family or socio-economic backgrounds may require additional positions of psychologists or other support pedagogical staff or extracurricular activity support. In contrast, motivated students coming from wealthier, better-educated urban families may need different type of staff.

Different types of school unit needs may also arise due to the allocation of teachers to schools. A school unit may have mostly young and inexperienced teachers, or mostly elderly teachers who are losing motivation for long-term professional development. It is sometimes the case that some school units suffer because of conflicts between groups of teachers. This type of problem requires close analysis and careful resolution.

Specific needs of school units may be related also to inadequate infrastructure. However, school unit investments are the responsibility of K.Y.S.A., a state agency reporting to the Ministry of Infrastructure, Transport and Networks. This means that the agency collects and assesses nationwide data on school unit facilities, and uses its own criteria for allocating scare resources. These are technical and construction criteria, which may be in conflict with educational and pedagogical priorities.

School units have no institutional identity and no autonomy

As discussed in Section 2.1 of this chapter, school units in Greece are embedded in an administrative pyramidal structure, with no clear demarcation lines regarding staff and budgets. The school unit has no influence over the selection process of its teachers, for both permanent staff (with organic positions) and for seconded and substitute teachers there are complex, nationally mandated procedures and selection criteria. The composition of the teacher workforce changes from year to year, and while the situation is relatively stable in large, prestigious school units in Athens, in some regions the turnover may be close to 100% of teachers.

There are two main reasons for this turnover. One reason is that permanent teachers are by law employed only on a full-time basis, so for some subjects a school may not have enough teaching staff, while for others, it may have excess capacity. In that case, teachers may be seconded from their own school (where they have the organic position) to another school. Such secondments are decided every year by the DDE (primary or secondary as the case may be), often just before the start of the school year. Continuation of work of seconded teachers in the same school unit is not a priority.

The second reason is that there is an increasing number of substitute teachers, and they are employed for up to ten months per year (usually for the duration of the school year). Due to the nature of the selection process, the substitute teachers allocated to the school unit may change – and very often do change – from year to year. As a result, planning teachers' continued professional development becomes very difficult, if development programmes continue beyond a single school year.

Similarly, the school units do not have budgets. Separate budget lines are determined by different ministries in unrelated budget procedures, and are never put together, even for reporting purposes. The effect of this system is a less than optimal use of available resources. Indeed, in the period of fiscal constraints, the most important budgetary issue is to balance the needs and to decide on trade-offs between different allocation options. For example, if additional resources are available, they can be used to contribute more effectively to school unit academic improvement: additional teachers, additional pedagogical support staff, or additional school equipment. Analogous choices arise if budget cuts are inevitable. With the fragmented budgetary process, this type of optimisation of resource use is not possible. And even more importantly, it is not clear which level of the governance pyramid would be able to undertake it.

This lack of institutional identity of school units is underlined by the very weak position of the principal of the school unit. Not involved in the selection of teachers, unable to supervise and assess their classroom practice, the school unit principal is primarily an administrator. In addition, due to lack of secretarial support in the school unit, the director may have to perform many routine functions such as distribution of chalk to teachers, further reducing her or his ability to strategically manage the institution (not to mention her or his prestige).

The lack of school unit identity becomes acutely problematic for those units experiencing difficulties, which may struggle to provide quality education, and may need school improvement plans.

The OECD review team visited some prestigious school units in large urban centres and noted that they have ways of overcoming these types of problems, mainly because they have a stable teacher workforce and long-lasting principals, who over time had been able to develop sound pedagogical practices. However, the share of substitute teachers in these school units was very low. Lack of school unit institutional identity is especially damaging for school units that are academically weak and face large teacher turnover.

As has been noted, the Greek MofERRA has recently introduced plans for increased pedagogical autonomy of school units through a new decentralised support structure. These plans are certainly encouraging. Nevertheless, pedagogical autonomy can only be effective if it goes hand in hand with the strengthening of institutional autonomy and supporting staff capacity – in particular with the strengthening of the position of principals and their ability to assess and select school unit staff. Without that crucial aspect, pedagogical autonomy may become meaningless.

2.2.2. School units are subject to excessive regulation and prescription

Being embedded in the national administrative structure (the pyramid), Greek school units are subject to many regulations and restrictions, and need to follow multiple time-consuming, unnecessary bureaucratic procedures. These regulate the planning of the school year, the division of students into classes (for example, by alphabetic order in secondary school units, with the aim to avoid sorting by ability, but sometimes leading to

gender imbalance in classes), organisation of additional activities like school excursions, and similar.

Perhaps most intrusive are regulations of the teaching process in class. The OECD review team was told that for each grade and subject, teachers are obliged to discuss the same topics in the same or close to the same dates, as established in teaching schedules. As a rule, these schedules (built according to the teaching programme) are excessively crowded, so to follow them in every detail is next to impossible. The OECD review team was also told by teachers that they have identified and reported on various problematic issues in the textbooks, but the publishers did not correct them. Therefore, in separate obligatory documents, again for each grade and subject, the Ministry instructs all teachers which parts of the prescribed schedule, and which corresponding sections of the textbooks, should be skipped. Such "jumping around" within the approved teaching plan is probably easier for the Ministry to introduce and monitor than would be a reduction of the teaching programme or a redesign of the textbooks. The result is to make the work of teachers that much more difficult, however.

These types of rules disempower teachers, preventing any opportunities for initiative, and prohibiting individualisation of teaching. The more rules are imposed, and the more instructions are issued on how to skip parts of these rules, the less autonomous and responsible the teacher becomes. In some cases, she or he may simply struggle to know what to teach.

These rules also mean that even if some parts of the material are not fully mastered by the students, the teacher is obliged to continue to the next topic in order to catch up with the mandated schedule. Such continuation to the next topic affects entire classes, of course, and not just individual students with their diverse needs. For an academically weaker class, or for some subjects which are difficult to learn on one's own, this can lead to real long-term problems. Conversely, teachers cannot accelerate topics which students find easier (or with classes which are more motivated), and so free the available teaching time for more demanding questions.

Separate rules prohibit the use of educational material from other non-approved sources. Today, all students have access to the Internet and to many different learning tools – from Wikipedia to Internet search engines. There are obvious dangers to using fake sources and invalid references, and it should be one of the functions of the school to teach students how to make selective use of available information and how to question and verify everything they find on a smartphone or laptop. However, use of non-prescribed materials, including from the Internet, is not allowed in Greek school units. This limits the access of students to potentially valuable, diverse teaching materials, and also prohibits teaching of responsible and critical use of the Internet.

In practice, some teachers do use other, non-prescribed material, or deviate from the strictly imposed order of teaching. However, they need to do this without leaving traces, especially in official documentation that may be checked by school advisors from DDE. Principals have no influence on these matters either, and the OECD review team heard that they generally prefer not to know what is going on.

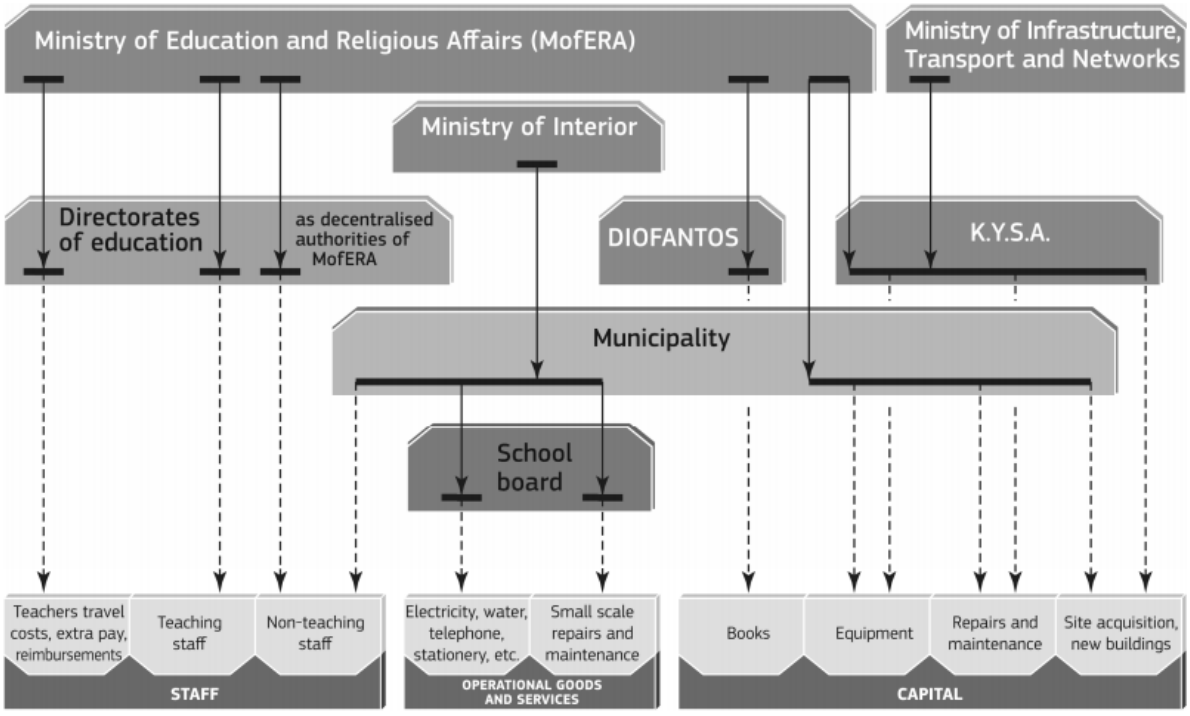
Again, it needs to be stressed that this prescriptive approach to regulating the pedagogical process is most damaging to school units in remote areas, with students coming from different social backgrounds, and to academically weak school units. When teaching highly motivated students, teachers may be able to follow all the prescriptions and still find time and energy to offer their students quality pedagogy. In contrast, when students

are not motivated, and when they sometimes need to be taught the basics, the prescriptive approach becomes counterproductive.

2.2.3. Financing of school units is fragmented

As briefly discussed in the preceding section, the funding for Greek school units comes from multiple sources. Figure 2.3 provides an overview of financial flows.

Figure 2.3. Funding of Greek schools, 2014



Source: European Commission/EACEA/Eurydice (2014[10]), *Financing Schools in Europe: Mechanisms, Methods and Criteria in Public Funding*, http://dx.doi.org/10.2797/7857.

The financial flows depicted in Figure 2.3 may be described in the following way:

- The largest proportion of funds is allocated directly to the pedagogical staff of school units from the Ministry of Finance, and covers the salaries of permanent staff (public servants, from the state budget of Greece) and of temporary staff (seconded teachers, from the state budget of Greece; substitute teachers from the European Social Fund). This part of the school unit budget is managed by the Ministry of Finance, and is allocated on the basis of data collected from the school units. These data, including the amounts allocated to every school unit, are not directly available to the MofERRA.
- The salaries of technical staff and the maintenance expenditures (heating, electricity, water, communal expenses, materials, small repairs) are financed from municipal budgets. For this purpose, municipalities use funds allocated to them by the Ministry of Internal Affairs. This is a cascading flow: money is first transferred from the national to municipal budgets in the form of grants, and then transferred from municipal budgets to bank accounts of technical staff. The allocation of the grant is performed according to a formula, which presumably

takes into account the number of students, the number of school units, and also the fiscal situation of the municipality (the OECD review team was not able to obtain and review this formula). The MofERRA does not know the amounts of budget involved nor the allocation mechanisms used by the Ministry of Internal Affairs.

- Textbooks are managed by the Diophantos Computer Technology and Publications Institute, a national agency subordinated to the MofERRA, named after the famous ancient Greek mathematician. The printing and delivery of textbooks is conducted based on data collected from school units by Diophantos (the exact procedure was not disclosed to the OECD review team). Diophantos prints textbooks approved by the Ministry, every year for every grade and every subject, and then delivers them free of charge to all students. The numbers of textbooks, their destination, and the expenditure amounts involved are directly available to the MofERRA for review, should it wish to analyse them (it only needs to request the data from Diophantos).
- New school investments are financed by K.Y.S.A. agency under the Ministry of Infrastructure Transport and Networks. In particular, K.Y.S.A. is responsible for purchases of land and buildings and for managing new constructions. For these purposes, K.Y.S.A. has its own budget allocation from the Ministry of Infrastructure, Transport and Networks, and uses it to address deficiencies in school unit infrastructure, based on its own priorities. Clearly, K.Y.S.A. needs its own data collection processes to decide on the priorities and sequencing of school unit investments. K.Y.S.A. expenditure data are directly available to the MofERRA.
- School unit repairs, maintenance and equipment are partially financed from municipal budgets, and partially by K.Y.S.A. The school unit does not receive funds for this purpose, instead it is provided with appropriate new equipment. These are two separate financial flows supporting operations of school units, coming from different budgets and based on separate data, collected through different procedures. Funds from municipal budgets for repairs and maintenance are obtained through own revenues of municipalities. K.Y.S.A. budget for repair and maintenance comes from the MofERRA (and is separate from K.Y.S.A. budget for infrastructure). Only expenditure data on equipment coming from K.Y.S.A are directly available to the MofERRA.

Unfortunately, the OECD review team was not able to obtain even rough estimates of the sums involved in each of these five expenditure streams from the MofERRA. This indicates that there is no routine mechanism in the Ministry to assess, monitor and steer the overall financing of school units, or to assess and address potential imbalances in the financing of different subsectors of education (i.e., preschool, primary, lower secondary and upper secondary schools).

For each of these expenditure flows (fragments of school unit budgets), a different budgeting process takes place. Of course, each budgeting process involves collection of necessary data, planning of the budget lines for the next fiscal year, making actual expenditures during the fiscal year, and finally reporting of the expenditures made. There are allocation procedures for each budget stream, and in some cases even allocation formulas. However, these procedures and formulas are not known to the MofERRA and most likely do not include many relevant education factors. Each expenditure flow has a different institution bearing the political responsibility and taking the final decisions about the allocation and use of budget funds.

One consequence of this fragmentation is that it is impossible to assess and address regional disparities in spending on primary and secondary education. Such disparities, if they appear, always require review and effective countermeasures. It is worth adding here that about one third of the Greek education system is in two major urban areas – Athens and Thessaloniki (Roussakis, 2017[1]). It is most likely that per class spending in the school units located in these areas is much higher than in rural school units, while per student spending is much lower (due to larger classes). However, with the current limited availability of budget data, such an important analysis cannot be performed.

Another consequence is that it is extremely difficult to know how much Greece is spending on education altogether. Neither the OECD *Education at a Glance* (OECD, 2017[8]) nor Eurostat can provide data on education expenditures as percentage of Greece's GDP. Indeed, there are two official numbers submitted to the European Union, namely 3.2% of GDP as assessed by Eurydice, and 4.5% of GDP as assessed by Eurostat (KANEP/GSEE, 2016[18]). The difference between these two numbers is a staggering 1.3% of GDP. It is unclear how either of these two figures was extracted from raw budget data and calculated. Both of these figures are quite low compared to the OECD average of 5.2% (OECD, 2017[8]). This suggests, but cannot be taken as a proof, that Greek education is underfunded. Towards the end of its mission, the OECD review team was informed that recent analysis indicated that the higher of these two numbers is more likely to be correct, but there was still no definite answer.

Finally, it is worth noticing that Diophantos is in the process of implementing a new national education database, called MySchool. This is a new and praiseworthy initiative which aims to address a serious weakness of Greek education. As identified among other issues in a recent OECD report, basic statistical data on students and teachers are unreliable, with little coherence between data collected by the MofERRA and by the Hellenic Statistical Authority (OECD, 2017[22]). Hopefully, MySchool will provide reliable student and teacher data. There are plans to include financial data in that database, as well. However, there is a risk that unless basic coherence on reporting of budget expenditures is achieved, entering budget data into MySchool may simply create a third, unrelated and uncorrelated source of information on budget expenditures on education – further compounding rather than clarifying the situation.

2.2.4. The underfinancing of education

As mentioned above, the estimates of overall spending on education in Greece range from 3.2% to 4.5%. These figures are quite low by international standards, and they indicate that Greek education is almost certainly underfinanced, if the true level of expenditures lies between them (something which seems likely but which cannot be confidently asserted at present).

It cannot be stressed strongly enough that persistent underfinancing of education has long-lasting negative effects on the operations of school units and on the quality of teaching and learning. It results in relatively low salaries, in shortages of teaching and support personnel, in inadequate school unit equipment and in deteriorating school unit facilities. In specific conditions of Greece, it is also accompanied by growth of privately funded supplementary education. The case for reversing these trends is therefore strong.

However, given the fragmentation of education finance and the complexity of funding sources and allocation methodologies (see Section 2.2.3), there is no simple way for the Ministry to address this potential underfunding. The complex machinery of recurrent and

capital budgeting may be able to continue operating within the *status quo*, but is unwieldy as an instrument for making serious changes to financing levels.

The MofERRA argues, as discussed already, for more organic positions in primary and secondary school units. Presently it is impossible to state what the priorities in allocating these new organic positions should be. For example, the relative needs of primary and secondary education cannot be assessed, and the detailed data are maintained and processed by separate institutions (District Directorates of Primary Education and District Directorates of Secondary Education). Therefore, it is not easy to assess how many new organic positions should be created in primary, in lower secondary and in upper secondary education. The share of substitute teachers is particularly high in special vocational education (see Table 2.1). It is unclear, however, whether this means that more new organic positions should be allocated to these schools.

Further and perhaps more importantly, it is unclear how to distribute new organic positions across regions, districts and school units. The Ministry needs solid empirical evidence before it can make decisions as to the optimal distribution of positions to benefit the pedagogical work of school units. The new MySchool database, when operational, may provide some of the necessary data. For example, these data may support decisions, in each specific case, as to whether to staff small island and rural school units with new organic positions, or to consolidate them into larger school units. Relative needs have to be assessed taking into account also social conditions and the educational environment in which school units operate.

Further, provision for salaries of permanent teaching staff is only one, albeit the largest, expenditure stream in Greek education finance (one of five, see section 2.2.3). Good review of relative needs of school units must be undertaken, so that Greece can confidently decide, whether more funds should be directed to textbook provision, to ensure that these are updated, modernised and made attractive for students, or whether Greece should invest in school facilities and teaching equipment, or in school maintenance and in salaries of technical staff. As an example, we note that increase of support staff employment, such as school unit secretaries, would allow principals to focus on more important pedagogical tasks (see Section 2.3.4).

Apart from addressing the relative underfinancing of different subsectors of education, and of different types of expenditures, Greece will also need to address relative underfinancing of regions and perhaps even of districts.

Lacking nationally collected, trustworthy budgetary data covering all expenditures of school units, and without comparable data on school unit facilities across the regions, the Ministry risks taking decisions based only on subjective judgements, with less than optimal effects for education.

2.2.5. The use of textbooks is inefficient

There is no doubt that textbooks, both electronic and printed, are a major education resource for school units. In Greece, a full set of textbooks for all subjects is provided every year free of charge to all students of primary and secondary education (the same applies also to higher education, as discussed in Chapter 5). Clearly, this is a very expensive approach to textbook provision, although the OECD review team did not have access to actual budget expenditure data on textbooks.

In practice, the Greek approach works as follows: textbooks are approved for use in school units by the MofERRA; for each grade and each subject there is only one

approved textbook (there is no choice of textbooks). Thus, all teachers use the same basic material for teaching (this is, indeed, a necessary pre-condition for imposing a common teaching schedule on all Greek schools). The approved textbooks are printed by Diophantos CTI and then distributed to all Greek school units.

The textbooks provided to students become their property, and do not have to be returned for reuse by the next cohort of students. In other words, textbooks are designed to be used for only one year. The following school year, textbooks for all grades and for all subjects are printed again for all students. This certainly encourages waste and lack of respect for books. At the same time, massive costs incurred in printing so many textbooks destined to be used for one year only create a strong motivation to prepare cheap, low-quality, and easily damaged textbooks, which may sometimes not even last the full school year.

Distribution requires collection and processing of many data items for all primary and secondary school units. In the future, this will certainly be performed using the MySchool database (which is being developed by the same national agency Diophantos CTI), but until then, this is a serious administrative burden (particularly in ensuring completeness of data and correction of data errors). Moreover, distribution costs are most likely higher than actual printing costs, in part because books are heavy, and in part because of the remote location of many Greek school units.

Moreover, there has been remarkably little modernisation of the unique textbooks used in Greek education. In lower secondary schools, the content of many textbooks is 10 years old, in upper secondary schools, many are 20 years old. This in part explains why there are yearly updated instructions which part of textbooks to skip, and which to use (the OECD review team was shown some of these instructions). Obsolete textbooks are especially troubling in upper secondary school units, where the most up-to-date knowledge should be taught. For students who access the Internet on their smartphones constantly, use of such outdated education material, even if available online at a dedicated website (http://ebooks.edu.gr/), may not inspire respect for the school system.

This means that the final result of the massive financial and organisational effort involved in printing and distributing school textbooks free of charge to all Greek students is to provide them with obsolete and, in some respects, low-quality books. This is not just inefficient; this is in fact wasteful.

Again, this is perhaps less damaging for students attending large, prestigious, well-supplied urban school units in Attica (Athens) and in central Macedonia (Thessaloniki). These students and their teachers are able to supplement their obsolete, disintegrating textbooks with better, more updated, and far more interesting educational materials. However, for provincial school units in less prosperous areas, inadequate textbooks coupled with prescriptive manner of teaching may pose a serious challenge. And if any of these weaker school units would embark on a school improvement plan, textbooks will not provide strong support in the implementation of this plan.

2.3. Policy recommendation: Align governance and funding to be more school centred

This section presents several policy options focused on streamlining and improving the governance and financing of Greek education. These policy options, based on an analysis of the policy issues identified above, aim to align governance and funding to support the functioning of individual schools. They include developing an overall future-oriented vision of education for Greece, providing financial clarity on resources available,

developing and supporting school founding organs with responsibilities for management and funding, giving schools an identity and capacities of their own, and creating a permanent teacher workforce in schools which can contribute to develop strong educational institutions that deliver high-quality education for their students.

However, it is important to point out that these recommendations remain limited, as they cannot address three more fundamental problems related to the overall context of Greek education. The first of these is the functioning of the administrative pyramid and its effects on the education system, as discussed in Section 2.1. The OECD review team was repeatedly informed by different Greek experts that issues related to public administration and organic positions are regulated by the Constitution and are ingrained in Greek society. An OECD review of the Greek central administration (OECD, 2011[2]) already identified serious governance challenges in Greece and included several far-reaching recommendations towards the modernisation of the general public administration, which have not been implemented. Without progress in this direction, far-reaching reform of the education sector may not be very effective since the sector is part of the overall administrative pyramid. A separate, in-depth review of these problems is required.

The second issue is the functioning of the shadow education and its impact on the finances of Greek education. The *frontistiria* system serves important education needs and consumes a considerable share of GDP. The complex problems of the interplay of public and private educational institutions require further analysis before any recommendations may be formulated. It is clear that proposed reforms of the Panhellenic examination (discussed in Chapter 4) may not be enough to reduce enrolment in shadow education institutions.

The last and perhaps most important limitation of these recommendations is addressing the underfinancing of education, discussed in Section 2.2.4. Many questions regarding how this underfinancing is distributed across the system (horizontally and vertically) could not be assessed by the OECD review team in detail, due to insufficient data provided by the Greek authorities. The report, however, does review one crucial prerequisite to addressing underfinancing, which refers to how the Ministry may regain strategic control over education funding (Section 2.2.4).

2.3.1. Define an overall vision for education with stakeholders

Define the long-term objectives for the education system

The Ministry has defined a three-year action plan for education for 2017-2019 with guidelines and proposals in a range of priority areas. These include a number of key measures to enhance teacher and principal quality, to provide support to schools, to improve administration and to increase educational provision for students at different levels. There are a number of policy measures aligned to this strategy, and an important volume of legislation being passed to respond to educational challenges and requirements of international partners. The Greek population values education highly and invests important time and resources, with high completion rates in both upper secondary and tertiary education. However, trust in public education may have been declining. Greece is now slowly coming out of the economic crisis and looking to the future, which makes it an appropriate moment to invest in education to contribute to shaping Greece's future.

A number of policy initiatives and legislation initiated in recent years or now in progress appear to move in a suitable direction. They may however, lack a longer-term clear goal, leaving those involved without a clear vision of where the reforms are leading and

therefore not willing to invest their time and efforts in supporting or implementing them. Greece can take this opportunity to look forward beyond the crisis and develop a broader consensus on what the aspirations and vision for the public education system should be and the type of education it wants for its children so that they can shape their future and the future of the country. This vision for the education in Greek schools could steer the system and inspire education professionals and other stakeholders towards achieving it. Having a shared vision is important as it can help ensure reforms continue to move forward in the longer term.

As Greece is now in the process of reviewing part of its national curricula, it could take this opportunity to weave the new curricula into the vision for the future of education. This vision can then inform a longer-term education strategy and provide coherence in the next phases of the education reform, which could also include the setting of education priorities, objectives and targets. The vision can help to inform and align the development of the curricula, of student and school assessment and evaluation, of teacher and leadership standards, teacher training programmes, and school support programmes.

To steer the system, the education vision would need to be complemented with a small number of clear, high priority and measurable objectives for educational improvement related to schools and student learning that could be pursued over time.

These objectives and targets could reflect the government's commitment to both the quality and equity of the school system. Examples of objectives for Greece are focusing on raising the educational attainment for all, defining specific targets to reduce the proportion of low performers, ensuring that students in remote or isolated areas have good quality education provision; and/or ensuring completion of upper secondary education.

A compelling and inclusive vision can steer a system, draw the best people to work in it, and support cohesiveness and inclusion (Hargreaves and Shirley, 2009[23]). But it is important that major education stakeholders have an opportunity to participate in articulating this vision (OECD, 2010[24]), including students, as education shapes their daily lives and futures. They can share their aspirations as well as insights and ideas. Their active participation also contributes to community cohesion.

When a vision is clearly communicated and shared by those involved, it can help secure a reform over the long term. Teachers and other education stakeholders are more likely to dedicate time and energy to their roles if they support the overall vision (Carpenter and Gong, 2016[25]; European Commission, 2013[26]). As an example, in Wales, United Kingdom (Box 2.1) a shared vision helps form a holistic approach to children's development, and focuses not only on academic achievement but also their individual and collective well-being and contribution to society.

Box 2.1. Vision and values driving reform in Wales

In Wales (United Kingdom), a vision has been developed as part of an approach to education reform which has brought a wide range of policy changes. Progress has been made in certain policy areas, including the various measures taken to support the professional learning of teachers, the increase in school-to-school collaborations and participation in networks, the rationalisation of school grants and the development of a national school categorisation system. These and other reform efforts have been guided through the development of a vision of the Welsh learner, and a curriculum reform underway, which aims to introduce skills for the 21st century and develop all children and young people in Wales.

- Ambitious, capable learners, ready to learn throughout their lives.
- Enterprising, creative contributors, ready to play a full part in life and work.
- Ethical, informed citizens of Wales and the world.
- Healthy, confident individuals, ready to lead fulfilling lives as valued members of society.

Source: Donaldson, G. (2015[27]), *Successful Futures: Independent Review of Curriculum and Assessment in Wales*, Cardiff, Welsh Government, http://dera.ioe.ac.uk/id/eprint/22165 (accessed 14 June 2017).

Engage stakeholders in the process

To conduct reforms in education, building consensus on reform objectives and actively engaging stakeholders can lead to success (OECD, 2014[28]). The MofERRA has already made efforts throughout 2017 to strengthen the engagement of education actors including teachers, teacher unions, students, parents, business and community leaders, through policy dialogue at both the national and the local level. These consultation processes have focused on the different policy initiatives as well as on broader objectives, generally aiming to seek consensus with stakeholders prior to its legislative initiatives.

Indeed, consultation is a key strategy for gathering input that can strengthen policy development as well as buy-in and support for difficult reforms. Broad support may also improve long-term policy sustainability. Continuing with the recent efforts towards increased consultation in the development of legislation, Greece can take further steps to strengthen these policy dialogues to achieve the sustainability of its policies. This can be done by engaging stakeholders in developing the long-term vision of the Greek education system, its aims and values.

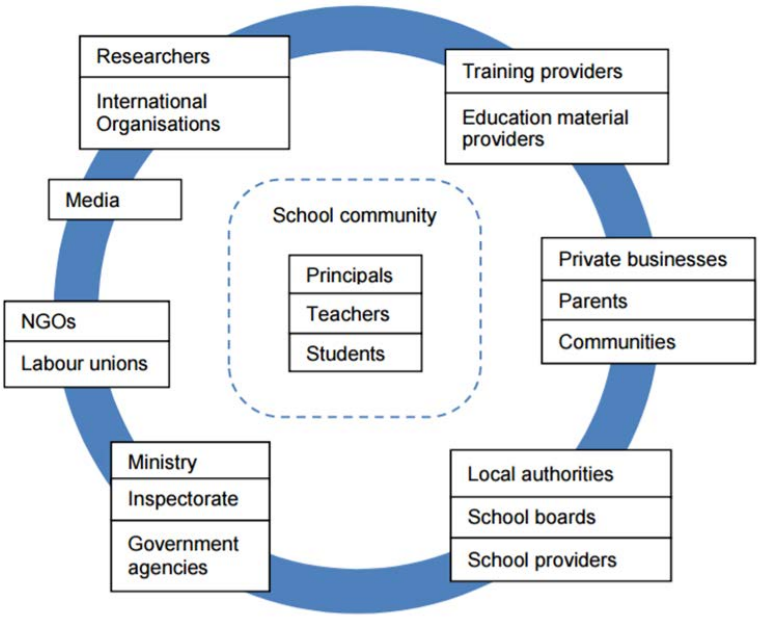
In addition to contributions to the broader vision, consultation processes bring those who implement education policies and reforms into the centre of the process. It is widely acknowledged that stakeholders display preferences and the capacity for action, which contributes to shaping the process and the outcomes of the intended policy. Much evidence has demonstrated that the earlier they are consulted and engaged in the process, the more likely the results will be successful.

It is important to define who these “stakeholders” are, as they can be formal (e.g. labour unions, ministerial departments implementing policy) and informal (e.g. unaffiliated parents, *ad hoc* political coalitions). Policy makers, formal implementers benefitting from an official mandate to implement the agreed policy, intermediaries or providers involved to deliver the effective service, lobbies and constituency groups, recipients and consumers

of the policy, the media, and even policy evaluators are among those included as policy stakeholders (Viennet and Pont, 2017[29]).

A national government also has institutions relevant to this process, such as evaluation, inspection or development agencies, research agencies, teacher education institutions, national leadership or teacher institutions, ministries of education and their staff and unions. Figure 2.1 provides an overview of potential actors with stakes in education, which are usually named stakeholders. In addition, for broader consultations, it is key to include the economic and social sectors of society. In schooling, key actors are found at the school level (e.g. principals, teachers, students and parents), and the local levels (e.g. school boards, school providers, local authorities and community, at the regional or national level, also including training institutions and education material providers).

Figure 2.4. Potential stakeholders in education



Source: Burns, T. and F. Köster (eds.) (2016[30]), *Governing Education in a Complex World*, http://dx.doi.org/10.1787/9789264255364-en.

For Greece, it is important to first identify those groups which would be relevant to the formation of education policy and also those involved in its implementation. It will then be valuable to determine the range of mechanisms which can be used to engage stakeholders. Greece has been using a range of approaches. In some cases, stakeholders participate in online public consultation processes, and in others their representatives meet with those responsible for each subject and in others both procedures are adopted (Ministry of Education, Research and Religious Affairs, 2017[4]).

There are indeed different options for consultation and stakeholder engagement in education, whether the creation of formal institutions or other types of direct consultation approaches such as public forums, online consultations, citizen panels, and surveys. An example from Alberta (Canada) illustrates how stakeholders may be involved in a social dialogue centred on values and aspirations for schools, as described in Box 2.2.

Box 2.2. A bottom-up process to defining values and aspirations for schools in Alberta (Canada)

In 2009, Alberta Education sponsored a mass public consultation engaging thousands of educators, industry professionals, parents and other stakeholders in a series of roundtables to reflect on two questions: "What is the value of education?" and "What will it mean to be an educated Albertan in the year 2029?" More specific questions developed through this process: "How do we help children to discover and pursue their passions? How do we ensure that the child born this year can adapt to the many changes ahead? How do we help them to make successful changes to adulthood? How do we help them to become lifelong learners who contribute to healthy, inclusive communities and thriving economies?" (Alberta Education, 2010[31]).

The results of the public consultation were the foundation for a set of policy guidelines, which was published as "Inspiring education: A dialogue with Albertans" (Alberta Education, 2010[31]). These guidelines set out a vision for education through 2030, and were the basis for a large-scale education reform and a paradigm shift toward education that supports cognitive, metacognitive and social-emotional development.

Sources: Alberta Education (2010[31]), "Inspiring education: A dialogue with Albertans — The Steering Committee Report to the Honourable Dave Hancock", Minister of Education, April 2010, Alberta Government, Alberta, https://open.alberta.ca/publications/9780778586104 and Sliwka, A. and Yee, B. (2015[32]), "From Alternative Education to The Mainstream: approaches in Canada and Germany to Preparing Learners to Live in a Changing World, European Journal of Education, Vol. 50, No. 2.

Other ways to engage citizens and ensure they have sufficient input include online consultation (as Greece is currently doing), as well as:

- citizen's panels
- citizen's juries
- deliberative polling (Delphi method)
- focus groups
- surveys
- citizen advisory committees.

More generally, the International Labour Organisation (ILO) noted that countries with well-established processes for social dialogue within the public sector have been more effective at responding to the long-term impacts of the 2008-09 economic crisis[4]. The ILO recommends that social dialogue may take be developed as:

- forums to exchange information
- forums for consultation and exchange of views on specific proposals, or to test a policy option
- forums for negotiation, with discussion on differing views, or areas where there are conflicting interests to reach agreements.

These three approaches imply different levels of commitment and outcomes. An exchange of information, the ILO notes, implies a degree of confidence. Consultation implies that careful consideration will be given to views expressed. Negotiation is the most binding form of social dialogue. Dialogue may be formal or informal, *ad hoc* or institutionalised (International Labour Organization, 2013[5]).

For Greece, it will be important to find an appropriate approach or approaches that can be sustained over time. A combination of the above methods for deliberative and non-deliberative public participation may be used to ensure stakeholders are able to give input.

Greece may also consider developing a consultation institution that is more stable and consolidates education policy consultation processes. The recently established National Council for Education and Human Development (EICPDA) (Law 4452/2017), in which organisations of the educational community, social partners and competent public bodies are involved, should have an important role in consultation. It will be important to support its development, to ensure broad and transparent composition of the key relevant education actors, ensure its independence and clarify the consultation processes and impact of their advice.

Some international examples are relevant. A number of European countries have National Education Councils which bring together key education stakeholders, including teacher unions, principal associations, school owners, regional representatives, student and parent representatives and others to discuss key education policy reforms, provide opinions into relevant education legislation, and discuss and achieve consensus. They also prepare annual reports on the state of education in the country and take up studies of interest. Following a similar model for Greece that ensures broad engagement and participation as well as independence would allow the Ministry and other stakeholders to build on the recently developed EICPDA.

2.3.2. Regain strategic and operational control over school finance

The allocation of resources is a particularly important and often neglected element in policy alignment (Grubb, 2009[33]). If budgets do not reflect the priority given to better teaching and learning, then the message to those in the organisation is that these things do not matter very much. For example, the deployment of staff to ensure that the most capable people are working where they are most needed is an often neglected aspect of resource allocation.

In Greece, the MofERRA has insufficient knowledge and very limited control over the different financial flows in the Greek education system (see Section 2.2.3). To regain strategic and operational control over school finance, the government needs to transfer responsibility for education spending to the Ministry. The Ministry needs to then take several steps, including reviewing funding flows, creating a national budget and budgets for school founding organs (discussed in Section 2.3.3), and developing a formula to guide budget allocations to schools. These can be undertaken as follows:

- Obtain complete evidence over all flows of funds serving primary and secondary school units (a preliminary list of these flows is provided in the discussion above). This evidence should include information about planning (allocation) of the use of resources, about the process of using the resources, and finally reporting mechanisms regarding how the resources were in fact used. To accomplish this step, only minor procedural and regulatory changes will be required, however the Ministry would need to develop the necessary professional and expert capacities, and perhaps adjust its institutional structure. At a minimum, new procedures for collecting, aggregating and maintaining the budgetary information will be required.
- Transfer the top-level responsibility for managing the process for each of the financial flows from the corresponding ministry or agency to the MofERRA. The

task would need to be planned and implemented separately for each identified financial flow. This step may require also the transfer of personnel involved with the financial flows, and creation of the necessary administrative structures within the Ministry (thus, staff with experience of managing and overseeing the financial flows in various national ministries and agencies may be required to relocate to the MofERRA). It would also require significant adjustment of current public finance legislation, as well as of data collection and monitoring mechanisms. In particular, further roles and functions of K.Y.S.A. and Diophantos will have to be reviewed, planned, and established.

- Put together all the financial flows into a single grant from the national budget to the budget of the school founding organ. This major public finance reform will require redefining conditions for the use of the funds, and the budget reporting mechanisms. The key issues to be resolved will concern the freedom of the school founding organs to use the funds from the grant for different categories of budget expenditures (for example, reallocation between sectors of education). Of course, this freedom may be limited at first and expanded as experience is gained.
- Develop an allocation formula for this grant to clarify how the funds from this grant will be allocated between school founding organs. The formula should be a per student formula, with coefficients (weights) reflecting different costs of different types or situations of schools. These coefficients of the formula will become an instrument of implementing national education policies. However, development of the per student allocation formula requires good prior understanding of the use of resources across the Greek education system (step 1 above).

The new grant with its publicly known formula will introduce much needed transparency and predictability of the allocation of education funds to school founding organs. At the same time, it will strengthen the strategic role of the MofERRA in steering the evolution of the Greek education system. To achieve these objectives, it is necessary to remove from the budgeting process the present multitude of independent decision makers, such as different ministries and other subordinated bodies.

2.3.3. Create and support school founding organs (local school boards)

Empower local communities through the creation of school founding organs

Within the Greek administrative pyramid, local communities should be granted more control and empowered to address local education needs. The creation of school founding organs, which would be responsible for the functioning of schools, for their financing and for their compliance with education legislation, could achieve this goal.

Greek school units need to have their specific needs identified and addressed. The national system of norms and procedures assumes that these needs are uniform across districts and regions, and therefore fails to identify needs that are specific to institutions, such as disadvantaged or non-Greek speaking students, facility deterioration, teachers in need of training, inadequate or obsolete equipment. The specific needs of school units also include characteristics of their student populations, with implications on the required pedagogical interventions.

Box 2.3. School founding organs in Poland

In Poland, the function of school founding organ is allocated to local governments (Levitas and Herczyński (2002[34]), Levacic (2011[35])). The lowest tier of local administrations, *gmina*, is responsible for preschools and for primary schools and between 1999 and 2017, was responsible for lower secondary schools (gymnasium, which were abolished in 2017). The middle tier of local administration, *powiat*, is responsible for secondary education, including general academic (l*iceum*), professional (*technikum*) and basic vocational schools, as well as for special education. Some minor education functions, but no schools, are managed and financed by a third tier of local administrations, *województwo*[5]. Similarly, non-public schools are owned by other founding organs, which may be physical or legal persons.

School founding organs are responsible for the functioning of schools, for their financing and for their compliance with education legislation. They open, close and restructure schools, subject to some legal procedures and limitations. For example, in order to close a school, the founding organ needs first to adopt an initial resolution of the local council before the end of February, face public scrutiny and possible objections from stakeholders, and if it persists in its original plan, it must adopt the final resolution before the end of July. This procedural delay is designed to enforce dialogue and consensus building around the sensitive issue of school closure.

The actual powers of school founding organs have evolved over time (Herbst, Herczyński and Levitas, 2009[36]). Initially they were restricted to issues of technical maintenance and network management, although from the beginning, they paid teacher salaries. Over time, the role of de-concentrated offices of the Ministry of National Education, *kuratoria*, was reduced, and increasing competencies, including the power to assess the work of the school principals, were transferred to founding organs. This trend continued from 1993 until 2016, when it was reversed and some competencies of local governments were assumed again by *kuratoria*.

The procedure of selecting the school principal is one example of this process. Initially, school principals were selected by a committee with equal representation of school founding organ, the *kuratorium*, and teacher trade unions. Over time, the composition of the committee was frequently altered, until starting from about 2002 the representation of the local governments dominated. Since 2016, the representation of *kuratorium* was again markedly increased.

The Polish case of education decentralisation indicates that the detailed legislative framework which regulates the specific distribution of managerial and financial responsibilities. This framework is regularly adjusted and sometimes may be significantly altered according to strategic priorities of changing governments.

Identification implies a review and assessment of relative needs of every school, allowing setting of priorities for possible additional allocation of human and other resources. A common way to resolve this is by defining a local agent, such as a local government of appropriate tier, a local school board or a different type of school founding organ. Specific policy questions regarding this choice in the Greek context and the related terminological issues fall outside of the scope of the present report. The school founding organ should have full access to school data (except for student personal information),

and be responsible for overall management of the school, setting of the school budget, selection of the school principal (or at least participating in this process), allocation of additional school resources, small school repairs, and investments. Typically, school founding organs manage a local network of schools, so their responsibility often includes decisions regarding this network, such as school opening and closure, school consolidation, forming and adjusting school catchment areas.

There is a need to distinguish school founding organs (or a local school board as understood here) from the currently existing Greek school boards, which represent the local community, including parents and teachers, but have no direct managerial and financial responsibility in the education system.

In present Greek conditions, this role may be entrusted to District Directorates of Education or to municipalities. Either solution will require far-reaching legislative changes. Certainly, school founding organs must have a sufficient degree of budgetary autonomy and sufficient resources for the required interventions.

If DDE become school founding organs, their powers will be very much strengthened, so their staffing would have to be adjusted. This strengthening however is necessary for the founding organ to be able not only to identify the relative needs of school units, but also to address them. Accordingly, regulations governing the functioning of DDE would need to be adjusted. For example, they should be able to allocate additional staff positions to the specific school (a psychologist, a social worker, an additional teacher, or a deputy director, permanently or for a few years), to buy some additional equipment for the school (such as learning materials for non-native Greek speakers), or to decide on minor or major investments programme.

If the role of the school funding organ is allocated to municipalities, legislative adjustment would need to be even more radical, as several current responsibilities of RDE and DDE would have to be gradually shifted to local governments. Such a decentralisation reform will require long-term implementation and will have to be very carefully planned.

Define budget procedures for the school founding organ

One of key functions of the school founding organ will be to conduct the budgeting process for all of its schools. This is a procedure in which the available resources, which are never sufficient, are allocated to individual schools in a transparent and public manner, to ensure continued operations of schools and to address specific needs of each school. These resources will come from grants allocated for education from central budgets, and also from own revenues of the founding organ. Transparent and well-defined budget procedures will need to be developed.

Transparency is crucial here, as it implies the ability of all education stakeholders to question the allocation, and hence the responsibility of the school founding organ to defend its allocation decisions. The overall budget of the school founding organ, and the financial plans (budgets) of all schools under its authority, should be made public. The position of the school founding organ is not easy, as it must make difficult decisions to allocate limited funds, and at the same time it should be able to rationally defend these decisions before different stakeholders (parents, municipalities, trade unions and similar). For this reason, introducing some involvement of all stakeholders in the budgeting process is important.

To streamline the decision-making process and strengthen the school founding organs, it is important to define explicit budget procedures, which would consider different needs and wishes of all concerned, and would reduce the subjective element inherent in most allocation processes. There are a variety of possible budget procedures – two very different ones are summarised below.

- A local per student allocation formula, applied by the school founding organ to distribute funds to its schools. This approach is feasible only if the school founding organs are large enough (for example, if they have more than five schools). The local formulas may allow for some variation of the national allocation formula, with limited deviation from it, may follow some national pattern, or may be any per student formula adopted by the school founding organ.
- A procedure of schools submitting their organisational plans of activity, and a comparative review of these submissions, with participation of representatives of all schools in each school founding organ, leading to adoption of some compromise plans for all schools affected. This procedure, besides drawing on the basic data of the organisational plan (such as division of student into classes, the school staffing needs, etc.), may also include support data, such as student numbers, execution of the financial plan in the previous fiscal year, or some narrative regarding the need for specific personnel.

The specific forms of the budgeting procedure, and the specific format of documents used in this process, will need to be elaborated by the Greek experts.

2.3.4. Change "school units" into schools

To serve their students, "school units" should become schools – that is, strong educational institutions, able to design and implement teaching strategies, conduct self-evaluation, continually reflect on and improve their pedagogical practices. This transformation of school units into schools requires several steps, including an expansion of the principal's role and providing more control over staffing decisions. Greater stability of school staff (including of substitute teachers) will be important for schools as they work more autonomously. Of course, each of the following steps will require legislative changes and necessary preparation.

The first step is to redesign the position of the principal so that the responsibilities of this position include selection of all school staff, appointment and dismissal of deputy school directors (in case the school founding organ allocates such a position to the school, for large schools), appraisal of all teachers, allocation of additional pedagogical functions to teachers (such as class tutors, functions in the library, additional after-class activities, or support to weaker students). This step may be designed in several stages, for example by slowly increasing the managerial powers of principal over school staff. This in turn would require reviewing the training, selection and appointment of school principals to be able to take on this role (Chapter 4).

An important issue is avoiding favouritism, or clientelism, in this process (OECD, 2011[37]). This is a difficult problem which touches on the overall culture of the public sector. It would be very useful to prepare some objective guidelines, criteria and procedures to limit the potential for favouritism. However this task would be best handled by Greek experts, who best understand the cultural norms and constraints.

The second step is defining clearly the teaching staff of the school (forming the teacher board). The teaching staff in the school should be stable and should have a mix of

experience and competencies, so that principals may plan professional development of individual teachers and teams. In particular, for some subjects with few lessons per week in the curriculum, it should be possible to employ regular part-time teachers (with contracts for several years). The use of "transient" teachers, that is teachers who teach simultaneously in many schools, is sometimes unavoidable, but should be limited. This step requires review of teacher employment legislation, and the resolution of the problem of substitute teachers.

The third step is to ensure that all schools have the necessary pedagogical and administrative support staff (such as school secretaries and psychologists), freeing the time of the principal and teachers. Employment levels for this staff should be determined by the school founding organ, and based on some national guidance. Such a prerogative of the school founding organ will allow it to adjust the employment levels to meet school needs and at the same time within available resources.

Finally, the fourth step is to clarify that each school has its own financial plan (or budget), determined by the school founding organ and executed largely by it, but allowing for some minor elements to be used by the principal. The implementation of this step would require changes in public finance legislation, not just in education legislation.

2.3.5. Regularise the position of substitute teachers

Presently, substitute teachers form a subclass of teacher profession characterised by unstable professional position, lack of employment during school holidays, and complete uncertainty regarding work in the following school years. They cannot plan for family life or professional development, since they learn about whether and where they will find work as a substitute teacher as late as September of each year. They can only participate in a limited part of any school improvement process, because it makes no sense to discuss school problems and invest in teachers who are unlikely to continue in their current school. Their professional prospects are not good. This is in stark contrast to the nearly complete job security of teachers with organic positions, who in addition are protected from being evaluated even by the principal.

At the same time, substitute teachers perform an invaluable role in the Greek education system, filling in for missing positions of permanent teachers, going to remote areas and islands, where very few Greek teachers want to work, and providing much needed flexibility in an overly rigid and bureaucratic system.

Moreover, the amazing response of Greek education system to the refugee crisis was largely the effect of committed, selfless involvement of substitute teachers. In contrast, permanent teachers (public servants) face only two employment decisions: the first decision to enter the induction period (one year long), and the second decision following this induction period, to enter permanent employment as a public servant. Further decisions, while very important for teachers, namely on moving between the school units (most importantly, moving from an island school into a coveted Athens school), do not fundamentally change the employment status of these teachers.

The Greek Ministry approach to the problem of substitute teachers is to demand an end to the hiring freeze for new permanent teaching staff, and to include – over time – all substitute teachers in the group of permanent teachers (public servants). This not only will be expensive, but will reintroduce rigidities in the Greek system, which substitute teachers help now to soften. Greek authorities should use the crisis for implementing

long-term solutions, which under different circumstances might not be available. Two such possible solutions are:

- Introduce several categories of public servants, alongside the category of organic positions. These categories should offer stable though not necessarily lifelong employment, for example for a few five-year periods, prior to obtaining an organic position and job security. There may be several such categories, for example pedagogical staff in schools and in universities may have somewhat different rules and procedures (as well as remuneration). Over time, move all substitute teachers into the new category of public servants.
- Change the existing rules regarding employment of public servants, but provide a longer induction period and a one five-year long employment period (contract) prior to obtaining full status of public servant with an organic position. This could be initially piloted.

Either of these solutions will maintain increased flexibility of employers, while providing much needed stability and recognition to substitute teachers. Ideally, the present teachers with organic positions should also move to the new categories of teachers, or – if that is not possible – new recruits to the teacher profession should transition into a new system. Over time, the Ministry should aim to equalise the privileges and obligations of all Greek teachers (OECD, 2005[38]).

The OECD review team was told by several Greek experts that these and similar proposals are contrary to some clauses of the Greek Constitution and would require fundamental changes to many current laws and regulations. The constitutional and legislative analysis of this policy option is an important challenge, which cannot be addressed in the present report.

Redesign financing and provision of textbooks

A particular issue that arises in terms of school autonomy and public expenditure is the current system of provision of textbooks in Greek education, which is inefficient and wasteful (see Section 2.2.5). More importantly, it does not motivate those involved to update and innovate textbooks, or to produce robust books which may be used for several school years in succession. It also does not give schools the ability to choose textbooks which best fit the needs of their students. A focus on improving the efficiency of textbook provision may also be an opportunity to update and improve the quality of their content.

A previous attempt to introduce textbook choice in Greece was unsuccessful. Nevertheless, the availability of several textbooks offered by different publishers is a standard way to introduce innovation and competition in OECD countries. A redesigned system of textbook provision should include the following elements:

- Several textbooks available for different subjects and grades, to be selected either by the school founding organ or by the school (but not by individual teacher).
- A procedure for approving textbooks for use in schools, to ensure that the MofERRA has ultimate control over the content of education in primary and secondary schools.
- The ability to use a textbook for several years. This may be achieved if the textbooks do not become student property, but remain the property of the school (or of the school founding organ). This will also safeguard access to textbooks free of charge.

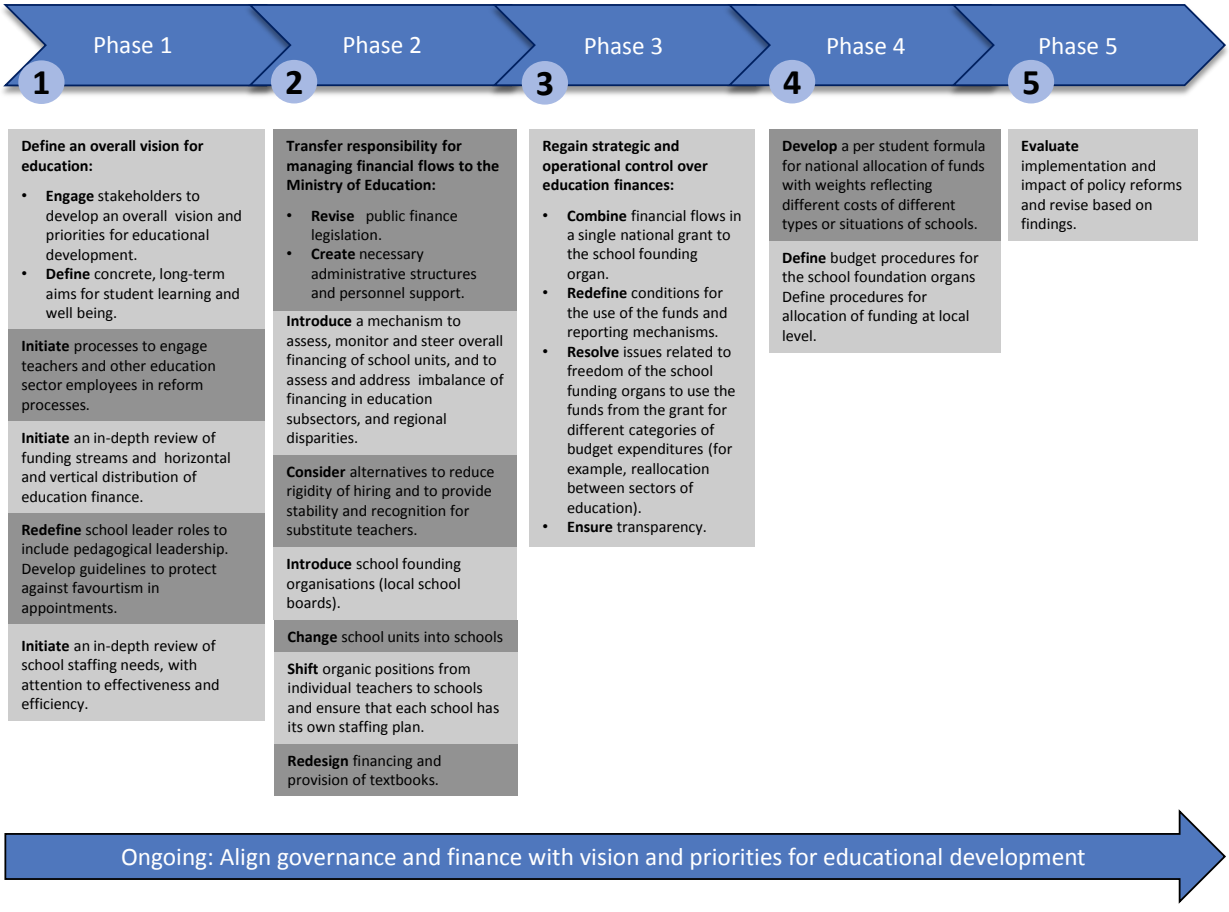
- Freedom of teachers on how to use textbooks, including the right to supplement textbooks with additional material and exercises.

Such a system, common to many countries, will protect the right of Greek school students to use textbooks free of charge, and will force textbook publishers to innovate and update their textbooks. At the same time, it is important to encourage Greek teachers to use Internet-based educational resources, although of course this needs to be done in a safe and responsible manner.

2.3.6. Sequencing of policy options

Figure 2.5 presents a possible sequencing of the policy options set out above. The difficulties in bringing all education stakeholders into a common participatory discussion (as evidenced, for example, by the withdrawal of teacher trade unions from some public forums, as discussed above), reveals that the administrative pyramid, as it functions today in Greece, makes public engagement in policy making difficult. Therefore a prerequisite for successful reform will be to continue investing in building national and local dialogue in the education sector.

Figure 2.5. Suggested steps towards strengthening governance and finance: A sequential approach



Notes

[1] The official names of these administrative units are simplified in the list.

[2] The RDE is referred to as "deconcentrated" rather than "decentralised" because the Ministry retains direct managerial and substantive control over their activities, see White (2011[39]).

[3] Ministerial decision (10645/22-1-2018) established a "Framework for the Organisation of School Life" that each school is expected to develop at the beginning of the school year after discussion in each class (all students and all teachers are involved in the procedure). A draft law that was been discussed as this volume went to press foresaw a procedure for planning and self-evaluating annual projects of improvement in each school (Ministry of Education, Research and Religious Affairs, 2018[3]).

[4] Note that in the case of public education, the government is the employer, so these are not considered as tripartite dialogues.

[5] Polish local government system consists of about 2500 *gmina*, 380 *powiat* and 17 *województwo*. Each tier of local government is democratically elected and is fiscally and politically independent of other tiers. In particular, of transfers from the central government, including so called education subvention, flow directly from the national budget to the local budgets.

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Chapter 3. Equity, quality and student learning

This chapter looks into specific challenges to deliver equity, quality and efficiency in the Greek education system. The country's recent economic crisis, its geographical dispersion, its increasing diversity due to, among other issues, an influx of school-age refugee children, and a predominant shadow education sector all present challenges for the country. Greece's student performance is below OECD average, and has not improved in the last decade according to international comparative data. A number of policies and initiatives are in place, such as curricular reform, the establishment of "all-day" schools, or reviewing provision and transitions in upper secondary education. There are also targeted approaches to enhance student learning including: Education Priority Zones (ZEP) in disadvantaged areas to combat instances of early school leaving and low achievement in basic skills. The chapter provides an analysis and a set of recommendations to enhance student performance while delivering equity, taking into account current challenges.

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.

Equity in education means two distinctive things:

- *Fairness*: An individual's personal or social circumstances such as gender, ethnic origin or family background, do not present obstacles to achieving their educational potential.
- *Inclusiveness:* All individuals reach at least a basic minimum level of skills.

In equitable education systems, the vast majority of students have the opportunity to attain high-level skills, regardless of their own personal and socio-economic circumstances (OECD, 2012[1]). In its three-year plan the Greek Ministry of Education, Research and Religious Affairs (MofERRA) has made a clear commitment to achieving greater equity in educational provision as well as student outcomes (Ministry of Education Research and Religious Affairs, 2017[2]). This chapter begins with a review of data on equity and quality in education, with a focus on evidence demonstrating the importance of prioritising both for economic development and social cohesion.

In Greece, overall performance remains below the OECD average (OECD, 2016[3]) and challenges to equity are primarily related to a lack of inclusiveness, geographic isolation, and refugee status. PISA reveals that a student's socio-economic background explains 12.5% of the variance in student performance in science (marginally lower than the OECD average of 13%). The country has many islands, isolated mountainous areas, and sparsely populated villages. Despite this geographical dispersion, almost every small town and village has its own school. As a result, 3.5% of primary schools and 6% of secondary schools are classified as "difficult to access" by the Ministry (Roussakis, 2017[4]). Greece is currently dealing with a major refugee influx – nearly one million refugees in 2015 alone (UNHCR, 2017[5]). And while Greece has often been a transition territory for a number of immigrants headed for other European countries, a large portion of population now intends to stay in the country (OECD, 2017[6]). At the beginning of the 2017/18 school year an estimated 12 000 school-age refugee children (aged 6-17) were in Greece (UNHCR, 2017[7]).

Efforts to address these challenges which are reviewed in this chapter include:

- a review of the curriculum to set high expectations and meet diverse student needs looking into the future
- a reform of student assessment practices to improve the quality and value of data gathered to support learning more effectively
- efforts to mitigate the impact of shadow education in public education
- evaluation of resources and practices to support disadvantaged schools (including isolated schools) and students (such as refugee students).

More general policies to ensure teacher and school leadership quality throughout the school system and to monitor school performance, which are also vital to equity and quality, are addressed in Chapter 2 from a governance perspective and Chapter 4 from a school improvement perspective.

3.1. Student learning across the education system

3.1.1. Education, economic and labour market outcomes

Despite nearly universal access to education in Greece, a portion of the population fails to achieve basic levels of literacy and numeracy (see Chapter 1 for an in-depth discussion of Greek educational performance). These "basic skills" lay the foundations for success in work and daily life. The vital contribution of basic skills to participation in the workforce is increasingly recognised, as is growing evidence that low basic skills are linked to poor economic and social outcomes (OECD, 2015[8]).

The economic and social benefits of successful secondary education completion are multiple: higher educated individuals have both better employment and better health. Highly skilled people are also more likely to participate more actively in the democratic process and community life, are less likely to be dependent on public aid, and are less vulnerable to economic downturns (Fournier and Johansson, 2016[9]). On the other hand, the student who leaves school without completing upper secondary education or without the relevant skills has far fewer positive life prospects (Dutu and Sicari, 2016[10]; OECD, 2012[1]). Evidence from other OECD countries shows that societies with skilled individuals have proved best prepared to respond to the current and any future crises (OECD, 2013[11]).

Investing in early, primary and secondary education for all, and in particular for children from disadvantaged backgrounds is both fair and economically efficient (OECD, 2012[1]). The current economic crisis has added urgency to this task, with high levels of unemployment alongside increasing demand for higher-level skills (as discussed in Chapters 1 and 5). Employment rates in Greece increase with educational attainment and are highest for those who have completed tertiary education: in 2017 the employment rate among adults with a post-secondary non-tertiary qualification in Greece was 61%, rising to 69% for those with a bachelor's or equivalent degree, 82% for those with a master's or equivalent degree, and 88% for adults with a doctoral or equivalent degree (OECD, 2017[12]).Table 3.1 shows relative poverty rates in Greece based on area, educational attainment and labour market status.

The distribution of income from work and capital (market income, pre-taxes and transfers) widened during the crisis. Between 2007 and 2014, market income inequality rose by 1.6% on average in OECD countries, but in Greece, at 6.9%, the increase was particularly large. At the same time, the percentage of young people (aged 18-24) living on less than 50% of the median equivalised income in 2014, at 21.5%, was one of the highest in the OECD, against an OECD average of 13.9% (OECD, 2016[14]). The overall well-being of children in Greece, as ranked in UNICEF's comparative overview of advanced economies, was ranked 28th out of 29 countries for education and 23rd overall (UNICEF, 2015[15]). An estimated half a million children in Greece were living in poor families during the period 2009 to 2014, based on the index of relative poverty. In comparison with the EU-14 countries, Greece has the third highest rate of child poverty (26.6%), after Spain (29.6%) and Italy (26.8%). Taking the 2007 relative poverty threshold as an index, the child poverty rate rises to 55.1% in 2014 (Papatheodorou and Papanastasiou, 2017[16])

Table 3.1. Relative poverty rates by area, educational attainment, and labour market status

Educational attainment is a good predictor of poverty: Tertiary graduates are least likely to be in poverty

	2009	2010	2011	2012	2013	2014
All (in %)	12.4	13.2	13.1	14.7	14.8	13.8
Area (in %)						
Athens	10.0	11.5	12.2	15.7	15.1	14.4
Rural/semi-rural areas	14.2	14.5	13.8	14.4	14.9	13.9
Educational attainment (in %)						
Not completed primary education	14.8	15.1	14.6	15.9	16.0	14.9
Upper secondary	11.7	13.4	13.8	16.3	16.5	15.4
Tertiary	3.4	4.2	5.2	6.2	7.0	7.1
Labour market status (in %)						
Unemployed	22.9	29.7	31.5	34.9	32.8	32.0
Employee (private excl. banking)	5.4	5.7	5.3	7.0	5.2	4.7
Employee (public incl. banking)	0.7	0.7	0.6	0.6	1.5	1.0
Liberal profession	4.6	4.8	4.9	6.6	6.9	6.9
Own account worker	13.0	15.5	14.5	15.0	20.3	18.8
Farmer	20.8	18.8	17.7	17.7	17.3	16.7
Student	16.1	16.8	17.1	18.2	17.1	15.4
Poverty threshold (€ per month, single person)	577	529	476	429	388	387

Note: The relative poverty threshold is set at 50% of the median equivalised household disposable income in each year. Individuals are ranked according to their household disposable income, equalised by the OECD equivalence scale (i.e. square root of household size). Household disposable income is defined as total income, from all sources, of all household members, net of taxes and social insurance contributions.
Source: Adapted from EUROMOD estimates, cited in Leventi and Matsaganis (2016[13]).

3.1.2. Attainment, skills and competencies of Greek students

In 2017 the three-year Greek upper secondary education, which spans from age 15 to age 18, was not compulsory. Some 58% of the 15-19 year-olds were enrolled in 2014 (OECD, 2017[17]), with a significantly higher proportion in upper secondary school (general *lyceum*) than the vocational upper secondary school (*EPAL*). The principal aim of the upper secondary school is to prepare pupils to enter tertiary education. It therefore focuses on strengthening students' general knowledge in subjects such as mathematics and sciences, history, Greek literature and language, foreign languages, social sciences and physical education (Eurydice, 2016[18]).

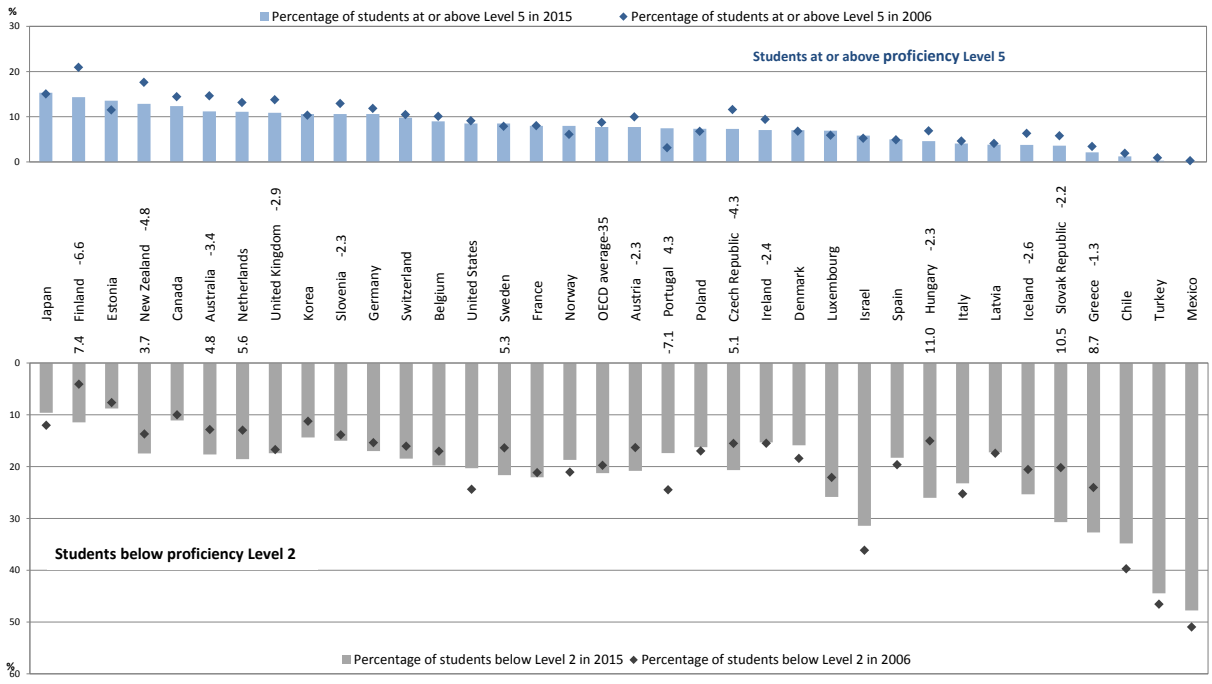
Completing upper secondary education is increasingly the norm in Greece and worldwide: a high proportion of the Greek students who enrol in upper secondary education graduate. Overall, the completion rate was 83% in 2013 and 89% for upper secondary education (OECD, 2017[12]). The overall rate is slightly lower than the 84% average for similar countries, as it is affected by a lower than average completion rate in vocational programmes.

However, high completion rates do not necessarily translate into high levels of skills as measured by PISA, which reviews the extent to which students near the end of compulsory education (at age 15) have acquired some of the knowledge and skills that are essential for full participation in modern society, particularly in mathematics, reading and science. The performance of 15-year-old Greek students in PISA, while stable since 2006 in mathematics, has declined sharply in science and reading (see Figure 1.11 for a detailed

comparison with the OECD average). These trends are observed in different groups of students and at different levels:

- The proportion of high-performing students in science (at proficiency Level 5[1] or above) has decreased from 3.4% in 2006 to 2.1% in 2015, well below the OECD average of 7.7 % (see Figure 3.1).
- The proportion of low-performing students in Greece (below proficiency Level 2) has increased to 32.7% in 2015 (24% in 2003) and is higher in comparison to the OECD average of 21.2%.
- The decline has happened consistently across the school system, among public and private schools, and among all groups of students, regardless of socio-economic status, immigrant status or gender.

Figure 3.1. Percentage of low-achieving students and top performers in science, 2006 and 2015



Note: Countries and economies are ranked in descending order of the between-school variation in science performance, as a percentage of the total variation in performance across OECD countries. The change between PISA 2006 and PISA 2015 in the share of students performing below Level 2 in science is shown below the country/economy name. The change between PISA 2006 and PISA 2015 in the share of students performing at or above Level 5 in science is shown above the country/economy name. Only statistically significant changes are shown.
Source: OECD (2016[3]), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, http://dx.doi.org/10.1787/9789264266490-en.

StatLink http://dx.doi.org/10.1787/888933432188

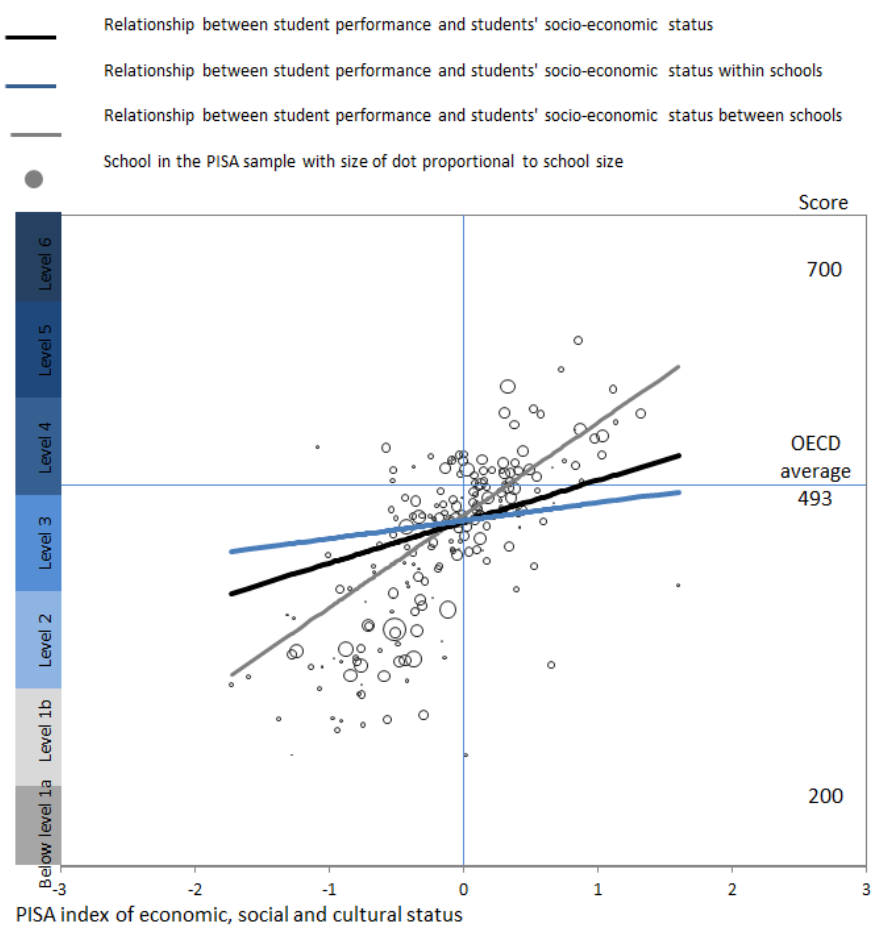
3.1.3. The influence of socio-economic status on educational performance

Across OECD countries, there is clear influence on the background of students on their educational outcomes. This is also the case in Greece, as presented in Figure 3.2. It shows the average performance in relation to the socio-economic composition of the student population[2] for each Greek school that participated in the 2015 PISA round. In the figure,

each circle represents one school, and the size of the circle is proportional to the number of 15-year-olds enrolled in that school. The patterns show the extent to which student performance is related to socio-economic status across and within schools in Greece:

- The overall performance differences across socio-economic groups, or the gradient between performance and socio-economic status (represented by the thick black line), are not very large.
- Average performance differences among schools can be attributed to the variation in the average socio-economic status of the schools' student population – the between-school gradient (represented by the grey line). Schools in Greece above the between-school gradient (grey line) perform better than predicted by the socio-economic status of their students; schools below the between-school gradient perform worse than predicted by the socio-economic status of their students.
- Within a given school, some variation in student performance can be attributed to variations in socio-economic status – the average within-school gradient (as represented by the blue line).

Figure 3.2. School performance and schools' socio-economic profile in Greece



Source: OECD (2016[19]), PISA 2015 Database, http://www.oecd.org/pisa/data/2015database/ (accessed on 13 September 2017).

StatLink http://dx.doi.org/10.1787/888933710458

While the figure does not capture all of the inequities that may be observed within Greece, it can provide a reliable indication of equity in education opportunities, particularly from an international perspective. The performance differences across the socio-economic spectrum shown in Figure 3.2 are relatively small and students often perform better (or worse) than expected, given their socio-economic status. This may show that a broad focus on improving performance for all students is important in Greece. System-level policies can be effective to address issues of quality and equity, such as curricular reform or providing equivalent pathways into tertiary education for students, while targeted interventions have their place to provide support for the more disadvantaged schools or groups of students.

In addition, given that performance differences are observed more between schools than within schools, targeting specific schools – for example, low-performing or socio-economically disadvantaged schools – may also be effective.

3.2. Policy issues

3.2.1. Focusing student learning towards the 21st century

Across the world countries are seeking ways to foster the competencies needed to thrive in a more volatile, uncertain, complex and ambiguous world. These are the 21st century knowledge, skills, attitudes and values which modern education systems consider important for student learning and well-being. Students increasingly need to acquire not only knowledge (including both disciplinary and cross-disciplinary concepts, content, methods and tools), but also cognitive skills (such as problem solving, creativity, or critical thinking), social and emotional skills and attitudes (such as collaboration, communication or cross-cultural skills), all while assuring their physical and mental well-being (OECD, 2018[20]). This requires curricular revision to ensure that students are obtaining the competencies required. A range of OECD countries have embarked in curricular reforms focusing on achieving these aims (see Box 3.1.).

Curricular reform raises many issues. The quality of a curriculum's content is important not only in relation to subjects taught and how they are delivered to ensure students' deep learning, but also in terms of ensuring equity in implementation (e.g. even quality levels across different schools and classrooms and tailoring of learning to support diverse learner needs).

International evidence shows that having a coherent and balanced curriculum that provides the basis for each student to learn to high standards is essential not only for all students, but especially to support disadvantaged schools and their students (Riley and Coleman, 2011[21]; OECD, 2012[22]). It is also important to ensure the relevance of what they learn and align it in the transitions into next levels of education.

Adapting the curriculum to new needs

The introduction of new Greek curricula, currently under way as part of the three-year plan for education, provides an opportunity to adapt Greek education for the future and also to support greater equity. It is envisaged as such:

> *Planning a reform of curricula with emphasis on diversified pedagogy (refugee education, immigrants, and vulnerable social groups…). Soon a more rational programme that respects both the number of courses and their hours of teaching will begin to be institutionalised gradually in schools instead of the plethora of courses in the current system (12-14). At the same time, the Ministry of Education,*

Research and Religious Affairs, in collaboration with the Institute for Educational Policy, has set up committees to rationalise the curricula (Ministry of Education Research and Religious Affairs, 2017[2]).

Under the plan, new curricula are currently being developed for most upper secondary school subjects. These will be the focus of a national dialogue and discussion in committees overseen by the Institute for Education Policy. During this process, general principles and selected themes considered important and appropriate for students at each stage will be developed, and the curricula drawn up by the previous government evaluated, judged, and either retained, amended or discarded on the basis of the same criteria.

Currently, curricula in Greece are heavily focused on acquisition of subject knowledge rather than the development of competencies (which combine knowledge, skills, attitudes and values) (Eurydice, 2014[23]). The Ministry and other officials interviewed by the OECD review team have cited this as a reason that Greek students do not perform well on the OECD PISA, which has a strong focus on competencies. They noted that by other measures, however, Greek students are academically able do very well in higher education within Greece as well as in universities in other settings. While PISA may not necessarily align with current Greek curricula, it is nevertheless a relevant measure of student capacities insofar as it explores how students put the knowledge they have to use in a range of contexts. These types of literacy, numeracy and scientific skills are important to function in our societies, and also for the 30% who do not succeed to gain admission to university but take different routes in their lives.

It is important to note that competency-based curricula do not mean that acquisition of knowledge is no longer valued. Rather, students learn to structure and use knowledge in different contexts. There is a strong focus on problem solving and critical thinking. Moreover, attitudes and values, which are important to soft skills such as teamwork and creativity, and for students' well-being, are also supported (OECD, 2013[24]).

Box 3.1. Recent curricular reforms in other OECD countries

In **Finland**, the development of the national curriculum has been used to steer overall policy direction and set broad frameworks that local municipalities and schools then take on board and adapt to their own individual context (Hargreaves, Halász and Pont, 2008[25]). The national core curriculum contains the guidelines for the overall provision of education as well as the objectives and key instruction content. The core curriculum also addresses development of the school culture and co-operation, implementation of education, instruction and guidance, support for learning, pupil welfare as well as assessment of learning. Curricular reforms are undertaken approximately every decade and are informed by a national consultation. The most recent comprehensive curricular reform conducted between 2012 and 2016 aimed to modernise teaching and learning through the use of new pedagogies, developing new learning environments and promoting a new school culture. These reforms were undertaken with the overall aim of improving the equality and equity of education in Finland. The factors that were taken into account in the overall strategy included: clarifying the vision of education; determining the actions required to develop the curriculum; identifying the new or enhanced skills required for teachers; and providing standards to clarify the curriculum to practitioners (Finnish National Agency for Education, 2016[26]).

Wales decided that its curriculum and associated assessment arrangements were to be the embodiment of the aspirations that Wales has for its children and young people. The curriculum therefore had to be designed and realised to meet those aspirations (Donaldson, 2015[27]) and Wales has engaged in a major reform of its curriculum geared towards 21st century competencies. The new curriculum aims to make learning more experience-based, the assessment of progress more developmental, and to give teachers the flexibility to deliver in more creative ways that suit the learners they teach. The curriculum will be made available by April 2019 for public feedback. A final version will be published in January 2020, and implementation throughout Wales completed by 2022 (Welsh Government, 2017[28]).

The development and implementation strategy recognises the importance of alignment across key policies and actors. The curricular reform is therefore accompanied by supporting programmes towards the professional learning of teachers and school leaders and in establishing a constructive accountability culture (Donaldson, 2015[27]).

In addition, the Welsh Government has recognised that successful and sustained realisation of its ambitious will require a move away from a centrally-driven model of change to one that promotes local ownership and has empowered key aspects of development to the regional and local authorities and schools. The curriculum is being developed through a process of co-construction with a group of pioneer schools, but there is already wide communication on its purposes. At the school level, a particular focus on the role of school principals aims to ensure that they are well versed in the implementation of the curriculum, in the specific training required for teachers and in providing support to introduce learning and teaching that aligns to the curriculum.

Setting and clarifying expectations for all students

The introduction of new curricula with a learning standards or outcomes-based approach across different countries represents a change in the approach to expectations for student learning. Learning outcomes are "…statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence" (European Centre for the Development of Vocational Training (CEDEFOP), 2008[29]). Learning is measured against standards and criteria for attainment. In principle, this approach supports greater equity of learner outcomes, as the aim is to help diverse learners meet standards in different ways, rather than to rank them by performance. By focusing on the gap between student performance and standards, teachers with good diagnostic skills may identify individual learners' needs and support them to close the learning gap (European Centre for the Development of Vocational Training (CEDEFOP), 2016[30]). Aligned, rigorous and supportive curricula that provide the basis to learn to high standards, with adequate support in place, can help students achieve their potential (Riley and Coleman, 2011[21]).

In practice, even with standards, it is often the case that disadvantaged students and schools perform at lower levels. One study of UK schools found that those drawing their students from the lowest socio-economic groups accounted for 17% of schools in the country, but over two-thirds of failing schools came from this group (Gray, 2000[31]). In Greece a 15-year-old from the bottom quarter of the distribution of the PISA index of economic, social and cultural status (ESCS) is nearly three times more likely to perform poorly in science, relative to non-disadvantaged students, and only 18.1% of these students manage to

overcome their disadvantage to perform in the top quarter of students among all countries/economies, after accounting for socio-economic status, against an OECD average of 29.2% (OECD, 2016[32]; National Research Council, 2000[33]; Rubie-Davies, 2007[34]; Rubie-Davies, Hattie and Hamilton, 2006[35]).

While there are many education and non-education factors at play in these performance differences, there can be a difference in expectations for lower socio-economic background students. Research reveals that lower expectations have negative consequences on the delivery of the curriculum, the quality of instruction provided by teachers and especially for the self-esteem of students, their aspirations and their motivation to learn (Leithwood, 2010[36]). How much of this may be down to the expectations of students may be revealed in part by career expectations of the students themselves. In the 2015 PISA round, students were asked what kind of job they expected to have when they were around 30 years old: across almost all countries, the expectation of pursuing a career in science was strongly related to an individual student's proficiency in science. A much smaller percentage of disadvantaged students (18.9%) than advantaged students (31.5%) expected to work in a career in science. This was even more likely in Greece, where 35.7% of the more advantaged students expected a career in science but just 19.4% of the disadvantaged did – even among students who perform similarly in science and reported similar enjoyment of learning science (OECD, 2016, p. Table I.6.8[32]).

The OECD review team was not aware of the expectations for students in Greece beyond passing their grades and attending tertiary education. Indeed, Greece places high value in education, and there are high participation rates in school and low dropout rates and important numbers of students in tertiary education. But it is important for Greek schools and society in general to set and communicate high expectations both for educational performance and for life chances for *all* their students – key for student learning and for making students active participants in their learning. This is especially important vis-à-vis disadvantaged students and schools, so that they can later contribute to their society and economy (OECD, 2012[1]). Contemporary research on learning has revealed that schools should set clear expectations, demand hard work and challenge students (without overloading them), and use assessment strategies consistent with these expectations, including strong emphasis on formative assessment focused on helping students to identify learning needs and meet goals. Each learner needs to be sufficiently challenged to reach above their existing level and capacity (Dumont, Istance and Benavides, 2010[37]).

Plans to reform upper secondary education have been announced

Upper secondary school (general *lyceum*) was restructured in 2013, and again in 2015 (Eurydice, 2016[18]). The first two years now provide students with general education in nine common subjects plus one elective in the first year (Grade A), and with eleven common subjects and two orientation courses in the second year (Grade B) – the latter courses giving students a taste of humanities and a chance to deepen their knowledge in sciences. The third year (Grade C) offers as many general subjects but with fewer teaching hours, which allows students to choose one of three "orientation courses" where they can specialise in humanities, sciences or economics and informatics.

The three-year plan for education announced in 2017 foresees a reform of upper secondary school to emphasise a more generalist approach over the current more specialised approach (Ministry of Education Research and Religious Affairs, 2017[2]). The government's stated aims are to "upgrade the [upper secondary school (*lyceum*)] and restore its proper function and pedagogical role":

The reorganisation of secondary education aims at upgrading its educational role, autonomy and independence at every level, so as to offer the greatest educational benefits to students. The creation of an autonomous upper secondary school level (lyceum) will prepare students for entry into higher education by giving them all the necessary skills, without, however, negating the autonomous educational role of the school (Ministry of Education Research and Religious Affairs, 2017, p. 5[2])

In the context of the above aims, legislation was being prepared as this volume went to press. This included a new law on upper secondary education (general *lyceum*) and a revision of university entrance examinations, which are expected to include an element of teacher assessment of student learning. Laws on both are scheduled to be presented to Parliament in the course of 2018. The OECD review team was informed that the goal of the reforms outlined above is to increase students' engagement at upper secondary level and to counter the influence of shadow education (Institute of Educational Policy, 2017[38]). The stated aims are to strengthen the common core in Grade B; to turn Grade C into a year of transition to tertiary education with fewer courses taught and more hours of each; and to concentrate most of the instructional time on the subjects covered in the Panhellenic exam. The proposed reform includes changes that would affect the Panhellenic itself: a "bonus run" would be offered in January along with the final examination in June, and grades from the final semester would be taken into account in the overall assessment. The plan is to progressively make upper secondary education compulsory (until the age of 18) and to allow students who do not want to pursue tertiary studies to choose "professional" subjects as part of their general upper secondary course load.

These propositions could be further complemented by ensuring that students keep engaged with their studies throughout their upper secondary education and that they effectively develop the knowledge, skills and attitudes they need to thrive in higher education and in the workplace. Many countries have been studying ways to bridge the gap between general upper secondary education and the professional world. Some of these initiatives seek to develop the transversal skills students will need no matter the sector they specialise in. For example, in Singapore, the general upper secondary curriculum offer applied courses for students to learn how to use the knowledge they acquire in academic classes in a work setting (Singapore Ministry of Education, 2017[39]).

In line with the ongoing reflections about curricula across education levels, the curriculum for the general upper secondary school could aim to provide students with both the content knowledge and the skills to apply it in the work place. A central measure could be to determine the skills that each subject can help develop for each student, and to propose pedagogies to develop these skills. In France, for example, a common framework of knowledge, skills and culture – the *socle commun de connaissances, compétences et de culture* (National Ministry of Education, 2017[40]) – was introduced to help structure learning and assessment in lower secondary education, and make it clearer for teachers and students how students can apply what they learn in various situations. The potential contributions of the subject to each skill are explained in the pedagogical programmes, as well as methods to assess students' progress towards acquiring these skills. A similar framework could be developed for upper secondary education in Greece in collaboration with teachers and other stakeholders.

Helping students understand the relevance of what they are learning in formal classes enhances the chances that they will engage and learn more. In Greece, the value of the final year of upper secondary education could be extended beyond just preparation to take the Panhellenic examinations. A complementary measure would be to balance the general

curriculum between academic subjects and application. Subjects such as history, philosophy or mathematics are crucial to master, but it is sometimes difficult to find a direct application in the classroom context. Reserving some hours of each discipline to apply the content learnt would be valuable for Greek students and teachers, as it would anchor the knowledge and prove to students that what they learn can be used and applied in different settings (Merrill, 2002[41]). In Finland (see Box 3.2) applied courses mix elements from various subjects, providing students in general tracks with opportunities to make direct use of their knowledge and to discover vocational subjects (Eurydice, 2017[42]). The latter especially help students to become familiar with and to value their knowledge in a professional setting. Bridging the gap between general and vocational tracks can also contribute to promoting vocational education to pupils who might otherwise succeed in more professionally orientated courses.

3.2.2. The impact of the Panhellenic exam

Tertiary education admissions decisions are currently based on the Panhellenic university entrance examination, used to rank students nationally (Table 3.2). Although upper secondary school prepares students mostly for entry into tertiary education, 30% of the students who take the Panhellenic examinations do not pass it. These students may find themselves with an academic training that may not have prepared them to enter the labour market. Those who fail the test have the opportunity to go to higher education if they retake and pass the Panhellenic tests (Eurydice, 2016[18]). There are no published data on the outcomes for students who fail the Panhellenic examinations.

Table 3.2. Pass rates in the Panhellenic exam, 2017

Number of students to secure a place at a university or other tertiary institute

Candidates in the 2017 Panhellenic exam	Successful candidates	Success rate
96 089	**67 684**	**70.4%**

Note: Candidate counts are general and vocational upper secondary schools (*lyceums)* combined.
Source: Ministry of Education, Research and Religious Affairs (2017[43]), MySchool data, Unpublished.

The Panhellenic examinations have such crucial consequences that the last year of upper secondary education is effectively focused on preparing for this test – although this preparation appears to largely take place *outside* school. Indeed, evidence indicates that the test has been so often disconnected from upper secondary curriculum that many students enrol in *frontistiria* schools or pay for private tutors to prepare for the examination. Exact participation rate data are difficult to come by – especially for private tutors. The Institute for Education Policy (IEP) observed in discussions with the OECD review team that it appears that Greek students do not attend or do not pay attention to most of the classes taught in their last year of upper secondary education because the subjects in the curriculum do not align with what is assessed in the Panhellenic examination (Panayotopoulos, 2000[44]).

The Ministry and its advisory bodies have put forth proposals to increase teachers' assessment roles: these include support for classroom-based formative assessment (that is, regular assessment of student progress to identify learning needs and adapt teaching and learning) and also a stronger assessment role for teachers in scores for university admissions decisions (with 20% to be based on teachers' scores, and 80% to be based on

the Panhellenic examinations). These approaches have the potential to support greater equity and quality of student outcomes more generally, and to reduce the weight of the Panhellenic examination.

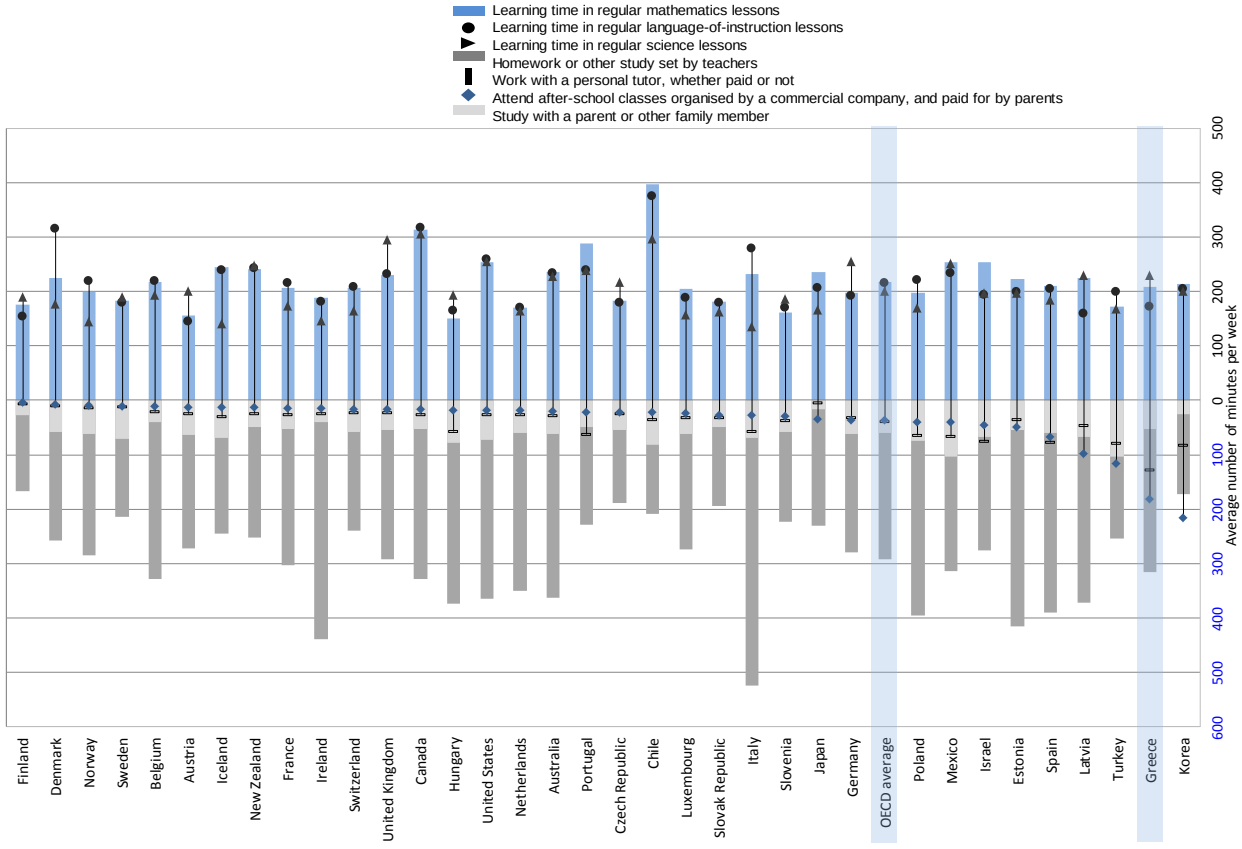
In order to lower the stakes of the examination, the Institute for Educational Policy (IEP) has proposed that 20% of student rankings in the competition for a university place be based on teacher assessments. This would not only help to lower the stakes of the Panhellenic, it would help to strengthen the alignment of measures used to assess student learning – that is, help ensure that all relevant aspects of student performance would be covered by the examination, and that all inferences, uses and consequences attached to the result are appropriate (OECD, 2013[24]). At the same time it would "re-valorise" teachers' assessment roles and learning taking place in schools.

As with any assessment, teacher-scored summative assessments need to be valid (to measure what they are intended to measure) broad enough to assess each student's competencies for all learning objectives, and reliable (scoring needs to be consistent between different teachers and between different schools). In the case of tertiary admission decisions, it will be even more important that reliability extend across schools. Teachers need to develop a shared understanding of criteria for quality. They may also need to share evidence of their understanding of validity, and to engage in inter-school moderation. Investments in teacher capacity building are vital to this process.

3.2.3. Shadow education is prevalent in Greece

The Panhellenic examination is considered one of the current central drivers for the large private expenditure on education in Greece (see Chapters 1 and 2). In a comparative perspective, this has been measured several times in the PISA study. In 2012, students were asked if they had attended after-school lessons. Self-reported results shown in Figure 3.3 reveal that Greece ranks the highest across OECD countries in terms of time spent per week in after-school classes organised by a commercial company and paid for by parents. Additional evidence also shows a difference in uptake between students who are in the bottom quarter of economic, social and cultural status and those in the top quarter was the largest captured by the 2012 PISA survey (OECD, 2013[45]), despite anecdotal evidence of disadvantaged families making enormous sacrifices to purchase after-school tutoring for their children.

Figure 3.3. Student learning time in school and after school, 2012



Note: Countries and economies are ranked in ascending order of average time spent in after-school classes organised by a commercial company, and paid for by their parents.
Source: OECD (2013[45]) *PISA 2012 Results: What Makes Schools Successful (Volume IV):Resources, Policies and Practices*, http://dx.doi.org/10.1787/9789264201156-en.

StatLink http://dx.doi.org/10.1787/888932957327

The impact of shadow education

Across countries, absolute learning time in schools is positively, but weakly, related to performance, but relative learning time in schools – the proportion of time spent in school classes relative to other learning activities – is more strongly related to performance. The implication of this is that the *quality* of school lessons leads to better overall student performance (OECD, 2011[46]).

Therefore, simply adding hours to the school day or encouraging students to spend more time in after-school lessons or in individual study would not automatically improve educational outcomes. Already, students spend long hours learning inside and outside of school in Greece, but score significantly below the OECD average in science. The ratio between PISA science scores and total learning time is relatively low, which may be indicative of the efficiency of the education system (OECD, 2017[47]). Therefore an in-depth study of how regular school lessons are structured – including when in the day classes are held, class size, length of school day and school term, the length and frequency of vacation time – could assist Greek policy makers in developing a schedule of school lesson time that is most effective for learning (OECD, 2011[46]).

How much academic improvement is brought by shadow education is contested and has not been the subject of systematic analysis in Greece to date. Research in other countries is inconclusive: in a survey of more than 10 000 pupils in grades 5-9 at schools in German-speaking Switzerland, tutoring rarely brought any improvement in the marks of these students – despite the perceptions of those tutored being the opposite (Grunder et al., 2013[48]). Many countries still lack reliable data about the number of students who participate in shadow education, with two exceptions: Japan and Korea (see Box 3.2). (Bray and Lykins, 2012[49]). A systematic investigation of the educational impact of shadow education in Greece could therefore create a solid basis for a public debate on the meaning and purpose, distribution and impact of shadow education. Such a study would necessarily go beyond learning outcomes to take in student well-being and potential synergies between learning inside and outside formal school hours (OECD, 2014[50]).

Nevertheless, most researchers have focused on the negative impact of private tutoring on public education. They point out that interest and motivation of students shifts from public school units to *frontistiria*. Indeed, the OECD review team was told by some students how they regard highly *frontistiria* teachers, especially because they are able to study in small groups of less than five students and they get individual support. Further, teachers in the public sector may reduce their teaching efforts in the understanding that all their students attend *frontistiria* anyway, so they will have other opportunities to learn (Kassotakis and Verdis, 2013[51]). This creates a perverse incentive for public school units to relax and underperform, and further undermines the regard students may have for their schools. This "demoralising", effect on public upper secondary education has been repeatedly noted (OECD, 1997[52]; Panayotopoulos, 2000[44]). In addition, research to date would appear to indicate that investing in shadow education does indeed foster educational inequalities. This has been the case in many countries in Asia, where the practice is widespread and long-standing (Bray and Lykins, 2012[49]).

In addition to education provided in *frontistiria*, there is also individual private tutoring (*idietera)*. This individual tutoring can take place in the *parakonomia* (shadow economy), which makes it difficult to detect or regulate. There is little concrete evidence to suggest that the practice of public school teachers offer private lessons out of hours is particularly widespread. Anecdotal evidence would suggest that the costs of private tutoring have declined since the beginning of the crisis, but there are wide variations in charges and very few signals of quality to parents beyond word-of-mouth recommendations (Liodaki and Liodakis, 2016[53]). Registering tutors, which can serve as a market signal of quality to parents, could help address this. Several countries, such as in Lithuania, have instituted such schemes (see Box 3.3); existing regulations in Greece could be updated to allow this.

Government responses to shadow education

Governments internationally have typically responded to private tutoring in one of four ways: by ignoring the problem entirely, by attempting to ban it, by regulating it, and by actively encouraging it (Bray, 2009[54]). Efforts to ban private tutoring in other countries have so far been unsuccessful: attempts to do so in Cambodia, Egypt, Kenya, Turkey, Uganda and West Bengal all failed (Bray, 2009[54]).

Box 3.2. Combating shadow education: The experience of Korea

In Korea, because of the strong national importance and emphasis placed on admission to top universities, there is a considerable demand for private tutoring (usually in private institutions called *hagwon*). This has been reported to not only affect education delivery in the formal education system but also student motivation and well-being (OECD, 2016[55]). As a result, successive governments have made repeated attempts to limit private tutoring consumption. In 2006, state education authorities restricted the hours *hagwon* could open in an attempt to reduce the time and resources being spent on their services. Recent studies found that imposing the curfew did not, as expected, generate a significant reduction in either the hours or the resources spent on private tutoring (Choi and Choi, 2016[56]). Demand for private tutoring seems to be especially inelastic for upper secondary school students in Korea, who in response to the ban increased their consumption of alternative forms of private tutoring. Given that the consumption of private tutoring is positively correlated with socio-economic status, strengthening the curfew may have had a negative effect on the equality of educational opportunities (Choi and Choi, 2016[56]; OECD, 2016[55]).

Korea introduced an online education system first in 2005 to reduce family expenditures on private tutoring by serving as a supplement for after-school education (Jang, 2006[57]; Lim and Kim, 2008[58]). By 2009, the Cyber Home Learning System (CHLS) employed 6 147 cyber teachers for 1.6 million students and 2 692 parental tutors (Kwan, 2009[59]). With a high rate of home Internet use (99.2% in 2016) (OECD, 2017[60]), this system was easily accessible to school-aged children in nearly all homes. In 2016 just 69.1% of Greek households had access to the Internet (OECD, 2017[60]). The CHLS supports students by providing free learning programmes based on the national curriculum. Students can either study independently or select "cyber teachers" or tutors who can support and manage their learning via the CHLS program. A survey of parents in 2006 found that the system was more effective in replacing private education in low-income families, regardless of where they lived (Cho et al., 2009[61]). However, a survey of students in 2015 found that over half thought that they would never or rarely replace private face-to-face tutoring with CHLS, while another 25% would only sometimes replace private tutoring with CHLS (Hye Shin and Albers, 2015[62]).

To date Greece has tended towards regulating the sector: current regulations require that the director of each new *frontisterio* be qualified to teach in a state school, and that safety inspections of the premises are performed before they can open. However, there are no controls on what is taught, the recruitment of teachers, or the fees charged. Previous efforts to regulate the sector included obliging *frontistiria* to only use official textbooks and banning them from administering mock exams (Kassotakis and Verdis, 2013[51]).

International experience would indicate that banning the practice is unlikely to be practical or effective (see Box 3.2 and Box 3.3, (Bray, 2009[54])). Experience in southern Europe would appear to indicate that effective regulation of the sector requires a thorough regulatory framework and enforcement (Liodaki and Liodakis, 2016[53]). Regulating the sector could move beyond the strict business aspects of transparency in financial transactions, the safety of premises and advertising standards (OECD, 2014[50]). Some governments have found that heavy levels of regulation might be alleviated if shadow education providers engage in self-regulation, as has been the case with the Japanese

extracurricular *Juku* Association and the Korean Association of *Hagwons* (OECD, 2014[50]; Lee, Lee and Jang, 2010[63]). In Greece, engaging in regular dialogue with the National Association of *Frontistiria* Owners (OEFE) could, at the very least, help gather policy relevant data.

Box 3.3. Regulating private tutors: The experience of Lithuania

The 2003 Law on Education in Lithuania introduced the concept of a "freelance teacher", which is defined as a person licensed to engage in educational activity on an individual basis. A freelance teacher can "carry out pre-school, pre-primary education curriculum and other non-formal education programmes, implement modules of formal education programmes, modules supplementing formal education programmes and modules of programmes meeting learners' self-expression needs, and upon the acquiring of the licence – formal vocational training programmes" (Republic of Lithuania, 2011[64]).

Specifically, a freelance teacher has the right to:

- Work according to their individual programmes.
- Choose their own methods and forms of pedagogical activity.
- Provide educational assistance.

A freelance teacher must:

- Ensure their learners' safety.
- Have a workplace intended for education that meets hygiene requirements.
- Implement a teaching process that has been agreed upon with the learner.
- Deliver the education content in a comprehensible and explicit manner in the correct Lithuanian language where it is defined by legal acts that the appropriate education content is delivered in the Lithuanian language.

A freelance teacher is not allowed to teach learners whom they teach at school in the same subject (Republic of Lithuania, 2011, pp. 43, Article 50[64]).

Other obligations for freelance teachers include observing ethical standards and committing to upgrading their qualifications. Nevertheless, there is no special legal act properly regulating the activities of freelance teachers and no prosecutions have ever been brought for failing to meet the defined standards. Freelance teachers are expected to declare the money earnt for their private lessons in accordance with the general procedures set by the State Tax Inspectorate. They can register as a private business or acquire a business certificate (the latter is a simpler procedure). By 2004, just 834 educators had obtained business certificates for freelance teaching, and another 782 in 2005 (Silova, Budiene and Bray, 2006[65]). In 2010, teachers made up 3.5% of the Lithuanian active population, including a total of 33 097 pedagogical staff in general education (Shewbridge et al., 2016[66]). Various reasons have been advanced for this in both Lithuania and other countries in the region: a lack of legal enforcement; a lack of implementation mechanisms; and a lack of tax incentives. As a result, the private tutoring market still goes largely unregulated.

In addition, making more reliable and accurate information about the services being offered and their likely impact would allow parents and students to make better-informed choices. This would mean systematically measuring the extent and the impact of the sector and disseminating the results widely. Such a study could go beyond simply measuring uptake to

examine the curriculum, financing, management and sociological aspects of the sector (Bray, Kwo and Jokić, 2016[67]).

Few countries have chosen to actively encourage the shadow education sector, but several have designed policies to provide public alternatives to private shadow education, particularly for disadvantaged students. After-hours or weekend instruction in public schools have been trialled in Japan and offered systematically in Korea to attract students and reduce the declining reputation of public schools. Between their introduction in 2006 and 2011, overall participation in free after-school supplementary tuition in Korea rose from 43% to 65%, with higher rates of participation from lower-income and rural populations (OECD, 2014[50]). In Singapore and the United Kingdom, specific after-school programmes have been targeted at ethnic groups where imbalances in educational achievement have been observed (Bray and Lykins, 2012[49]; The Sutton Trust, 2014[68]). New technologies can be deployed to provide supplementary tutoring (see Box 3.3). This has already been embraced by private providers.

3.2.4. Responding to disadvantaged students and schools' challenges

A policy imperative that the OECD review team frequently encountered in Greece is that the government should not behave equally towards the unequal. While there is evidence on the need to support learning opportunities for all through national standards and strong quality public provision, evidence also points to the effectiveness of targeting interventions to where they are needed most. Greece has particular challenges – including isolated schools, low socio-economic profile schools, an influx of refugee students – that have been focus of policy initiatives, such as:

- the development of all-day schools that provide extra support for struggling students
- Education Priority Zones (ZEP)
- Efforts to reduce early school leaving.

These are reviewed below, as they represent challenges to a system already struggling for resources, and require continued focus and support.

All-day schools

"All-day" schools were instituted from 1989 in Greece and funded with European Union structural funds. While in the early stages the aim was to help parents, especially mothers, to enter the labour market this later shifted to encompass educational goals as well (OECD, 2017[69]). Two main types are prevalent (Thoidis and Chaniotakis, 2015[70]):

- The "classic" all-day school (since 2002): students can stay at school after 2 p.m. in order to complete their homework, take part in creative activities, and rest (about 60% of schools in 2016 – see Table 3.3). All–day school programmes were extended to the pre–primary level in 2009. All–day kindergartens operate on an extended timetable for at least eight hours per day (compared to four hours a day in the case of "regular" kindergartens). There have also been initiatives to ensure equitable access to primary school for children with special needs, such as parallel support classes in mainstream kindergartens and the establishment of special education kindergartens, and measures to reduce geographical disadvantages (Koutsogeorgopoulou, 2009[71]).
- The "new" all-day school was progressively rolled out from 2010 to 11, as part of the "New School" reform package (about 29% of schools – see Table 3.3). Children

may arrive as early as 7 a.m. and leave as late as 4 p.m., during which time they can benefit from extra study support (individual and group). Attendance is compulsory until 3:30 p.m. The curriculum has been enriched with foreign language classes, art, drama, and physical education. The duration of the school year was also slightly extended (Ministry of Education, Research and Religious Affair, 2011[72]).

The remaining 10% of primary schools, which are schools that have fewer than six classes, are not all-day schools.

Table 3.3. Types of Greek primary schools in school year 2015/16

	All primary schools		Of which: schools with more than three grades	
	Number of schools	%	Number of schools	%
"Classic" all-day	2 761	61%	2 218	60%
"New" all-day with revised cohesive programme	1 337	29%	1 332	36%
Not all-day (of any type)	469	10%	141	4%
Total number of primary schools	4 567	100%	3 691	100%

Source: Institute of Educational Policy (2016[73]), "Experts' Reports", Report prepared by the IEP and academic experts for the OECD review team, October 2016.

In the first half of 2016 the government advanced new proposals that "classic" and "new" all-day schools be amalgamated into a "unified" type of all-day primary school that would include the vast majority of all primary schools, and which would be in operation from the next school year (2016/17). It was proposed that in this type of school, children would not arrive earlier than 8 a.m. but could leave as late as 4 p.m. Attendance would be compulsory until 1:15 p.m. in a regular curriculum enriched with classes in English language teaching, information and communication technology (ICT), art, drama, and physical education in the afternoon classes. The new enriched curriculum implies less time for more conventional subjects, and therefore a shift in the teaching load from primary teachers to specialist secondary teachers (thereby helping to employ the oversupply of secondary teachers).

Teachers, students and parents reported that the enriched curriculum, with new subjects, in the "new" all-day schools, was very helpful, especially for students from low-income families (see for example INE-GSEE (2003[74]) and Kontorli (2010[75])). This was less the case for more affluent families as they would typically have access to these additional subjects (ICT and foreign language learning) through *frontistiria* and private tutors.

Undertaking the all-day primary school was reportedly welcomed for a number of reasons:

- The enriched curriculum helped students to become familiar with new courses (arts education, ICT, foreign languages).
- The reform met parental expectations to find solutions to the daily problems linked to the ongoing economic crisis. It seems to conform to a desired pattern of school: the students study to a certain extent at school (not at home), they tend to socialise in an age-appropriate environment, and they develop new skills and competencies (Institute of Educational Policy, 2016[73]).

But a number of problems are also reported with the initial implementation of all-day schools (Gkoratsa, 2013[76]). These include weak integration of afternoon provision, especially in the "classic" all-day schools (Thoidis and Chaniotakis, 2015[70]); insufficient

infrastructure to support the new activities; teacher recruitment difficulties; inadequate homework support (Gkoratsa, 2013[76]); dropout during the school year reported in the "classic" model; and, students not staying at school for the afternoon classes (Institute of Educational Policy, 2015[77]).

Certain gaps between policy and practice in the operation of the “all-day” school have been identified: while the “all-day” school aimed to achieve certain pedagogical and social aims, as described in the policy documents of the MofERRA. In practice, only a few of these aims, mainly related to the social dimension of the “all-day” school, could satisfactorily be said to have been achieved so far. The all-day school in its initial form did not achieve such pedagogical aims as homework completion at school (Gkoratsa, 2013[76]).

In May 2017, a law change meant that any school, including kindergartens, could become an all-day school. This replaced the system of self-nomination that had existed to that point. This also eliminated the risk that better organised and equipped schools were more likely to have the potential to become new all-day schools, thereby widening the gap between new all-day schools and their students and other less favoured schools (OECD, 2017[69]).

Reliance on European Structural Funds and the use of substitute teachers to deliver the programme has led to an unstable teacher workforce. Some schools reported having only managed to recruit specialist teachers for the afternoon sessions three months after the beginning of the school year. In the new all-day schools, teachers have more curricular freedom, but reportedly little training in how to use it (Institute of Educational Policy, 2016[73]). Specialised subjects are often delivered by teachers trained as secondary school teachers (and therefore not always having the adequate pedagogical training to teach primary school-age children). Nevertheless, as a result, primary school students were exposed to such disciplines as drama studies, ICT, and art which were previously restricted to those attending one of the 1 337 EAEP primary schools (Ministry of Education, Research and Religious Affairs, 2018[78]).

Education Priority Zones (ZEP) provide targeted support

Allocating more resources to disadvantaged areas has been a common policy response in many OECD countries. Following the passage of a Law on Education Priority Zones (ZEP) (Law 3879/2010) in 2010, the Ministry issued a Ministerial Decision to define the localities where this initiative would be applied. The regions were chosen presenting the characteristics of the Education Priority Zones (ZEP). These zones include primary and secondary education schools in areas where the basic indicators of school integration (such as well-being, educational level of adults aged 33-43, relative dangers of poverty, and total educational levels) were all low, or where there were a high proportion of foreign, Roma or other minorities in the student populations (Eurydice, 2014[23]).

Education Priority Zones (ZEP), as deployed in Greece, are based on the notion of positive discrimination, and promote a holistic approach to education (with the support to, and from the local community). They constitute an effort to create a permanent institution in the context of the Greek education system in which districts and schools related to Sensitive Social Groups (SSG) will be incorporated based on local needs (Eurydice, 2014[23]).

In order to support primary and secondary education schools that are incorporated in Education Priority Zones (ZEP), the following actions have been implemented:

- combating current high levels of school failure of repatriate and foreign students in Greek schools, so as to guarantee, as far as possible, equal education of these

groups compared with their native counterparts, and contributing to their social integration
- implementing intercultural education actions in secondary education, through the reinforcement of international co-operation through ZEP Enhancement Coaching Courses for students coming from sensitive social groups (SSG)
- implementing educational actions with a special emphasis on culture and with support of the integration in primary schools of students coming from SSG.

During 2013 and 2014, the scheme was expanded to more than 1 500 schools, mostly primary, to cover around 190 000 students. At the same time, further training of teachers was instituted and nutrition provisions added to the programme (Koutsogeorgopoulou et al., 2014[79]). These were supported by policy measures, including the operation of reception and remedial classes. From 2018, ZEP Reception Classes for children of upper secondary school age will be implemented (Ministerial Decree 3727/2017).

However, the experience of other countries with ZEPs has been mixed. In France, the *Zones d'Education Prioritaire* (ZEPs) have for the past 20 years used positive discrimination to address special needs of students in disadvantaged areas where there are a high proportion of immigrant students. Additional funds support smaller classes, extra lessons and financial incentives for teachers. There are also, more generally, throughout the country, special arrangements aimed at quickly integrating new immigrant students into school life: schools are to provide French language, but not mother-tongue support (OECD, 2004[80])

It is hard to determine the effect of the ZEP schools overall. One study found that in France the ZEP had no evident impact on student academic achievement (Bénabou, Kramarz and Prost, 2009[81]). Where ZEP schools have succeeded in raising the achievement potential of their students there has been discernible mutual co-operation among staff, coherence in their activities, a strong and dynamic school management that emphasise school performance, and classes with a relatively constant group of teachers and students to enhance pedagogic continuity (OECD, 2004[80]). A high turnover of teachers can lead to declining achievement among students. As high-quality teachers either leave or avoid schools with low-performing students, the low-quality teachers, who themselves often leave, leads to low-performing students (Hanushek, Kain and Rivkin, 2001[82]).

Portugal instituted two programmes to address this issue: "Domains for Priority Intervention" (TEIP), a public venture but one that envisaged the development of partnerships with different local actors (local authorities, associations, companies, social institutions), and the EPIS Programme (Entrepreneurs for Social Inclusion), which supported schools with high dropout rates. The first, in a revised form re-launched in 2010, included: a mandatory educational project for each school or consortia of schools, agreed with the central administration; periodical assessments of the results in different domains (under-achievement and dropout rates, student assiduousness and behaviour); pedagogical support; and, follow-up from specialised ministerial teams in curricular and pedagogical innovation. This has shown some promising results, in that school dropout became almost residual in TEIP schools (0,4%); and school failure rates progressively decreased and in 2010 were practically identical to national rates – but only after four years of uninterrupted implementation (Dias and Tomása, 2012[83]; Dias, 2014[84]). Subsequent evaluation has shown that policy choices of this targeted programme were not fully conducive to reaching the schools which needed it the most (see Box 3.4).

Therefore, in order to properly judge the success or otherwise of the ZEP in Greece, concrete educational outcomes, such as completing the full three years of upper secondary

education, need to be analysed. Only then could measures of resilience be identified, implemented and published before making decisions about the programme's future.

Students in isolated areas struggle

While in 2011 around 40.6% of Greeks lived in the 10% of regions with the largest population, the total population living in urban or suburban areas was 76.6% – up from 72.8% in 2001 (OECD, 2017[85]). This long-observed drift to the cities appears to have reached its peak (Eurydice, 2016[86]). Nevertheless, in order to maintain social cohesion, the government continues to maintain schools in even the most isolated areas. While still less than the European average, these students are much more likely to leave school early: nationally 10.4% who lived in rural areas did so, while the comparable rate in urban areas was just 3.5% (Eurostat, 2017[87]). There are some regional and programme variations (Table 3.4) and some rural/urban differences, as well as a much higher rate in vocational education and training programmes.

Table 3.4. Early school leaving rates by region

High levels in VET programmes, in rural, and semi-urban areas

	Primary (in %)		Lower Secondary (in %)		Upper Secondary (General) (in %)		Upper Secondary (VET) (in %)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Attica	2.06	1.71	4.89	3.33	1.87	1.80	12.71	11.79
Central Greece	2.49	2.23	4.45	3.02	2.82	1.68	15.51	13.36
Central Macedonia	1.06	1.12	4.17	3.28	1.86	1.71	10.79	8.01
Crete	1.75	1.81	5.10	3.05	2.97	2.43	12.34	10.67
Eastern Macedonia and Thrace	2.80	3.12	9.06	8.36	2.10	2.13	14.81	10.44
Epirus	1.77	2.01	2.11	2.15	1.61	1.24	10.10	8.45
Ionian Islands	1.32	1.27	3.61	3.03	2.21	2.70	9.30	14.81
North Aegean	1.74	0.97	3.98	2.40	0.83	1.21	7.93	7.56
Peloponnese	2.00	2.99	5.65	4.26	2.26	1.90	9.67	9.45
South Aegean	1.20	1.60	3.02	1.82	3.35	1.98	9.21	7.37
Thessaly	1.03	0.96	5.24	4.03	2.22	1.32	10.31	13.64
Western Greece	2.93	2.83	5.33	3.98	2.25	1.58	10.44	8.98
Western Macedonia	0.45	0.66	1.17	1.7	1.45	1.02	6.41	7.82
TOTAL	1.81	1.76	4.82	3.58	2.08	1.77	11.45	9.99

Note: All values are percentages. Early school leaving was measured according to the Eurostat definition: people aged 18-24 who have completed, at most, lower secondary education but are not involved in further education or training; the indicator "early leavers from education and training" is expressed as a percentage of the people aged 18-24 who meet such criteria, out of the total population aged 18-24.
Source: Institute of Educational Policy (2016[73]), *Greek Experts' Preliminary Reports*, Institute of Educational Policy, Unpublished.

The IEP data presented in Table 3.4 reveal that urban areas have a lower rate of early school leaving compared with semi-urban and rural regions and that vocational education and training programmes far outstrip other programmes in terms of high rates of early school leaving. Additional data shows that overall, some 40% of early school leavers come from the Attica region where the dropout rate (7.8%) was higher than the national average (6.5%) and in in West Attica higher still (15.1%). The regions of Eastern Macedonia and Thrace have unusually high rates of school dropout at all levels and in all types of schools. By contrast, the region of Western Macedonia shows the lowest dropout rates followed by

the region of Epirus, where rates fell by half between 2005 and 2015. Similar improvement occurred and in the regions of the North and South Aegean (Institute of Educational Policy, 2017[88]).

Remote rural areas are often faced with the compound problems associated with small school size and their geographic isolation, which limits the scope for inter-school co-operation, clusters or consolidation. A range of strategies to provide targeted support have been deployed in other countries facing similar challenges. In Portugal, there was an important school consolidation effort, resulting in the creation of school clusters (Box 3.4). Recognising the higher per-student cost faced by small remote schools and their difficulty to attract specialist teachers, some countries provide them with dedicated compensatory funding or targeted programmes to finance professional development and collaboration, or to improve transport arrangements where distance constitutes a significant barrier for school attendance and enrolment. Greece has long-standing statutory arrangements for the latter, and already undertook mergers of schools, combined with the daily transportation of students to consolidated schools in the 2010-14 period. In the current fiscal conditions compensatory funding is unlikely to be available and there has been a reduction in the overall number of schools by 1 631 (Roussakis, 2017[4]).

An OECD study on the use of resources has looked into the use of information and communication technologies (ICT) to alleviate the difficulties faced by remote rural schools. They can offer a way to expand educational access and broaden curricula through distance education and other forms of ICT-supported learning. In addition, web-based solutions have in some countries improved teachers' access to learning materials and expanded their opportunities for professional exchange (Santiago et al., 2016[89]), but evidence highlights the importance of building capacity among teachers and principals to develop appropriate methods for ICT-based instruction and apply these techniques effectively (Avvisati et al., 2013[90]; OECD, 2015[91]). The MENTEP (MENtoring Technology-Enhanced Pedagogy) project, which addresses the need in Europe for teachers to innovate using ICT in their classroom and for improved data on teachers' digital competency, could be of prime interest in this regard (European Commission, 2017[92]). Greece can explore different options to ensure that students living in remote or isolated areas have quality educational opportunities available.

Box 3.4. Implementing school clusters in Portugal

In 2005/06, Portugal implemented a major reform to consolidate its school network to address its inefficiency and regional inequalities. Prior to the reform, rural areas were dominated by small schools with poor facilities and low performance while schools in urban areas were often overcrowded and relied on double shifts to deliver the curriculum. The Ministry of Education, in co-operation with local governments and school executive boards closed down small, underperforming schools with above-average grade repetition rates while simultaneously providing the affected local governments with financial support to build and invest in new school centres and provide funding for school transport. Many small schools were replaced by school centres with a minimum of 150 students at more than one level of education. These all-day schools also offered extracurricular activities.

Besides rationalising the administration, management and use of school resources, the introduction of school clusters also aimed to ease the transition between different levels of compulsory education. Portuguese school clusters therefore often include two or more

levels of compulsory education, comprising pre-school establishments and at least one education cycle within a single organisation for administration and management.

As a result, transitions between different levels of education in different geographic areas were eased, the overall efficiency of the system improved, the isolation of rural teachers was lessened, improved educational opportunities for disadvantaged students in isolated areas were provided, and a collaborative approach between the Ministry of Education (centrally and regionally), municipalities, schools and other stakeholders was fostered.

Several features of the reform have been identified as having contributed to the success of the reorganisation, including that: 1) The reform was guided by a clear vision and criteria; that specified which schools should close, for what reasons, and what would replace them. 2) It was recognised that parents needed to be convinced that the reform would have positive outcomes for them and their children. Incentives, including free transportation, were provided to facilitate this. 3) Municipalities supported cluster hubs and assumed leadership of the new system.

Sources: Matthews, P. et al. (2009[93]), Policy measures implemented in the first cycle of compulsory education in Portugal (International evaluation), Ministry of Education Editorial, Lisbon, http://www.oecd.org/education/school/42065538.pdf; Ares Abalde, M. (2014[94]), "School Size Policies: A Literature Review", OECD Education Working Papers, No. 106, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jxt472ddkjl-en.

Early school leaving occurs among particular groups

"Student dropout" can be more accurately described as "school failure" (Faubert, 2012[95]). It is a complex process of disengagement that can be explained by a variety of factors, such as academic performance, students' personal and family background, education policies and labour market conditions. In countries in which the incidence of under-qualification is low (such as the Czech Republic and the United Kingdom), those who have not completed upper secondary school are substantially over-represented among the unemployed. However, in countries where there is a high proportion of young people with less than an upper secondary level of education, those with low qualifications either suffer relatively little disadvantage in the labour market compared to those who have completed upper secondary education, or have even had a positive advantage in the labour market when compared to those who have completed upper secondary education. This, historically, has been found to be the case in Italy, Portugal and certainly in Greece (OECD, 2000[96]).

EU countries have committed to reducing the average share of early school leavers to less than 10% by 2020. Repeated studies have shown that there is no silver bullet that can reduce school failure and improve equity. Instead, an interlaced approach of policies and practices at both the school and classroom level has been found to be effective, some intended to focus on the core of teaching and learning (teaching practices, curriculum, assessment, school leadership, data gathering and use) while others address support necessary to maintain teacher focus on student learning (professional learning, school and classroom size, and interventions that build resiliency). Crucially, these initiatives must form part of a larger, aligned design of efforts right across all levels of the education system: a vision for education in Greece (Faubert, 2012[95]).

At just 6.2%, the official early school leaving rate (those aged 18-24 who had left school with less than upper secondary education and did not participate in any further education or training) was below the EU-28 average of 10.7% in 2016. This is down from the 2007 level

of 14.3% and 18.2% in 2000 (Eurostat, 2017[87]). Still, there are differences across population subgroups:

- Students with an immigrant background: As early as 2007 studies found that nearly half of the early school leavers had an immigrant background, above the EU average (Koutsogeorgopoulou, 2009[71]; European Commission, 2011[97]) and those rates have not diminished. While early school leaving among foreign-born students has more than halved since 2012, at 18.1 % in 2017, it is much higher than among native-born students (5.5%) (European Commission, 2017[98]).
- Students repeating: Also relevant to note is that Greek students in a classroom with students of a different age, or who are repeating a school grade, have a much higher level of school dropout than the rest of the student population (Institute of Educational Policy, 2017[88]).
- Boys: In data for the 2015/16 school year, it was found that the gender dimension manifested itself mainly in secondary education, where the rate of early school leaving for boys was much higher than for girls.
- Some regions have more pronounced dropout rates (Table 3.4).

In addition, the Institute of Education Policy in Greece reports that data on early school leaving is difficult to secure and while those who begin school are often monitored, there may even be a small cohort of children who never enter the education system and may not be captured by official statistics (Institute of Educational Policy, 2017[88]).

Many countries work to reduce early school leaving by identifying those at risk early on and providing preventive support, while conversely, many school systems find it difficult to anticipate which students will struggle as they advance through the educational system (OECD, 2012[22]). This prevents them from both providing intensive, individualised support to those students and identifying systemic or organisational challenges for certain profiles of students. Therefore, a first step is to develop early-warning indicators to identify students who are at risk for grade repetition and dropout. Identified students can be targeted early with necessary support so that they can be put back on track before the learning gaps widen.

3.2.5. The case of refugee students

With only 6.3% of its population being of foreign origin in 2015, Greece counted among the European countries with the smallest immigrant population (OECD, 2017[6]). The recent waves of immigration were thus particularly significant for the country, bringing in nearly one million refugees in 2015 alone (UNHCR, 2017[5]). During this period Greece was often a transition territory for a number of immigrants headed for other European countries. However, with new asylum applications amounting to almost 50 000 in 2016, a surge of 338% from the previous year, Greece has a considerable, unexpected population needing education (OECD, 2017[6]) (UNHCR, 2018[99]). The MofERRA, in co-operation with the United Nations High Commissioner for Refugees (UNHCR), has estimated that there were at least 12 000 school-age (aged 6-17) refugee children overall in Greece at the beginning of the 2017/18 school year. Between January and September 2017 just over 7 000 children arrived in Greece by sea, mostly from the Syrian Arab Republic, Iraq, Afghanistan and Kuwait. This included 811 (11%) unaccompanied and separated children (UASC). In September 2017, some 1 180 unaccompanied children were in 54 shelters across Greece, with 44% attending school or formal education. While this represents a significant decrease compared to the first half of 2016, when 60 089 children arrived (UNHCR, 2017[5]), it remains a major challenge for the country.

Refugees were initially received in temporary camps, but efforts were later made to move them into other types of accommodation, such as hotels and apartments in urban areas. By the second half of 2017, UNHCR estimated that the refugee and immigrant population on temporary accommodation sites had dropped from 51% to 34%, while residence in hotels and apartments had increased from 36% to 57% (UNHCR, 2017[7]). In 2016, Greek volunteers were awarded the Nansen Refugee Award by UNHCR. Volunteers of "The Hellenic Rescue Team", were recognised for their tireless voluntary efforts to aid refugees arriving in Greece in the period, with special recognition of Efi Latsoudi for her work at "PIKPA village" on the island of Lesvos, (UNHCR, 2016[100]; UNHCR, 2016[101]).

The Greek Government had to respond to this situation and provide educational facilities, responding to the Constitutional right for all children to access school education in Greece, without distinction (Hellenic Republic, 2008[102])[3]. They had to make sure they had access to schools, and prepare them for the transition into a formal education system, either in Greece or in their next host country (Papademetriou, 2016[103]).

Supporting education for refugees requires sustainable resourcing

The Greek government reacted quickly to the massive refugee influxes of 2014-15. The MofERRA first collaborated with the army to set up camps and co-ordinated the efforts of other actors such as NGOs and UN Agencies to develop basic services for school-aged refugee children. The Ministry established a scientific committee on educational affairs to record, co-ordinate and support refugee education initiatives in the camps. With a reduction in flows, the issue shifted to focus on how to systematise the actions adopted for refugee education. In February 2016, the MofERRA published an action plan on how it proposed to deal with the refugee influx. The plan included psychosocial support of children and their parents, provision of basic literacy skills, and basic training of refugees prior to their relocation to other European countries (Ministry of Education Research and Religious Affairs, 2017[2]).

The Ministry's main goal remains to integrate refugee students into the formal education system in Greece, or to prepare them to integrate into the formal system in their next host country. With this goal in mind, the Ministry piloted several initiatives during the 2016/17 school year:

- The Ministry initially supported the creation of kindergartens on the camp sites for children four to five years old to attend. Children aged 6-15 were able to enrol in afternoon reception classes in selected public schools neighbouring the camps. Approximately 3 500 school-aged children (aged 6-16) were in formal education during the 2016/17 school year (29% of 12 000 total) (UNHCR, 2017[7]).
- Reception School Annexes for Refugee Education (RSARE) were established as a flexible intervention scheme in school districts where refugees and migrants live. Appointed and trained by the MofERRA, Refugee Education Coordinators (RECs) represent the public school system and bridge the gap between refugee families and schools. RSARE were established thanks to an inter-ministerial effort by the MofERRA, the Ministry of Health and the Ministry of Migration Policy. By the beginning of the 2017/18 school year, 112 RSARE had been established, reaching 3 000 students in 33 accommodation sites (Aroni, 2017[104]).
- The MofERRA has worked with the Institute for Education Policy (IEP) to develop an inclusive curriculum for reception classes in RSARE. The curriculum offers English and Greek language courses, mathematics, arts, physical education and computer science (Aroni, 2017[104]). To facilitate implementation, teaching staff in

RSARE use adapted teaching materials such as guides and textbooks to teach Greek as a second language. For many students, reaching the appropriate level to study other subjects in a foreign language can take up to seven years (OECD, 2015, p. 85[105]). This scheme's reported success was founded on the autonomy it gives to the actors on the ground to take action according to local priorities, while providing a general framework for their actions. Refugee Education Co-ordinators that the OECD review team met were particularly pleased with the work that had been accomplished with minimal means.

- Children aged 4-15 living in other accommodation such as hotels or apartments were eligible to enrol in morning classes in selected public schools nearby. Some 2 493 of these children were enrolled in schools throughout Greece at all levels of education at the beginning of the 2017/18 school year; 2 360 more living in refugee camps were also enrolled (Ministry of Education, 2017[106]). When possible intercultural schools[4] and Education Priority Zones (ZEP) were selected, as both have existing initiatives to integrate immigrant children into the education system.

In addition to the Ministry's plan for integrating refugee children into formal education, NGOs and other agencies offered non-formal education in 95% of the refugee camps during the second half of 2017 (UNHCR, 2017[7]). These non-governmental actors provide teaching in languages such as Farsi and Arabic, delivered by volunteer international teachers, as well as creative and sporting activities (Aroni, 2017[104]). For instance, SIF has been providing summer school classes for children in the Malakasas camp outside Athens, which the OECD review team visited in 2017.

Communities and school staff may face resistance when integrating refugee children into public schools. Reports to the MofERRA working group on refugee education showed that there were some instances of resistance from local communities to integrating refugee children into local schools of a few municipalities, especially in areas of low socio-economic status (Aroni, 2017[104]). The OCD review team was told that most communities whose local school opened afternoon classes for refugee students have been very welcoming to them. Already existing initiatives to integrate immigrant students, such as schools for intercultural education and Educational Priority Zones, have assisted in this regard. The Ministry's three-year plan for education includes a reform of the pre-school curricula with this in mind. The aim is to develop diversified pedagogy from early on, getting children used to intercultural schooling and teachers to account for the specific needs of refugee, immigrant and vulnerable students (Ministry of Education Scientific Committee for the Support of Refugee Children, 2017[107]). Nevertheless, Greek principals have generally considered that ethnic diversity hinders learning (OECD, 2015[105]).

The challenge remains to integrate refugee students to the formal education system in Greece, or prepare them to integrate the formal system in their next host country. A pressing question is that of resources, since most of the initiatives in the camps have been funded sporadically, usually by European Commission grants (European Commission, 2016[108]). The current plan to integrate refugee students requires finding sustainability in resources. During the OECD review team's visit to a refugee camp outside of Athens, the co-ordinators remained unsure whether they would get funding to continue their work in the long term. There is no clear assessment of the costs of the current initiatives to integrate refugee students into the formal school sector. Indeed more students involve extra costs to local schools, also because immigrant students may require extra classes in Greek as a second language. Recent cuts in regional budgets for education, which the OECD review team were told had decreased by 5% in 2015, are thus of particular concern.

Refugee students need to learn Greek to do well at school

A major issue has been language: refugee students typically do not speak Greek upon arrival and require some time to reach a level where they are able to learn other subjects in the language. Even for students with an immigrant background who have integrated into the formal system, speaking the language of assessment at home has proved to affect academic performance. Almost 60% of first-generation immigrant students in Greece don't speak the language of assessment at home, which contributes to the 20-point difference in reading performance between immigrant and non-immigrant students (OECD, 2015[105]).

The balance between bringing non-native speakers up to a sufficient level in Greek language where they are able to study other subjects and integrating them into the regular education system is difficult to strike. Students interviewed by UNICEF and REACH explained that the language barrier was the main reason they dropped out of formal education. An unaccompanied 16-year-old from Iraq reported that:

I came here to continue studying but it's not good, because it is all in Greek and most of it we don't understand. For three months I used to go – they registered me – but nothing changed in those three months and I quit, because I went to school, I woke up at seven a.m. and I just came back. I learnt nothing there (UNHCR, UNICEF and IOM, 2017[109]).

Focusing only on Greek as a second language is not an option: refugee children need to learn not only about other subjects but to be integrated into age-appropriate classes as soon as possible (OECD, 2010[110]). The Institute for Education Policy's curriculum for RSAREs could therefore be extended to refugee children who already attend morning classes in regular schools, where needed.

Other countries have found successful means to integrate immigrant students. In Cardiff, Wales, for instance, 70% of the students at the Cathays High School speak English as an additional language. In order to prevent them from lagging behind in academic subjects, the school set up an ambitious programme where children who need support in English start the school year earlier with intensive language classes. As the regular year resumes, they are integrated to mainstream classes in which basic English is sufficient, such as sports, arts or mathematics for six weeks. Non-native students are then expected to join all mainstream classes within 12 weeks of their arrival at school. Cathays High School collaborates with members of immigrant communities to serve as translators and improve the school's relationship with parents (Estyn, 2013[111]).

There are plans to integrate refugees in schools

Multiculturalism in education has been defined as adapting the existing curriculum to racial, ethnic, and cultural diversity; fostering non-discriminatory attitudes and values through explicit instruction; adapting teaching strategies by recognising diverse ways of learning and knowing; adopting multiple perspectives in the construction of knowledge; and restructuring school culture and organisation to reflect diversity (Banks, 1993[112]). The MofERRA has outlined plans to reform pre-school curriculum to develop intercultural learning from an early age (Ministry of Education Research and Religious Affairs, 2017[2]). This is an encouraging first step. Plans would need to be rolled out in the primary and secondary curricula and support provided to teachers to implement the new curricula effectively. Already existing initiatives to integrate immigrant students, such as schools for intercultural education and Education Priority Zones (ZEP) have assisted in this regard (Ministry of Education Scientific Committee for the Support of Refugee Children, 2017[107]; Aroni, 2017[104]).

The OECD review team heard that at present there is no mechanism in the Ministry's allocation of teachers to school units to assign teachers who have worked with refugee children to school units where these skills are needed, or to acknowledge this experience in the teacher's career development. The OECD review team also heard that these vulnerable groups had frequent changes of teacher, many of whom had no experience of working with refugees.

Some of the best-performing countries in academic outcomes have been very successful at making it easier for immigrant students to perform well in both language and mainstream classes. Ireland developed Intercultural Guidelines for primary school teachers and beyond, to help them integrate language learning in mainstream classes. The guidelines provide concrete tips such as using visual aids, or putting the lessons in context to help non-native speakers understand (OECD, 2010[110]).

The children of the migrants that applied to stay in Greece represent a cultural and economic resource for the country. In order to successfully integrate students with an immigrant background, valuing their mother tongue can be an essential component of a fully intercultural education, and ensure that immigrant children feel that their cultural and language background is appreciated as much as that of the majority (Brind, Harper and Moore, 2008[113]). The Greek system is historically based on equality (providing the same education to all), which does not allow for taking into account the individual needs of learners. Interviews carried out with various stakeholders during the review visits indicated that catering to specific individual needs would require more resources than schools currently have available.

Resources may be focused in schools with a high concentration of immigrant students

Sending Refugee Education Co-ordinators to drive local initiatives has shown some promising results. However, given the tight budgetary situation, the government needs to find a way to secure funding so that these initiatives can be sustained. A promising strategy has been to pool resources allocated to Education Priority Zones (ZEP) schools. These already receive complementary funding for students with special needs, but their effectiveness has not been evaluated. The Ministry should be careful of limiting refugee education programme to schools in disadvantaged areas so as not to create enclave schools (OECD, 2015[105]).

Starting with schools in existing ZEP, the Ministry could use these pilots as model schools for intercultural teaching and immigrant student integration. This means that refugee students would at first be concentrated in a small number of schools. Successful pilots can lead to the roll out of the integration programme to more schools, building capacity for immigrant student integration throughout the education system.

3.3. Policy recommendation: Support learning for all students

Greece's commitment to equity can be balanced by raising efforts to maintain and improve equity and quality across the board while focusing efforts on the more disadvantaged. More concretely, a number of policy options can be proposed to ensure that all students can reach higher levels of performance. This can be achieved by raising expectations and adapting the education system to the future building on the current curricular reform, and reducing the impact of the high-stakes Panhellenic examinations, and reviewing the impact of shadow

education on the public system. At the same time, it will be important to continue to focus on targeted interventions for disadvantaged students and schools.

3.3.1. Raise student learning opportunities for all

A commitment to equity and quality in education requires ensuring that students have the knowledge, skills and competencies to succeed in tomorrow's world, that their individual personal or social circumstances do not present obstacles to achieving their educational potential (i.e. that it is fair), and that all individuals have at least a basic minimum skill level (i.e. that it is inclusive). To achieve greater equity and quality in education, it will be important to ensure that planned curricular reforms are linked to an overall vision for education focused on student learning for the future. For this, schools need to maintain high expectations for every student, and to support them in meeting those. At the same time, efforts to alleviate the high stakes associated with the Panhellenic university admissions examination and to ensure that assessment provides a more well-rounded view of student achievement should be supported.

Link current plans to review the curriculum to an overall vision for education

Under the national three-year plan for education, new curricula are currently being developed for many subjects, which will be the subject of a national dialogue and discussion in committees overseen by the Institute for Education Policy (Ministry of Education Research and Religious Affairs, 2017[114]). It would be important for Greece to take this opportunity to ensure that the curricula align and focuses on preparing Greek students to become lifelong learners – that is, to prepare them for tackling challenges that may not yet be apparent, and to use technologies that may have not even been invented. These reforms would benefit from being linked to a clearly articulated overall vision for education focused on student learning and well-being for the future. These next steps will be vital for setting a clear roadmap for implementation as well as a realistic set of measures by which progress towards these goals can be judged.

As part of this, it will be important for Greek schools to make students active participants in their learning, and especially important for both high and low performers. Contemporary research on learning has revealed that schools should set clear expectations, demand hard work and challenge students (without overloading them), and use assessment strategies consistent with these expectations, including a strong emphasis on formative assessment. Each learner needs to be sufficiently challenged to reach above their existing level and capacity (Dumont, Istance and Benavides, 2010[37]). Curriculum should set high expectations for every child, regardless of their levels of disadvantage and the achievement levels with which they enter the school.

Link plans to reform upper secondary school to the overall vision for education focused on student learning and well-being

International evidence shows that upper secondary school is a key level of education that has some specific challenges: it may have too much or too little choice; it represents a new learning environment prior to transition into tertiary education, vocational or technical education or the labour market. The three-year upper secondary general education track that most students opt for in Greece is dominated by the Panhellenic examinations that students take in their final year (Eurydice, 2016[18]).

The current reorganisation of secondary education has, as central aims, the upgrading of educational roles, autonomy and independence at every level of the school system. In the

context of the above aims, new legislation was still being elaborated as this volume went to press. This included a new law on upper secondary education and new university entrance examinations, which is due to be presented to Parliament in the course of 2018 (Ministry of Education Research and Religious Affairs, 2017[2]). As with other proposed reforms, the plans would enormously benefit from being linked to a clearly articulated overall vision for education focused on student learning and well-being.

Balance high-stakes entry tests into tertiary education

Drawing on a wider range of assessment information than a single national exam to make judgements about learning progress is widely considered a fairer and more reliable method and can also provide safeguards against the well-documented negative externalities of the Panhellenic examinations (OECD, 2013[24]). Decreasing the importance of these exams can be supported further by the fact that its legitimacy as an indicator of ability can be called into question, especially when certain groups are systematically disadvantaged in the admissions process if they cannot afford supplementary tutoring (OECD, 2013[24]; OECD, 2014[50]). Despite this evidence the Panhellenic examinations have been commonly praised as being among the more fair evaluations of the system, so a communication strategy on the benefits of new assessment approaches may be needed. It will also be important to update assessment strategies and methods in order to measure effectively adapt to new curricular changes for students aiming to enter tertiary education, and to measure knowledge, skills and attitudes (competencies) of a modern knowledge society.

The Ministry and its advisory bodies have put forth proposals to increase teachers' assessment roles. These include support for classroom-based formative assessment (that is, regular assessment of student progress to identify learning needs) and a stronger summative assessment role for teachers in scores used to make university admissions decisions (with 20% to be based on teachers' scores, and 80% to be based on the Panhellenic examinations). These approaches have the potential to support greater equity and quality of student outcomes, as they would not only help to lower the stakes of the Panhellenic but also strengthen the validity of the overall assessment, while "re-valorising" the assessment roles of teachers.

3.3.2. Mitigate the impact of shadow education

Shadow education has an outsized place in the Greek education landscape, and is, in fact, not in the shadows at all. It also represents an outsize investment for families, particularly lower income households. To address the imbalance of school and shadow education, it will be important to first improve the quality of in-school lessons, as well as after-school support for disadvantaged learners. At the same time, the government can require *frontistiria* to participate in quality assurance processes.

Improve the quality of in-school lessons

The demand for shadow education could be addressed at its source by raising the quality of schooling (Lee, Lee and Jang, 2010[63]). Where possible, providing supplementary classes, if these are of sufficient quality, may also reduce the demand for shadow education. But before doing so, Greece may wish to consider systematically measuring the extent and the impact of the sector and disseminating the results widely. Such a study could go beyond simply measuring uptake to examine the curriculum, financing, management and sociological aspects of the sector and why previous efforts for additional teaching support did not succeed (Bray, Kwo and Jokić, 2016[67]; Kassotakis and Verdis, 2013[51]).

Review the role of general frontistiria and private tutoring to ensure quality

Governments have typically responded to private tutoring in one of four ways: by ignoring the problem entirely; by attempting to ban it; by regulating it; or, by actively encouraging it (Bray, 2009[54]). To date Greece has tended towards regulating the sector but there are no controls on what is taught, the recruitment of teachers, or the fees charged in *frontistiria* and private tuition which mostly takes place entirely in the shadow economy. Greece may therefore wish to consider instituting regular monitoring of the quality of general *frontistiria* through more regular inspections, rigorously enforcing, with the assistance of teacher unions, the ban on public school teachers offering after-school tuition. Like any business, *frontistiria* are also subject to the same laws on misleading advertising. These need to be rigorously enforced, as the general public may face difficulties in fully understanding or verifying claims in their advertisements. For example, many *frontistiria* claim responsibility for their students' results in the Panhellenic examinations, and publish unverified lists of successful candidates on their websites.

While confidence in the school is being rebuilt, Greece could improve quality in the *idietera* sector by introducing a voluntary licensing scheme for private tutors and encouraging them to adopt a code of conduct. If kept voluntary, the transaction costs for tutors would be minimised and parents would, for the first time, have a quality indicator for the services that so many make major sacrifices to purchase.

3.3.3. Support equity across the system

In Greece there are a range of general policies to support equity across the system. It is important to consider the effectiveness of these approaches as a whole, and define where it is best to invest resources among Education Priority Zones (ZEP), all-day schools, and strategies to reduce selected early school leaving.

Ensure that the augmented schooling and additional resources of all-day schools are targeted at the most disadvantaged, or available to all

Teachers, students and parents have reported that the enriched curriculum, with new subjects, provided by the "new" all-day schools, has been very helpful, especially for students from low-income families (INE-GSEE, 2003[74]; Kontorli, 2010[75]). This was less the case for more affluent families as they would typically have access to these additional subjects (ICT and foreign language learning) through *frontistiria* and private tutors.

Certain gaps between policy and practice in the operation of the all-day school have been identified: while the all-day school aimed to achieve certain pedagogical and social aims, in practice, only a few of these aims (mainly related to the social dimensions) could be said to have been achieved so far. The all-day school has yet to achieve pedagogical aims such as homework completion at school (Gkoratsa, 2013[76]). Extended instruction time in itself is likely to have a limited impact on overall student achievement unless it is well resourced, and the time is well planned for students. If resources are available, all-day schools should be made available to all; if not, they should be targeted at the most disadvantaged.

Evaluate the effectiveness of Education Priority Zones (ZEP)

While it is hard to determine the effectiveness of the ZEP overall, a systematic review needs to be made before taking any decision on their future. Where ZEP schools have succeeded in raising the achievement potential of their students there has been discernible mutual co-operation between staff, coherence in their teaching of a relatively constant

group of students to enhance pedagogic continuity, and a strong and dynamic school management that emphasises school performance.

Continue to combat early school leaving where it is particularly prevalent: Isolated schools, students repeating a grade, and those in vocational programmes

While the national early school leaving rate is lower than the European average, this conceals several areas of concern (Institute of Educational Policy, 2017[88]). Urban areas have a lower rate of early school leaving compared with semi-urban and rural regions; vocational education and training programmes, and students repeating a grade far outstrip other programmes for rates of early school leaving. Successful strategies to combat school dropout usually combine measures to improve academic performance as well as to address out-of-school problems that may be hindering participation at school. Greece could therefore consider the following policy options:

- Make school more interesting and relevant to young people by introducing more subject choice and, in particular, placing a greater emphasis on vocational education. The option of vocational education could be introduced at an earlier stage in order to maintain interest for the less academically minded, and making transitions between academic and vocational programmes, as set out in the current three-year plan for education, will help avoid tracking young people too early and closing doors to future opportunities. Introducing more flexibility in how qualifications are acquired (for instance by introducing a modular system by which qualifications are acquired via a process of credit accumulation) might make education more attractive to young people, reduce the chances of permanently dropping out, and help achieve the Ministry's target of achieving the Ministry's target of 20% enrolment in VET programmes by 2017-18 and 33% in 2019-20 (Ministry of Education Research and Religious Affairs, 2017[2])..
- Ensure early detection of individuals at risk of dropping out and provide individual, tailored support. Timeliness matters not only because later interventions are less cost-effective but also because dropout rates are so high in the first year of the upper secondary school and vocational upper secondary school. Tutoring in particular has been shown to be an effective policy to improve student performance.

3.3.4. Target interventions to student groups that need it most

Some communities and students may require targeted support to succeed. In Greece, isolated schools in remote islands or mountainous regions, and refugee students require careful review and attention to ensure that they have high quality educational opportunities.

Isolated communities may suffer from frequent teacher turnover, or from an imbalance of new versus more experienced teachers. In turn, teachers working in isolated schools are not be able to benefit from collaborative work with peers. School networks and clusters can leverage the capacity of many smaller schools as well as the broader community.

Targeted support for second-language learning and intercultural education will also be important to meet the needs of refugee students. This may include ongoing language support for learners, as well as teaching guidelines and materials on how to integrate content and language learning.

Support isolated schools by establishing networks to support resource sharing and to support teacher collaboration in these schools

Greece may wish to consider support for broader networking and development of partnerships between and among isolated schools (including through online networks) to support teaching and learning. Broader networks may be particularly important for schools in remote areas (islands and mountains), where schools have few staff and opportunities for collective work. School-school partnerships and clusters may be effective for schools in closer geographic proximity. Indeed, the idea of the school as a learning organisation (Kools and Stoll, 2016[115]) views individual schools as part of a larger network with the community at large. Other network members may include higher education institutions, parents, and community members.

The experience of Portugal may also be instructive: the 2005/06 school network and rationalisation reform in Portugal was guided by a clear vision and criteria that specified which schools should close and what would replace them; it was recognised that parents needed to be convinced that the reform would have positive outcomes for them and their children and incentives were provided; municipalities supported the creation of the new structures and assumed leadership of the new system.

Greece may also wish to consider expanding the use of information and communication technologies (ICT) and other forms of ICT-supported learning, beyond their use in alleviating the difficulties faced by remote rural schools (see Box 3.2 for a discussion of the Korean online platform initiative) to help disadvantaged students as well. This could reach students without access to supplementary tutoring for whatever reason, as has been done in other countries. However, it would be important to build capacity among teachers and students alike to develop appropriate methods for ICT-based instruction and to apply these techniques effectively to support learning (Avvisati et al., 2013[90]; OECD, 2015[91]).

Support the integration of refugees into education

The approach of the MofERRA to the issue of refugee education has been to ensure that refugee children can return to normality and join the formal education system as soon as possible. A major issue in this respect is language: refugee students typically do not speak Greek upon arrival and require some time to reach a level where they are able to learn other subjects in the language.

Greece could further develop the school system to fully integrate immigrant and refugee children, and to facilitate their transition into mainstream classrooms. Ideally, refugee students would take intensive Greek classes *outside* the regular school year, before being integrated into regular, age-appropriate classrooms where they could both learn other subjects while developing their Greek language skills. It is important that continuous language support in regular classroom lessons be given in addition to the subject's content, but not as a replacement for the subject lesson (OECD, 2010[110]).

A pressing question is that of resources, since most of the initiatives in the camps are funded sporadically – usually by European Commission grants (European Commission, 2016[108]). The current plan to integrate refugee students requires finding reliable resources to sustain it and this should be an immediate priority. There is no clear assessment of the costs of the current initiatives to integrate refugee students into the formal school sector. More students involve extra costs to local schools, especially given that refugee students will require extra classes in Greek as a second language.

Some countries have been successful at making it easier for immigrant students to perform well in both language and mainstream classes. The Ministry's three-year plan for education includes a reform of pre-school curriculum. The aim is to develop diversified pedagogy from early on: preparing teachers to take account of the specific needs of refugee, immigrant and vulnerable students while also getting children used to intercultural schooling (Ministry of Education Research and Religious Affairs, 2017[2]). This is an encouraging first step which could be rolled out in the primary and secondary curricula and support provided to teachers to implement the new curricula effectively.

The OECD review team heard that at present there is no mechanism in the Ministry's allocation of teachers to school units to assign teachers who have worked with refugee children, or to acknowledge this experience in their career development. Recognising teacher experiences in working with refugee children when allocating or recruiting new teachers could benefit both the children and their teachers.

3.3.5. Sequencing of the policy options to promote student learning for all

The policy options presented above are wide ranging and also related to governance and school improvement. They need to be underpinned by a shared and coherent vision that has widespread consensus and ownership, which will necessarily take time. Indeed, education reform needs a consensus between those involved including policy makers, educational staff, employers, students, and their families. Figure 3.4 sets out a possible phasing of the policy options to support student learning for all, taking into consideration the current context, needs, possibilities and resources in Greece.

In a *first phase*, it will be important to prioritise centring the discussion on student learning and equity. This can involve:

- Reviewing current plans to review the curriculum and the reform of upper secondary schools to an overall vision for education, focused on developing 21st century knowledge and skills. These two aspects are key to secure support and a positive view of the future and will require important consultation processes.
- Continuing to make targeted interventions to support especially refugees, and building on already existing actions which have been evaluated to stabilise and clarify the situation across the system.

At the same time, it is critical to begin work on the urgent task of improving education data, as a means of understanding student progress and allowing stakeholders to define progress against established goals. A specific need is to accurately measure participation in shadow education in all its forms, including examination of the curriculum, financing, management, and sociological aspects of the sector. Findings of this research would need to be disseminated widely.

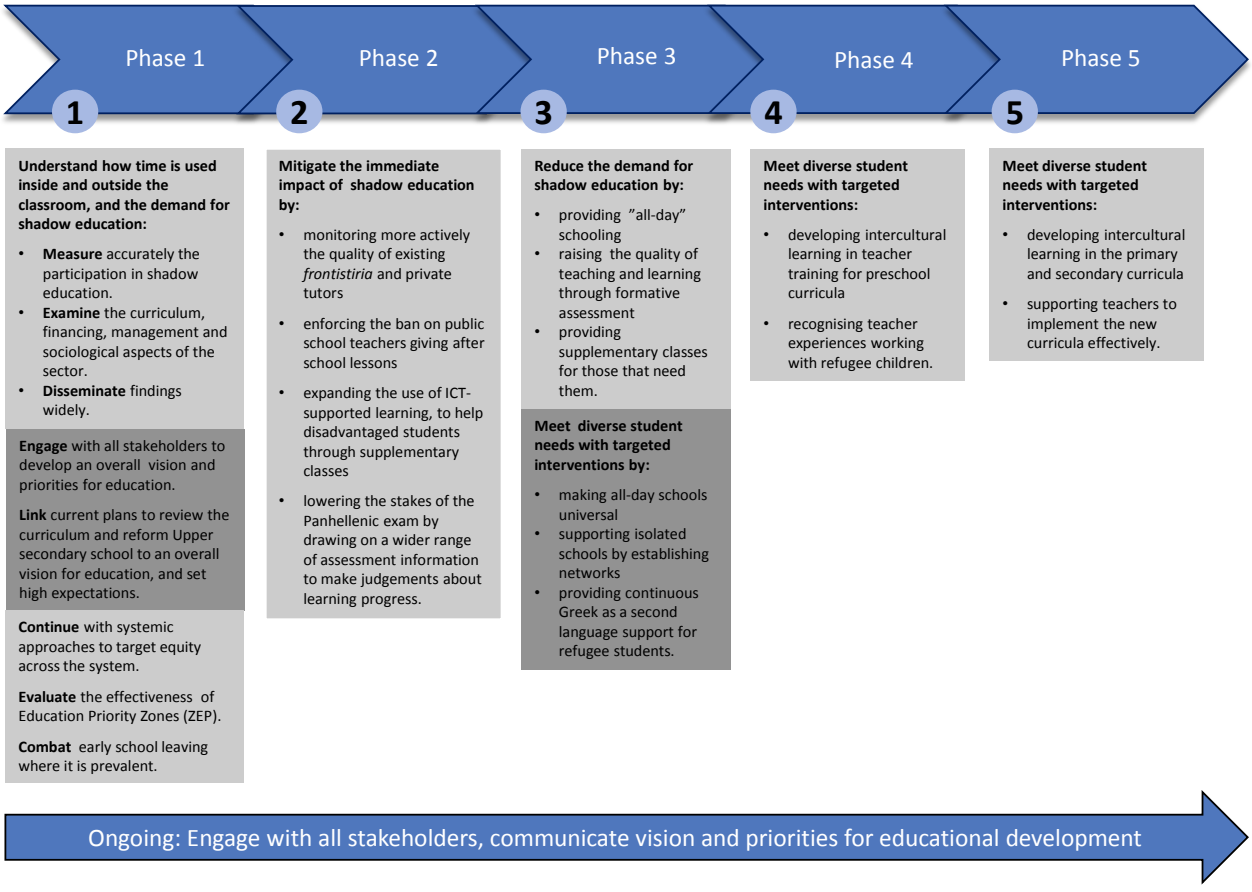
The *second phase* reforms can only be undertaken once those in the first phase, especially improved data on the system and its outcomes, have been established. These include mitigating the immediate impact of shadow education. There are two parts to this phase: monitoring more actively the quality of existing *frontistiria* and private tutors, while reducing demand through lowering the stakes of the Panhellenic examinations.

The *third phase* reforms are more medium-term and focus on raising equity across the system by continuing the focus on meeting diverse student needs. The first can be achieved through the provision of all-day schooling, providing supplementary classes (delivered digitally where necessary) once there is clarity on the curriculum that schools will be

following. At the same time, targeted interventions to meet diverse student needs can include the development of school networks to support isolated schools.

The *fourth and fifth phase*s are longer-term and will require the development of actions for refugees that include the development of intercultural curricula at all levels of schooling and effective support for teachers delivering these curricula.

Figure 3.4. Suggested steps to enhance student learning for all: A sequential approach



Notes

[1] For a summary description of the seven levels of proficiency in science in PISA 2015, see OECD (2016[3]).

[2] The socio-economic composition of a school is measured by the mean PISA index of economic, social and cultural status of the students who attend the school.

[3] Beyond the constitutional right to education, Presidential Decree PD 220/2007, Article 9(1) also specifically guaranteed the children of applicants and children seeking international protection in Greece access to the education system under similar conditions to Greek nationals, as long as there are no pending enforceable removal measures against them or their parents, as has been done in many other European countries (Eurocities, 2016[116]).

[4] Intercultural schools implement the same curricula as regular public schools but make adaptations for the special educational, social, cultural or educational needs of their pupils. The ratio of pupils per class is minimised and special courses on the language and culture of the students' country of origin of (up to four hours per week) are offered. Schools are designated as intercultural schools where more than 40% of the student population is of foreign origin, and the local educational authority has accepted the application for the school to be designated as such (Tsalikis, 2016[117]). Since 1996, a total of 26 intercultural schools have been established across the country: 13 primary schools, 9 lower secondary schools, and 4 upper secondary schools – 0.2% of all schools (Tsalikis, 2016[117]).

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Chapter 4. School improvement: Teacher professionalism and evaluation and assessment frameworks

This chapter analyses current school, teacher and school leadership practices and provides recommendations focused on school improvement. With the proposal from the Ministry of Education, Research and Religious Affairs for schools to have more pedagogical autonomy, a strong policy focus on school improvement will be needed to ensure that schools are able to benefit from new opportunities. It will be important to rethink the professional competencies school principals and teachers will need and to invest in building their capacity as they take on new responsibilities and new ways of working. Effective school improvement will also require regular evaluation of school performance. The Ministry's plans to require school self-evaluation and principal appraisal are a first step to effective monitoring of school performance. A long-term plan to create an overall evaluation and assessment framework will ensure that decision makers at policy level and in schools have the information they need to ensure high performance.

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.

In the Greek education system, schools have traditionally had little autonomy. As described in 0, "school units" are at the bottom of the Greek administrative pyramid; their main role is to deliver education and implement national education policies. Research points to the benefits of school autonomy in selected areas, including improved student learning outcomes. Autonomy in and of itself, however, does not guarantee high outcomes, as it depends on the capacity of schools to deliver. A strong focus on school improvement is needed. It will be important to rethink the professional competencies of school principals and teachers will need and to invest in building capacity as they take on new responsibilities and new ways of working.

The Greek Ministry of Education, Research and Religious Affairs (MofERRA) has made a number of proposals which aim to increase schools' pedagogical autonomy, including the introduction of school self-evaluation (SSE) and school principal appraisal. To ensure the long-term success of these proposals, a clear strategy will be needed. Within this context, this chapter addresses the following two broad areas:

- Teacher professionalism:
  - teachers' material working conditions
  - effective management of the teacher workforce
  - the definition of professional competencies for school principals and teachers
  - support for teacher collaboration: schools as learning organisations, teacher networks
  - opportunities for teacher career growth and leadership.
- Evaluation and assessment frameworks to support improvement:
  - school principal appraisal
  - school self-evaluation
  - a long-term strategy to introduce an overall framework balancing internal and external evaluation and assessment.

This chapter first summarises recent international data on school autonomy, policies impacting teachers' working conditions, and policies shaping the overall efficiency and effectiveness of the workforce. Teachers' initial training and opportunities for ongoing professional development are also discussed. Current approaches to evaluation and assessment are then presented (Section 4.1). Section 4.2 of the chapter reports on policy issues related to school improvement, based on the OECD review team's visits and interviews, and evidence from the research literature. This includes a focus on school principals' roles as pedagogical leaders, and on teacher professional development and schools as learning organisations. The final section presents policy options to support long-term, sustainable reforms, drawn from the analysis of the challenges and from the practices of other OECD countries (Section 4.3).

4.1. Greek schools, teachers and principals

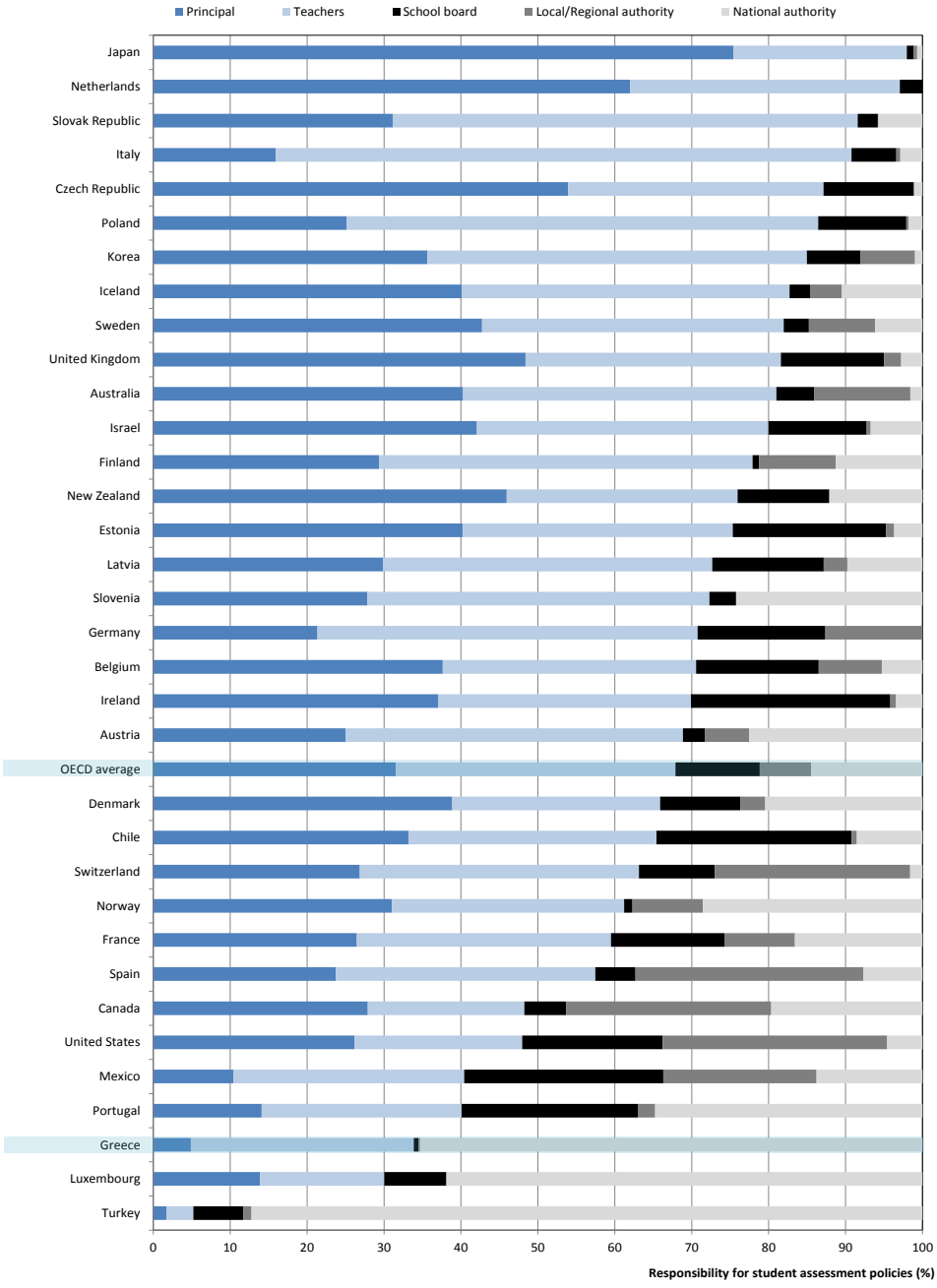
4.1.1. School autonomy is lower than in other OECD countries

International data show that Greek schools have limited autonomy in relation to other OECD countries and economies. Indeed, of countries participating in the 2015 OECD PISA survey, Greece was ranked 69th out of 69 countries in school level responsibility for the curriculum (based on school principal survey responses). Teachers also have limited responsibility for establishing student assessment policies as compared to other countries and economies, with Greece ranked as number 60 of 69 countries included in

the analysis (see Figure 4.1). These aspects are crucial to teachers' ability to identify individual student needs and to adapt teaching and learning strategies appropriately.

Figure 4.1. Responsibility for establishing student assessment policies, 2015

Assuming the responsibilities of the five actors combined amount to 100%.



Note: Countries and economies are ranked in descending order of the responsibility held by school principals and teachers.

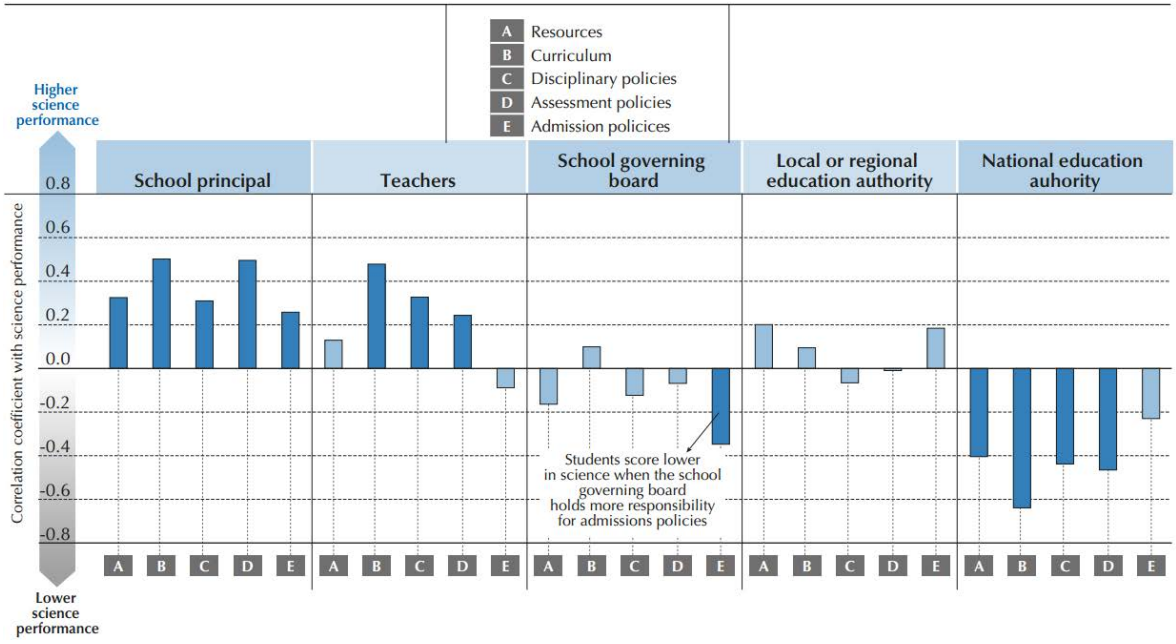
Source: OECD (2016[1]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, http://dx.doi.org/10.1787/9789264267510-en.

StatLink http://dx.doi.org/10.1787/888933435830

The OECD PISA 2015 results demonstrate a significant relationship between different aspects of school level responsibilities and science performance (Figure 4.2), in terms of school principal and teachers' responsibilities in resources, curriculum, establishing disciplinary policies, or establishing student assessment policies.

Figure 4.2. School governance responsibilities and science performance, 2015

Correlations based on system-level analyses



Notes: The responsibilities for school governance are measured by the share of distribution of responsibilities for school governance. Results based on 70 education systems. Statistically significant correlation coefficients are shown in a darker tone.
Source: OECD (2016[1]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, http://dx.doi.org/10.1787/9789264267510-en.

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These data demonstrate that student performance is strongly correlated with school autonomy, including strong roles for school principals and teachers, and for school governing boards and local or regional authorities. At the same time while research evidence shows that autonomy can contribute to make a difference in student learning, it depends greatly on the capacity of the staff working in schools to be able to use such autonomy, on the responsibilities assigned and also on school accountability for students' results (Hanushek and Woessmann, 2014[2]; Hanushek, Link and Woessmann, 2013[3]; OECD, 2016[1])

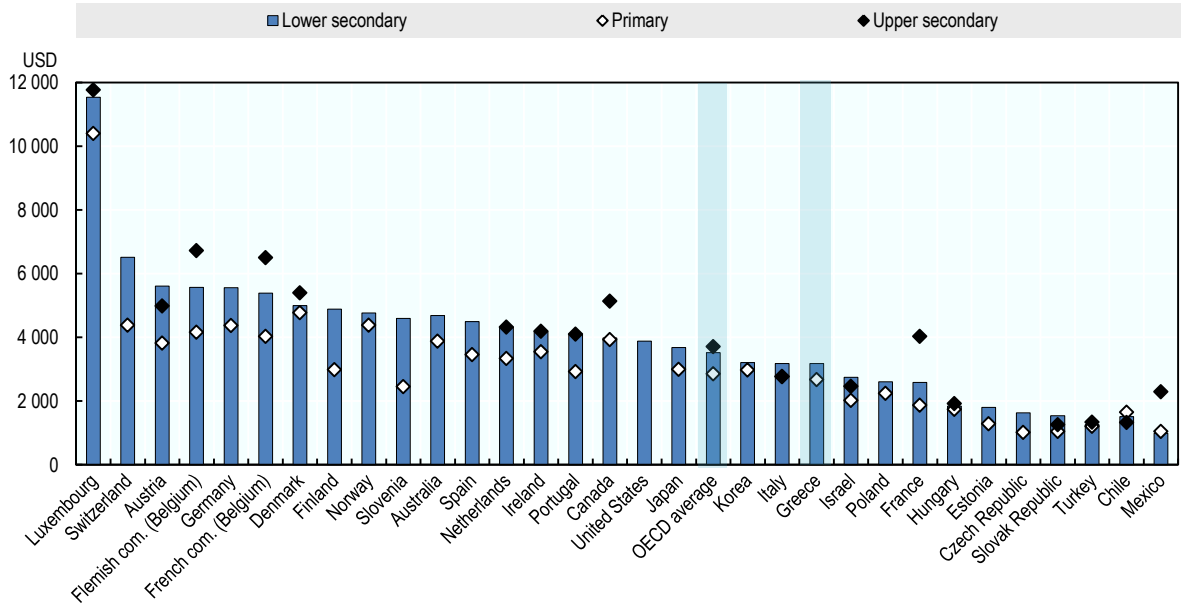
4.1.2. Teachers work in difficult conditions

As teachers are asked to take on responsibilities associated with greater pedagogical autonomy and for school self-evaluation, it is important to take into account the impact the economic crisis has had on their material working conditions, job stability and morale. Teacher salaries have been reduced since the crisis, and seasonal bonuses eliminated. In 2012, teacher salaries were approximately 70% of the 2009 salary levels, with a slight

increase to 75% of the 2009 level by 2016 (European Commission/EACEA/Eurydice, 2016[4]). The crisis has also led to a freeze in the hiring of teachers with civil servant status. As detailed in Chapter 2, all teachers hired since 2009 are working as "substitute" teachers, with annual contracts and frequent relocation to new schools. This lack of stability undermines opportunities for teachers to participate in school self-evaluation or school-level learning, to develop professional relationships (including relationships with mentors and peers) or strong teacher-student relationships. Figure 4.3 shows salary costs of teachers per student across a range of countries, estimated in relation to actual teachers' salaries, instruction time of students, teaching time of teachers and estimated class size[1]. Greece's salary costs of teacher per student in 2015 are slightly lower than the OECD average.

Figure 4.3. Annual salary cost of teachers per student in public institutions, 2015

In USD converted using PPPs for private consumption



Note: Countries and economies are ranked in descending order of the salary cost of teachers per student in lower secondary education.
Source: OECD (2017[5]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

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Although teacher morale is low, teachers remain motivated to support students

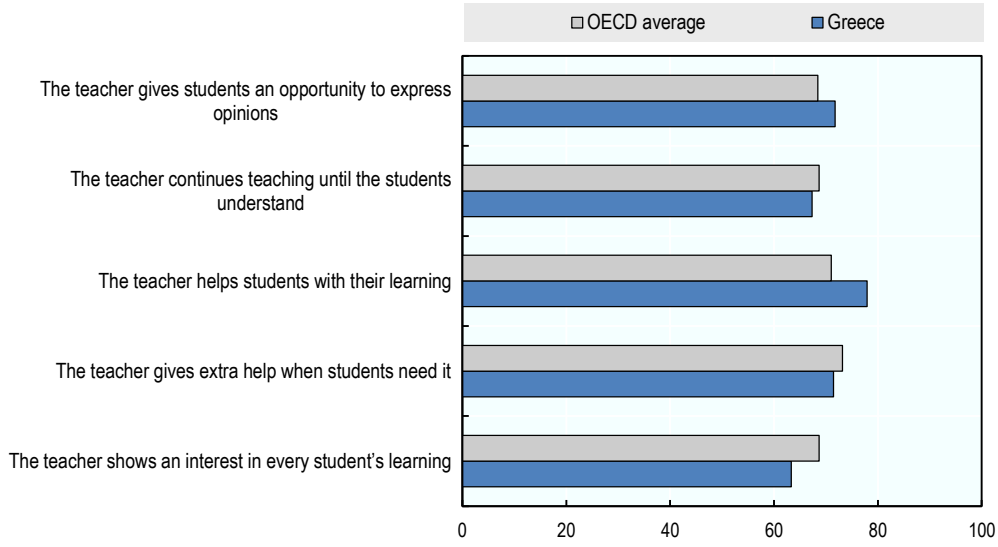
Challenging working conditions have an impact on teacher morale. A European study on the attractiveness of the teaching profession showed low teacher morale of the teacher workforce in Greece. The 2013 study, found that there had been a negative picture of teachers in the media, and that more than 60% of teachers who were asked if they might envisage looking for another job answered affirmatively (European Commission, 2013[6]). Officials from the Ministry who were interviewed by the OECD review team recognised the importance of teacher morale and the need to rebuild trust if they are to promote teacher professionalism and to build evaluation and assessment frameworks.

It is also important to note that during the OECD visits to Greece, the OECD review team met many committed and creative teachers in primary schools, lower and upper secondary schools. Teachers interviewed by the OECD review team were clearly dedicated to their students and enjoyed working with their peers. While several noted the stress of being asked to do more even though salaries had been cut, these teachers support students to the best of their ability. This dedication and willingness was also apparent in the OECD review team's interviews with teachers working with refugee learners during the height of the refugee crisis. These teachers described how they had found ways to work with young learners who may have had limited or no schooling and with whom they did not share a common language. They brought games from home, found online language learning programmes, and other ways to overcome barriers. They thus accomplished their work within limited resources (see also Chapters 1 and 2).

Greek students give generally positive feedback on their teachers, which is another indicator of teacher motivation to help students learn. According to the 2015 PISA survey, students in Greece report at a higher than OECD average level that they feel teachers support their learning (see Figure 4.4).

Figure 4.4. Students' views of teachers, 2015

Percentage of students reporting that the following things happen in every or most of their science lessons,



Source: Adapted from OECD (2016[11]), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, http://dx.doi.org/10.1787/9789264267510-en, Table II.3.22.

StatLink http://dx.doi.org/10.1787/888933436489

4.1.3. Challenges in the management of the teacher workforce

Decisions related to the teaching profession, in terms of the system of allocating teachers to schools (including teacher specialists), teachers' working hours and the balance of teaching and administrative tasks, and teacher-student ratios appear to be less efficient than in other OECD countries. Inefficiencies in use of human and financial resources may also have a negative impact on teacher effectiveness.

However, it is important to note that school management decisions are not based on efficiency alone, as there are other contextual factors at play. For example, the decision to maintain small schools in remote areas reflects a desire to ensure that these communities will continue to thrive in spite of extra costs and staffing difficulties such a decision will bring. Nevertheless, the major educational and social advantages of maintaining small schools in isolated villages needs to be carefully weighed against the educational and economic advantages of concentrating schools in the towns and bigger villages.

Teacher allocation

The current system for allocating the teacher workforce presents challenges to both efficiency and effectiveness. As described in Chapter 2, recruitment, which is competitive, is centrally administered. This approach is considered as fair and objective: appointments are based on the number of points earned and therefore are not subject to favouritism. This approach is also considered necessary given the difficulty of attracting teachers to remote schools. Nevertheless, concerns regarding the impact of this system on teachers' relationships with their students and with their peers, and on teachers' personal lives need to be addressed. In addition, this centralised allocation system means that the teacher's fit to the school approach and philosophy, and the ability of schools to build a team with the array of competencies needed to support schools as learning organisations are not part of the placement decision. These aspects are likely to become more important as pedagogical autonomy and teacher collaboration in schools develops.

Teaching time

Working hours for teachers and principals are specified by law. Every primary and secondary teacher is obliged to stay in school for not more than six hours a day for a maximum of thirty hours a week. This is the case for teachers with administrative duties (e.g. heads and deputy heads, heads of sectors, etc.) and, until recently, for other teachers only if they have been requested to do so by a member of the administrative staff and if they have been given concrete tasks to do (according to Article 9 par. 3 of N. 2517/1997, and Article 13 par. 8 and Article 14 par. 20 of N. 1566/1985).

Table 4.1. Organisation of teachers' working time, 2015

Number of statutory teaching weeks, teaching days net teaching hours and teachers' working time in public institutions over the school year																				
	Number of weeks of teaching				Number of days of teaching				Net teaching time, in hours				Working time required at school, in hours				Total statutory working time, in hours			
	Pre-primary	Primary	Lower sec.	Upper sec.	Pre-primary	Primary	Lower sec.	Upper sec.	Pre-primary	Primary	Lower sec.	Upper sec.	Pre-primary	Primary	Lower sec.	Upper sec.	Pre-primary	Primary	Lower sec.	Upper sec.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Greece	36	36	35	35	175	175	172	174	788	630	592	600	1 140	1 140	1 170	1 170	A	A	A	A
OECD average	40	38	37	37	191	183	181	180	1 001	794	714	664	1 230	1 156	1 135	1 095	1 608	1 611	1 634	1 620
EU-22 average	40	37	37	37	191	180	177	177	1 034	767	666	632	1 194	1 067	1 033	1 028	1 564	1 557	1 593	1 580

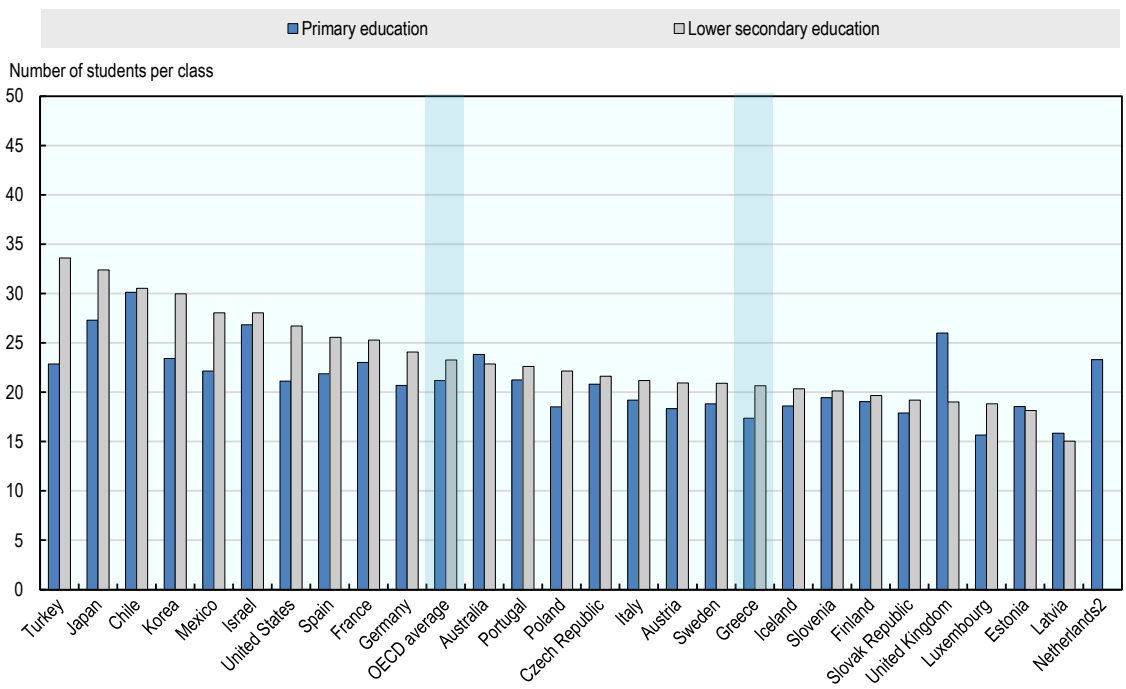
Source: OECD (2017[5]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

Table 4.1 shows the statutory teaching hours for Greek teachers in a comparative perspective. According to Ministry sources, the statutory teaching hours per week for primary school teachers decrease as the size of the school increases. Teachers with more years of service in larger schools teach fewer hours as their length of service increases. While this is intended to prevent teacher "burn-out" (Roussakis, 2017[7]), having less experienced teachers assume more of the teaching load also means that the value of more experienced teachers is lost.

Class size

Class size is also considered as having an important impact on working conditions. The maximum class size is defined by law to be 25 students per class in primary schools and 30 students per class in secondary schools. In practice, average student-teacher ratios and class sizes in Greece are significantly lower than in most European countries (Figure 4.5 and Figure 4.6). To some extent, however, this average ratio is skewed by the number of small schools in isolated mountain communities and on small islands. More than half (54%) of Greek primary school students are in two regions: 34% in Attica, concentrated in the city of Athens, and 20% in Central Macedonia, concentrated in the city of Thessaloniki. The remainder of the primary school population is dispersed across thousands of communities (now organised into 325 prefectures).

Figure 4.5. Average class size in educational institutions, 2015



Notes:
1. Year of reference 2014.
2. Public institutions only.
Countries are ranked in descending order of the average class size in lower secondary education.
Source: OECD (2017[5]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

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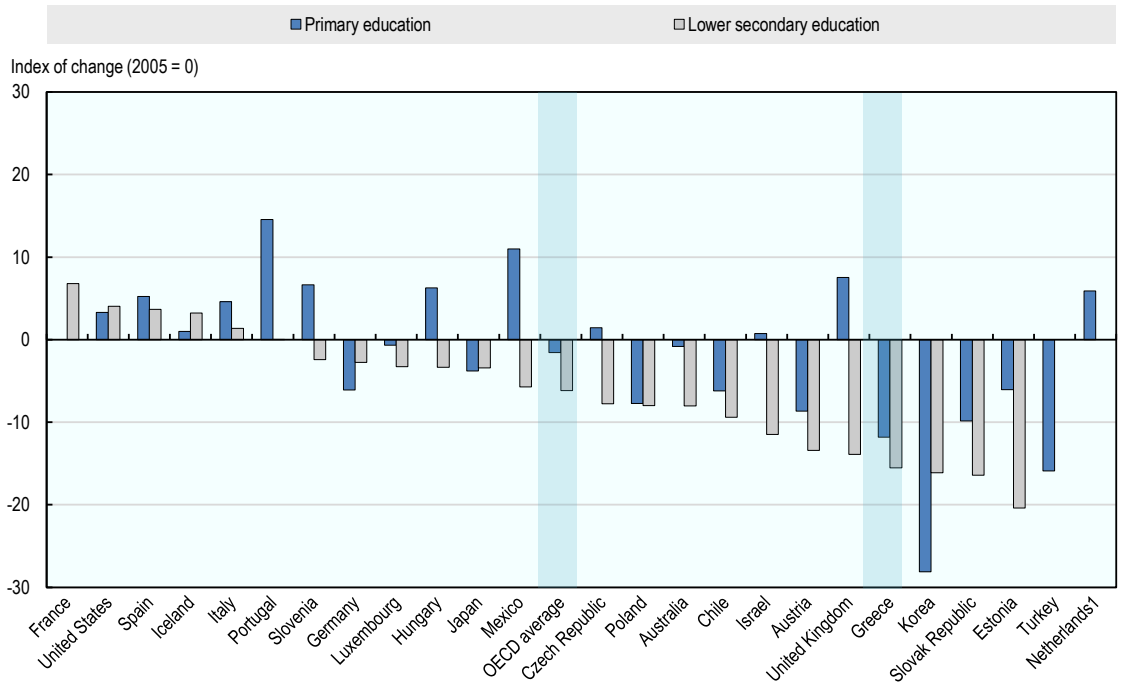
Figure 4.6. Change in average class size, 2005, 2015



Notes:
1. Public institutions only.
Countries are ranked in descending order of the index of change in average class size in lower secondary education between 2005 and 2015.
Source: OECD (2017[5]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

StatLink http://dx.doi.org/10.1787/888933558705

Other reasons for the low student to teacher ratio in Greece, as reported by the Ministry, include:

- the small size of some classrooms
- the obligation to create an additional class if the number of students exceeds 30
- a maximum class size of 22 (3 fewer than regular maximum class size) if the group includes students with significant special needs.

Data on class sizes in remote areas, by level are summarised in Box 4.1.

Box 4.1. Average class size in Greece, by level, in remote areas

In remote areas, secondary schools include both the lower and upper secondary levels (respectively, gymnasiums (*gymnasio*) and lyceums (*lykeio*)).

For lower secondary schools in remote areas, the data are as follows:

- number of students enrolled in 2016/17: 6 308
- number of schools: 119
- number of classes: 481
- average students per class: 13.1.

For upper secondary schools in remote areas, the data are as follows:

- students enrolled in 2016/17: 3 935
- number of schools: 119
- number of classes: 344
- average students per class: 11.4.

Schools combining upper and lower secondary levels have fewer teachers, and may be more flexible in finding ways to meet the needs of students in remote areas.

Professional schools (*Vocial lykeio, - Epaggelmatiko Lykeiok* or *EPALs*) are also found in isolated and underpopulated areas. For example, on the island of Symi, there is a professional school with 28 students, and another professional school on the island of Ios with 25 students. Students participating in general education may choose between two academic tracks, beginning in their second year. Students in their second year of professional education may choose one of 36 areas of specialisation in nine different sectors.

Source: MofERRA (2017[8]), Communication to the OECD review team (September 2017).

While the average class size is small in comparison with international standards, some teachers interviewed by the OECD review team noted that in each class a few students require additional attention. Rather than signalling a need to further decrease class size as a general policy, however, this may indicate a need to improve teacher training and professional development to support diverse student needs. In addition, collaboration with a range of professional service providers within the community may also support teachers' work with diverse students.

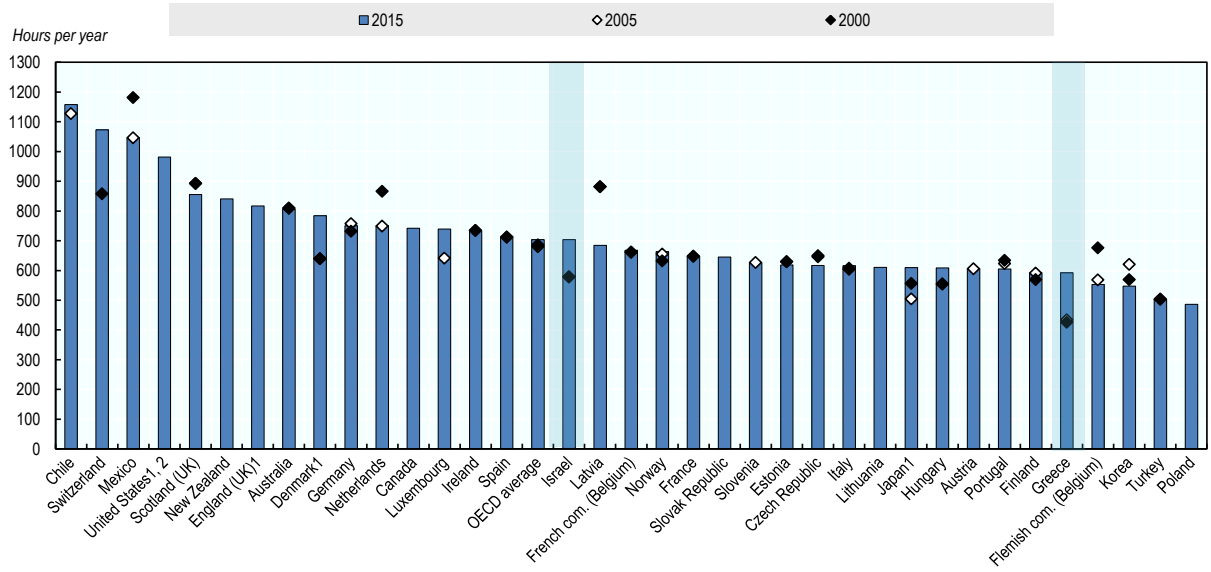
Salary costs per student are also relevant to decisions on class size. In 2011, these costs were above the OECD average, but in 2015 they were below the average (USD 2 671 per student in Greece versus the OECD average of USD 2 848 per student) (Figure 4.3). The level of teachers' salary costs per student depends on a country's relative wealth; in Greece, due to budget cutbacks, salary costs per student in Greece are a higher percentage of country GDP than the OECD average (10.2% in primary and 12.1% in Greece in lower secondary *versus* an OECD average of 7% in primary and 8.6% in lower secondary education) (OECD, 2017[5]).

Optimisation of teaching time

Teachers in Greece spend less time teaching than the OECD and EU-22 averages in general lower secondary education, but their overall working time at school (including for administrative work for some teachers), is near or above the OECD and EU-22 averages. This means that teachers spend less time with students as well as in collaborative work with peers than do teachers in other OECD and EU countries. The OECD review team was told that teachers in small remote schools take on a higher share of the administrative burden for their schools, including routine tasks. The introduction of school self-evaluation may increase some administrative tasks, but this in the interest of gathering data on school performance. Figure 4.7 shows how much time teachers spend teaching across a range of OECD countries.

Figure 4.7. Number of teaching hours per year in general lower secondary education, 2015

Net statutory contact time in public institutions



*Notes:*1. Actual teaching time. 2. Year of reference 2013 instead of 2015.
Countries and economies are ranked in descending order of the number of teaching hours per year in general lower secondary.
Source: OECD (2017[5]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

StatLink http://dx.doi.org/10.1787/888933558857

In Greece, more experienced teachers are rewarded with fewer teaching hours, representing a significant underuse of human resources.

4.1.4. Limited opportunities for teacher professional development and career growth

Teachers develop their professionalism throughout their careers. Beginning with initial teacher education and induction (pedagogical training and/or subject matter expertise), and continuing with participation in ongoing professional development, and collaboration with peers within schools and in teacher networks. Teacher professionalism also includes opportunities for career growth, including roles for more experienced teachers as mentors or researchers.

Initial teacher education and induction

In Greece, the teaching profession is a career-based public service with competitive entry and lifetime employment. The quality of the teaching profession is thus highly dependent on the quality of initial teacher education, induction and recruitment. Indeed, initial teacher education is the foundation for teachers' lifelong learning – that is, their professional growth over the course of their careers.

Teacher education follows a sequential learning model in Greece, with teaching practice following tertiary study (studies in pedagogy for primary school teachers, and studies in different disciplines for secondary school teachers). New teachers must participate in an

induction programme, which lasts less than a year. All prospective teachers in primary education and secondary education must complete a first cycle degree (UNESCO, 2015[9]). School teachers who study in teacher faculties are expected to follow a pre-service teacher training programme of four years, being trained and qualified in the undergraduate programmes of study offered by the relevant university departments and have a mandatory teaching practicum (OECD, 2016[10]). Prospective teachers can also follow more general tertiary courses and add a Certificate of Educational Attainment in order to qualify as a teacher. (The OECD review team was told that many teachers have higher than the required levels of education – master and doctoral level – although there are no available data on this).

Teacher certification

As noted above, all teacher candidates for permanent or substitute positions must have taken the Supreme Council for Civil Personnel Selection (ASEP) examination. It has been observed that this examination this state-administered examination assesses the acquisition of subject content and prospective teacher performance (as measured, for example, through preparation of a lesson plan). This includes general knowledge of pedagogy, psychology and sociology of education (Liakopoulou, 2011[11]). However, these examinations do not measure teachers' pedagogical competencies – that is, their ability to use that knowledge in practice. Nor do the examinations include questions on contemporary concerns, such as intercultural or special needs education, or how they might adapt curriculum or textbooks to respond to students' learning needs (Liakopoulou, 2011[11]). A lack of alignment between the ASEP examination and classroom practice represents a missed opportunity to identify candidates who are unable to translate theory into their classroom practices.

Teachers have few opportunities for long-term career growth

Currently, teachers' career trajectories in Greece are relatively flat (European Commission/EACEA/EurydiceEurydice, 2018[12]). As noted above, more experienced teachers are rewarded with fewer teaching hours, rather than opportunities for career growth. In the context of content-intensive central curriculum and textbooks, and at the upper secondary level, a strong focus on helping learners to pass the Panhellenic university admissions examinations, teachers in Greek schools also have limited autonomy as compared to other OECD countries. The OECD review team was told that parents of upper secondary school students also exert pressure on teachers to adhere strictly to the curriculum and official textbooks, which are seen as being aligned with the Panhellenic. However, teachers interviewed by the OECD review team noted that more experienced and confident teachers do find ways to adapt lessons to meet individual student needs. In schools with strong principals, support from the regional school advisor, and stable staff, these opportunities are more likely to occur.

During the OECD review team visits, teachers interviewed expressed their desire for more professional development opportunities, which they see as an important incentive (particularly as monetary incentives are currently restricted). Professional development was also seen as necessary to support the implementation of special initiatives at the school level. For example, some teachers interviewed commented that they would have liked to have more training and support to implement the thematic week piloted in early 2017 (an initiative to allow teachers to depart from the curriculum to teach life skills, such as health). Teachers also stated that any curricular reforms would require greater investments in teacher professional development.

4.1.5. School principals are administrative managers rather than pedagogical leaders

School principals have an important role to play in guiding school improvement and supporting teacher professionalism. Yet, as described in Chapter 2, school principals in Greece are primarily administrative managers. Greek legislation prevents school principals from entering teacher classrooms, so there are few if any opportunities for professional interaction centred on teaching quality. As schools are granted greater pedagogical autonomy, school principals will need to take on more responsibility for leading their schools as learning organisations.

Recent legislation has aimed to address this concern, in part, by inviting each school's board of teachers to provide input on potential candidates for the position of school principal. The intention is to ensure a good fit between the school staff and its principal. As required in previous legislation, candidates must also fulfil basic criteria: a minimum of eight years teaching experience; an advanced degree (doctoral or master level) or additional studies at the bachelor level; and administrative experience.

In addition, in 2012, the Ministry introduced a number of new training opportunities and seminars for school principals. In 2016, the National Centre for Public Administration and Local Government (EKDDA)/ Institute of Training (INEP)-Greece introduced additional training to support school principals' organisational skills, crisis management, working in a multicultural environment, and other areas.

4.1.6. Weak evaluation and assessment

Greece's approach to education accountability has been designed to prevent abuses of the system. There is a deep-rooted suspicion that evaluation (of schools and of individual school principals and teachers) may be used as a political tool, as was the case during the 1967–74 military dictatorship (see also Chapter 1). The OECD review team was repeatedly informed of the lingering impact of this period on the profession and society throughout the fact-finding mission – even from those too young to have experienced it directly (Kribas, 1999[13]) There are also concerns that evaluation and assessment may be vulnerable to "rent-seeking behaviour" (i.e. the exchange of goods or services for favourable evaluations). More recently, teachers have expressed concerns that in conditions of austerity, school and teacher evaluations may be used to justify workforce reductions.

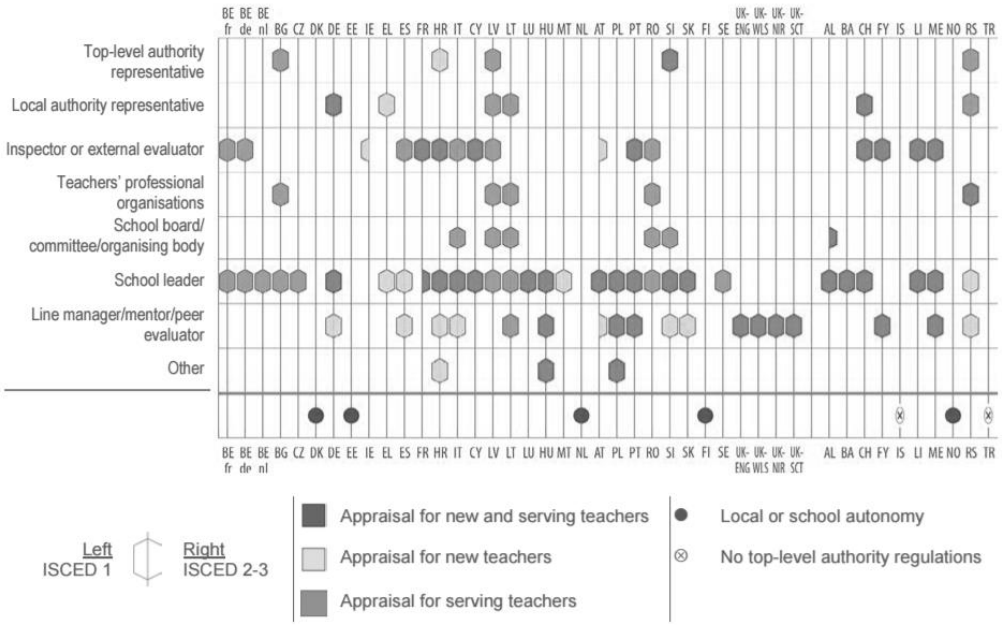
Teacher and school principal appraisal

Teacher mistrust of evaluation was highly apparent with the introduction of a teacher appraisal system in 2013 which stipulated that school advisors should find at least 15% of the teacher workforce inadequate – which created risks for their employment prospects. The majority of schools refused to take part in the appraisal system, so it was quickly abandoned (OECD, 2017a[14]). Teachers and their representatives have subsequently refused to accept any kind of performance appraisal. They also argue that they are in any case held accountable for covering curricular content, and they are monitored through daily logs they must complete. However, it is also the case that they have few opportunities for feedback on their teaching practice. As described in Chapter 2, school principals do not have the right to enter teachers' classrooms to observe lessons, and regional school advisors, who provide pedagogical support to teachers, can only enter classrooms if invited, which makes it challenging to provide feedback based on observation.

Figure 4.8 shows that in most European countries, school principals have a role in teacher appraisal, which is an essential aspect in providing feedback on teaching practice (European Commission/EACEA/EurydiceEurydice, 2018[12]).

Figure 4.8. Responsibilities for teacher appraisal, 2016/2017

Teacher appraisal in primary and general secondary education (ISCED 1-3) according to top-level authority regulations



Source: European Commission/EACEA/EurydiceEurydice (2018[12]), *Teaching Careers in Europe: Access, Progression and Support. Eurydice Report*, Publications Office of the European Union.

While the Ministry has made the choice not to introduce teacher appraisal, it has recently introduced a new system for appraisal of school principals (described further in this Chapter). Greece reports that from 2018, there will be yearly appraisal for 20 000 education executives in primary and secondary schools (MofERRA, 2018[15]). However, so long as school principals have limited roles in pedagogical leadership, the focus of the appraisals will be more on school management (see Chapter 2). The Ministry has also informed the OECD review team that under the new reform to introduce school self-evaluation, every school's teacher board will be required to evaluate its planning, scheduling, and implementation of education programmes. These school self-evaluations are both formative (focused on improvement) and summative (focused on school performance).

Student assessment

The reliance on the Panhellenic university entrance examination as the "gold standard" for student assessment is another example of how the system has been designed to prevent corruption. As discussed in Chapters 2 and 3, the Panhellenic, which is centrally developed and administered, is currently the only measure used for university admissions decisions. A consequence of this is that the stakes of the Panhellenic for students' chances to enter a good university are extremely high. Moreover, this focus on a single

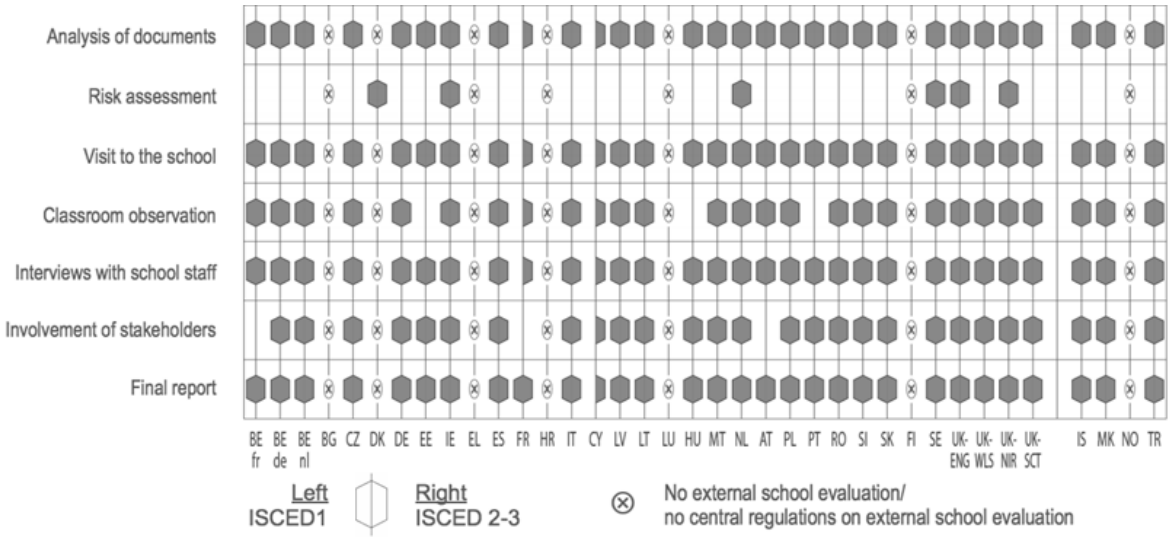
examination has meant that university admissions are based on a very narrow view of what students know and are able to do. Teaching is significantly narrowed and teachers' limited role in assessing the students they teach and can undermine their sense of professionalism. (See Chapters 2 and 3 for additional discussion on the student assessment approaches.)

School evaluation

Until very recently, Greece was the only EU country that did not require either external or internal school evaluation (the new system of school self-evaluation is discussed further), although there are reports that from 2018, there will be yearly evaluation for 20 000 education executives in primary and secondary (MofERRA, 2018[15]). The absence of external and internal school evaluation has meant that schools do not have the data they need to identify strengths and opportunities for improvement. This lack of transparency of school and student performance has also likely contributed to low levels of public satisfaction with and trust in the system (see Chapter 2). Figure 4.9 shows countries that currently have external school evaluation systems in place.

Figure 4.9. External evaluation of schools, 2013/14

Procedures in full-time compulsory general education, 2013/14

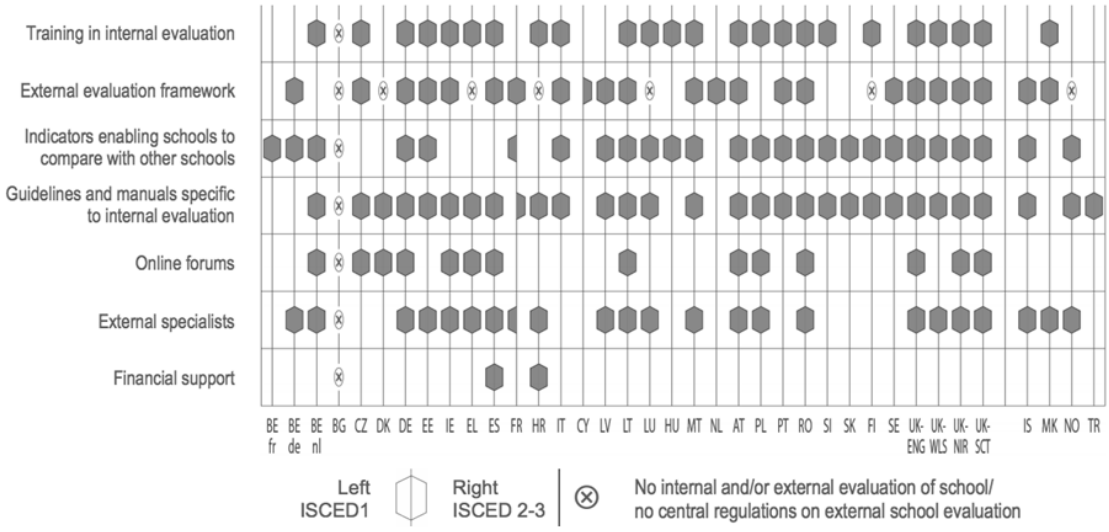


Source: Commission/EACEA/Eurydice (2015[16]), Assuring Quality in Education: Policies and Approaches to School Evaluation in Europe.

European Commission sources report that most EU countries have external school evaluation. Schools in the majority of EU countries conduct internal evaluation (SSE) based on different measures that support school self-evaluation. Figure 4.10 highlights a number of supports that are made available for school's internal evaluation. In Greece in 2016-17, a new system of SSE was successfully piloted. Based on this pilot, compulsory SSE is being introduced across the school system.

Figure 4.10. Supporting measures available to internal evaluators of schools

Full-time compulsory general education, 2013/14



Source: Commission/EACEA/Eurydice (2015[16]), Assuring Quality in Education: Policies and Approaches to School Evaluation in Europe.

4.2. Policy issues

As has been noted in the previous sections, the Ministry has developed a range of proposals and strategies to address some of the challenges outlined above. In this section, evidence underpinning the importance of teacher professionalism, school leadership and autonomy for school improvement is presented, and challenges in long-term policy development are identified.

4.2.1. A need to extend and support school and teacher autonomy

The Ministry and its advisory agencies have proposed to extend greater pedagogical autonomy for schools. These plans include:

- continuing with thematic weeks in schools
- more options for students to study a range of subjects
- strengthening of classroom-based formative assessment
- a stronger role for teachers in summative assessment, as part of the university admissions score
- school principal appraisal
- school self-evaluation (which is also intended to improve opportunities for teacher collaboration).

These actions and proposals represent important steps toward greater school and teacher autonomy. Teachers will potentially have more control over content and teaching methods during the newly introduced thematic weeks, and there are to be new subject offerings in upper secondary schools in areas that are *not* featured in the Panhellenic. A greater focus on classroom-based formative assessment of student learning highlights the importance of timely, targeted assessment to identify and respond to diverse student

needs. The inclusion of teachers' summative assessments in university admissions, decisions would recognise the value of teacher professional judgement, and relieve, to some degree, the stakes of the Panhellenic (current plans are that university admissions decisions be based on the student's results on the Panhellenic examination, as well as assessments of their teachers, respectively counting for 80% and 20% of the student's overall score).

Further steps to strengthen teacher professionalism need also to be considered. The OECD conceptualises teacher professionalism as a composite of teachers' knowledge (pedagogical and content knowledge); the degree of autonomy they have to make decisions over aspects related to their work; and, their participation in peer networks, which provide opportunities for knowledge sharing and support needed to maintain high standards of learning (OECD, 2016c[17]). These aspects also support "solidary incentives" – that is, teachers' status as part of a professional community (Finnigan and Gross, 2007[18]).

Newly introduced requirements for school principal appraisals and school self-evaluation are important first steps in developing an overall evaluation and assessment framework. These evaluations need to be tied to the overall aims for education and student learning. It will also be important over the long term to extend evaluation and assessment to ensure that data reflect a well-rounded picture of school performance. Directions for further development are explored in more detail below.

4.2.2. Reviewing the efficiency of teacher workforce management

A need to improve teachers' material working conditions

Discussions of teacher professionalism touch on issues related to teachers' working conditions (teaching time, deployment, stability of employment, opportunities for career growth). These incentives may have an important impact on teachers' decisions to stay in the profession (Münich and Rivkin, 2015[19]). In the context of austerity, however, there has been little attention to salary-related issues. Indeed, the introduction of substitute teachers to the workforce, discussed in Chapter 2, has created new challenges. Recent graduates of initial teacher education interviewed by the OECD review team recognised that they may need to wait years before they are able to obtain a permanent placement.

Researchers note the importance of finding an appropriate balance between monetary and non-monetary incentives for teachers. Some researchers argue that salary levels need to be competitive with those offered in other professions that require tertiary education. But they also recognise that other non-monetary incentives are important – including teachers' intrinsic incentives related to the satisfaction of helping students to learn, working conditions within schools, including the school ethos and management, or opportunities to be part of a professional community (Münich and Rivkin, 2015[19]). As discussed in Chapter 2, in other countries where austerity measures have had an important impact on public sector employees' working conditions, opportunities to participate in social dialogue or surveys inviting input in making difficult decisions have been important for supporting morale (see Chapter 2).

Teachers interviewed by the OECD review team suggested other measures that would go some way to improving their working conditions. These include greater stability in job placements. Teachers noted that, particularly for those just beginning their careers, annual relocation is particularly challenging. It is difficult to develop relationships with their

colleagues and students. In some areas, the cost of living is higher, so appropriate salary adjustments are needed (see also Chapter 2).

These teachers also recognised the challenge of staffing remote schools. Some suggested that placement criteria might also take into account proximity to the teachers' home town, avoiding a situation where teachers who are already from a remote area (and therefore more familiar with the living and working conditions) are placed in a remote location that is far from their family.

Hanushek, Kain and Rivkin propose that improvements in working conditions for teachers in remote schools are important to ensuring stability, including the quality of school leadership, as well as support teachers receive to address challenges (Hanushek, Kain and Rivkin, 2002[20]). Broader reforms to improve these aspects may thus contribute to improving the challenge of staffing remote schools.

The OECD review team also asked teachers for their views on the introduction of opportunities for career growth, with options for more experienced teachers to deepen and fully utilise their professional skills (e.g. options in Estonia and Singapore). For example, teachers who opt to become mentors may support new teachers in developing their skills. Teachers who opt to develop skills as research-practitioners may take a leading role in collaborative action research. The teachers interviewed by the OECD review team had positive reactions to the idea of new opportunities for long-term career growth.

Some teachers interviewed during the OECD review team visits noted that sabbaticals to enable them to further their professional education would not only enhance their competencies, but would also contribute to job satisfaction (an important intrinsic incentive). Interestingly, teachers had different reactions to the introduction of the thematic week, which allows teachers some autonomy in deciding how they will use this time. In one school, teachers were quite enthusiastic about the thematic week. They enjoyed the opportunity to work collaboratively; they also highlighted that their school principal was particularly effective at identifying additional resources and working with community members to ensure the success of special initiatives, in general. In another school, teachers expressed some concern about finding ways to best use the time, and indicated that they felt the need for much more support and guidance.

A need to make better use of teacher time

A number of inefficiencies in the use of teacher time were noted above, including the number of hours dedicated to administrative duties versus teaching. The OECD review team was informed that schools often do not have administrative staff, and that many of these tasks have to be undertaken by teachers or principals. A thorough examination of administrative processes throughout the school system can help to identify how teachers are now spending their time, whether administrative tasks might be streamlined, whether better use might be made of ICT, and if non-teaching staff in schools or in authorities can take on some administrative tasks. In some schools or networks of schools, alternative models for staffing structures may be considered (Accounts Commission for Scotland, 1999[21]).

Perhaps the greatest inefficiency is that more experienced teachers are rewarded with fewer teaching hours, in lieu of other types of recognition. As suggested above, a better way to reward more experienced teachers would be to offer opportunities for career growth. While, for example, experienced teachers who work as mentors may have less direct teaching time, they may spend more time supporting new teachers.

A need to address inefficiencies in teacher allocation

Greece maintains a number of small schools in remote areas. This is a political choice to ensure that these small communities continue to thrive (see also Chapter 3). Greece's geographical diversity and its small communities are important part of the country's character. Data on Greece's relatively low teacher-student ratio nevertheless indicate that there are still some opportunities to identify efficiencies in the system. These decisions need to also be balanced with appropriate support for teachers, including training for teachers to work with larger classes and diverse student needs, and availability of up-to-date ICT facilities to support teachers in tracking student learning or for independent student work. Opportunities for team teaching with combined classes may also be explored.

4.2.3. Supporting teacher effectiveness

A need to define professional competencies

Increasingly, OECD countries define teacher effectiveness through professional competency frameworks and/or standards that set out the knowledge, skills and attitudes teachers need to support student learning. Darling-Hammond and colleagues (2017[22]) observe that competency standards serve as the linchpin for teacher policy in high-performing education systems, supporting a shared understanding of teacher professionalism and providing a coherent approach to recruitment, training, and professional growth. Competency frameworks may also be useful for developing a more strategic approach to human resource management at the school level, allowing school principals to ensure they have a full complement of high-quality staff to meet needs. Hondeghem, Horton and Scheepers (2005[23]) emphasise that competency approaches may be used as a vehicle to bring about more change and flexibility within an organisation.

This development of professional competency frameworks is also in line with development of National Qualifications Frameworks (NQFs), which define competencies across sectors, including for education, and are typically based on analysis of specific job requirements and developed in consultation with stakeholders. The NQFs may set levels to reflect career progression (CEDEFOP, 2016[24]).

There are growing expectations that teachers can operate in new organisational structures, in collaboration with colleagues and through networks, and be able to support individual student learning and well-being. These call for demanding concepts of professionalism: the teacher as facilitator and knowledgeable expert, individual and networked team participant, oriented to individual needs and to the broader environment (OECD, 2001[25]). These concepts of professionalism imply that teachers not only transmit knowledge to students, but also support students' ability to access and structure that knowledge as they develop their skills for critical thinking, creativity and problem solving (Collard and Looney, 2014[26]).

Teacher professional competency frameworks are aligned with broader aims of education, but also recognise that there is no "one best way" to teach. Rather, teaching is adapted according to the context of teaching and diverse student needs, and support equity of student outcomes. Professional competency frameworks are broad enough to accommodate these differences. Competency frameworks may also be adapted for teachers working in different schools, contexts and for different subject areas. For example, teachers working in remote regions with learners of different ages may need

specific competencies that are not required in urban settings. Subject-specific competency frameworks may also be developed (e.g. related to digital competencies, arts education, mathematics education, and so on).

Teacher professional competency frameworks set out the knowledge, skills, attitudes and values that are important for teachers to develop. Competency frameworks thus inform the design of teacher learning in universities, ongoing professional development seminars and courses, and in schools themselves. A few countries have introduced competencies to be developed at different stages in teachers' careers – e.g. Estonia, Latvia or Scotland (United Kingdom) and Singapore (Darling-Hammond et al., 2017[27]) – beginning for example, with initial teacher education and induction and continuing with professional development as teachers deepen their experience. At advanced career stages, teachers may seek opportunities to take on roles as mentors or practitioner researchers (European Commission/EACEA/EurydiceEurydice, 2018[12]).

Initial teacher education

Initial teacher education is a key element of the continuum of teachers' professional growth and development. It sets the conditions for high-quality teaching and learning. In Greece, with current plans for curricular reform, and the need to update teacher competencies, it is important to review the current provision of initial teacher education to understand whether it is effectively delivering for this new reality.

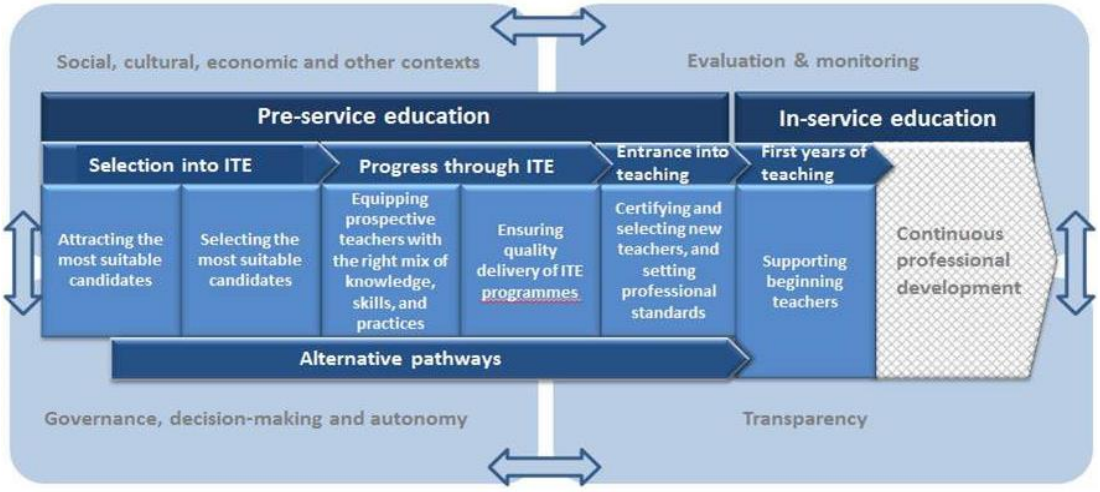
An ongoing OECD study on initial teacher preparation (ITP) analyses common challenges, strengths and innovations in initial teacher preparation systems in a range of education systems. It defines ITP as a composite of two components:

- *pre-service education*: education and training provided to prospective teachers before they are qualified to teach
- *induction*: activities designed to support new teachers.

A conceptual framework – known as the OECD Teacher Education Pathway Model (adapted from Roberts-Hull, Jensen and Cooper (2015[28])) – defines the scope of four consecutive pathways for teachers, including "alternative" routes into the profession – from the point at which candidates are selected into ITE programmes, complete the ITE programme, enter teaching and spend their first years in the profession – with six themes and contextual issues:

- attracting candidates into ITE programmes
- selecting the most suitable candidates into ITE programmes
- equipping prospective teachers with the necessary knowledge, skills and practices
- delivering ITE programmes effectively
- certifying and selecting new teachers
- supporting new teachers.

Figure 4.11. OECD Teacher Education Pathway model



Source: Adapted from Roberts-Hull, Jensen and Cooper (2015[28]), *A New Approach: Reforming Teacher Education*.

Schools' and teachers' ongoing development: A need to support schools as learning organisations and teacher networks

The large of majority teachers responding to the OECD's Teaching and Learning International Survey (TALIS) indicate that they want more opportunities for professional development. Many teachers have difficulty in finding the time to participate (47%), or are unable to find suitable courses or seminars (42%) (OECD, 2013[29]). In Greece, professional development opportunities have diminished as budget cutbacks have been made. The current supply of professional development appears to be limited and dispersed and the OECD review team was not made aware of the range of professional development opportunities available for teachers. It appears that many teachers attend public universities and take up master or doctoral level studies. Professional development options could be made clearer and more directly related to identified school needs.

The OECD review team was told that regional directorates and school advisors continue to work with schools to provide opportunities that support teacher development needs within their budgetary means, and that there will be a renewed effort as school advisors take up a new role as in-service trainers. Providing effective professional development opportunities for teachers that is aligned to the needs of the schools and to the local context can contribute to improve teacher performance. This can be fostered through teacher training, through engagement with teacher networks, or by providing support for schools to develop their own training. School advisors and networks may support school-based training opportunities. It will be important to ensure that their roles are appropriately aligned, and that they build their capacities to take on these tasks. These options, along with the concept of schools as learning organisations, are discussed further below.

The OECD review team was informed of the Ministry's intention to provide further support for teacher collaboration in schools and in teacher networks. If these are effectively developed, they may potentially play an important role in supporting teacher professionalism. Indeed, a growing body of research supports teacher collaboration as an

effective approach to professional development and school improvement (Louis et al., 2010[30]; O'Day, 2002[31]; Scheerens, 2010[32]).

Teacher collaboration within schools, however, depends on effective school-level leadership, including whether and how: school principals adopt a pedagogical leadership role, stimulate team work and collaboration, focus on the use of school evaluation to support improvement, develop the capacity to find resources. A cohesive staff, which includes individuals with complementary competencies, also supports effective team working within a school.

Teacher collaboration may involve peer observation, mentoring and coaching, lesson planning, action research, and visiting and observing teaching in other schools. It may also involve collaboration with other professionals (community representatives, artists, employers). Collaborative professional learning helps to build trust among peers, and trust supports effective organisational learning.

Box 4.2. International research on observed factors that support effective networks in education

In the United States, DuFour (2012[35]) found that the school districts were able to create effective professional learning communities (PLC) by building shared knowledge about the PLC process and its rationale; creating guiding coalitions and sharing leadership responsibility for implementation and; setting clear expectations for schools and their engagement.

Williams (2013[36]) found that effective networks of teachers in urban school districts involved within-school collaboration (comparing and contrasting teaching approaches), use of data to identify areas for improvement, for individual schools within the network, and effective face-to-face collaboration to augment work in the wider network

Holmes (2013[37]) noted that online interactions through social networks that are free of bureaucracy allow teachers to talk more freely. Over time, teachers may build communities of trust, shared values and reciprocity. When teachers combined online learning with application in their own classrooms, and were able to see benefits, they were more willing to invest additional time in the network.

Hopkins (2003[38]) found that networks for innovation in policy and practice are most effective when values and focus are consistent; the structure of the network is clear; the network supports knowledge creation, utilisation and transfer; the impact on learning is clear; leadership is clear, participants are empowered, and there are adequate resources. Involvement of a wide range of stakeholders is also important, including teachers, school principals, network initiators and managers, consultants, researchers and evaluators, and policy makers.

Harris (2008[39]) argues that the following principles should be at the core of an effective online development and research network: participation beyond the boundaries of a traditional local authority; a clear purpose, mission and community values; bringing in new members and changing external contributors and facilitators over time; a clear plan of action to catalyse change; infrastructure to enable individuals to assess their capacity to contribute; feedback; and, perceived return on investment.

Teachers interviewed by the OECD review team said that they currently have opportunities to collaborate with their peers. For example, primary school teachers interviewed noted that the curriculum allows two to three hours each week to develop project-oriented lessons (referring to this as the "flexible zone") and that the school principal and teachers work together to decide on the themes and how they will be addressed. The introduction of school self-evaluation in Greece may potentially serve the dual purpose of supporting evaluation of school performance as well as helping to build schools as learning organisations. Effective school self-evaluation will ensure that schools have data to identify strengths and areas where improvement is needed. The process of gathering and analysing data also supports schools as learning organisations.

Potentially, teacher networks may also support teacher peer learning across schools,. School-school partnerships and clusters may be effective for schools in closer geographic proximity. Indeed, the idea of the school as a learning organisation (Kools and Stoll, 2016[33]) views individual schools as part of a larger network with other schools. Other network members may include higher education institutions, parents, and community members. Currently educational networks in Greece are not well-developed, and teacher collaboration appears to be *ad hoc*, rather than as a regular occurrence, (European Commission, 2013[34]). Researchers have identified a number of features of effective networks (Box 4.2) that could be relevant for Greece.

Few data on school and student performance, but an emerging focus on the quality of performance and outcomes

A well-designed framework for evaluation and assessment is key to school improvement, and to ensuring transparency of school performance. There is broad consensus among researchers and practitioners that an evaluation framework needs to be underpinned by a shared understanding of effectiveness – whether it is defined in frameworks or standards. Expectations for performance of students, schools, principals and teachers should be aligned (OECD, 2013[40]).

Several education systems have developed a common definition of a "good school" in order to provide a common basis for evaluation (linked with the national vision for education; see Chapter 2). A robust, research-based foundation can support the development of clear standards and criteria for school quality (OECD, 2013[40]). Given the prevalence of regional disparities in Greece and declining educational outcomes as measured by PISA, addressing this has to be a priority for the country.

Factors generally associated with the quality and standards of schools include: the quality of teaching and learning; the way teachers are developed and helped to become more effective throughout their careers; the quality of instructional leadership in schools (Louis et al., 2010[30]; Robinson, Rowe and Lloyd, 2009[41]). Factors concerning the curriculum, vision and expectations, assessment for learning, and the rate of progress of students, including learning and well-being are also important. Research suggests a broad range of indicators for student learning and well-being be included, such as student progress and outcomes, and the extent to which every student in a school: is making better than expected progress given their earlier attainment; is pleased with the education at the school; feels safe and happy at school; gains the knowledge, skills, understanding and attitudes necessary for lifelong fulfilment (MacBeath, 2004[42]).

Often criteria for school evaluation are presented in an analytical framework comprising: context; input; and process and outcomes (OECD, 2013[40]). The national framework may

then establish clear standards, criteria and quality indicators for key school areas, such as teaching and learning, student well-being, school leadership, educational administration, school environment, and the management of human resources.

Transparency of information, high-quality data, and the accountability of school agents are essential for a well-functioning evaluation and assessment system. Transparency extends to processes (e.g. how school principals and teachers are appointed, implementation of reforms) as well as evaluation and assessment and report of outcomes (e.g. student achievement and well-being).

Transparency extends to every level, including the overall performance of the school system, the performance of individual schools, school principal appraisal, and the quality of teaching and learning. It is important to ensure that the existing data and information are relevant and usable, and that they are actually used for development and improvement. This requires reflection on designing mechanisms to ensure that the results of evaluation and assessment activities feed back into teaching and learning practices, school improvement, and education policy development (OECD, 2013[40]).

Greece has initiated some promising efforts to move toward a more holistic approach to quality assurance in Greek education. In 2016, the Ministry developed a three-year education plan, with its main axes focused on reforms to the upper secondary school, vocational education and training, and tertiary education. The three-year plan suggests, *inter alia*, introducing school evaluation and school leadership appraisal. These plans may be further strengthened through strong links to an overall vision for education focused on student learning and well-being. Initiatives included in the plans will also require benchmarks to be established and school-level capacity to be supported.

These next steps will be vital for setting a clear roadmap for implementation as well as a realistic set of measures by which to gauge progress toward goals (Ministry of Education Research and Religious Affairs, 2017[43]). It will also be important to address teacher concerns that results might be used punitively.

Following the Ministry's three-year plan for education, two advisory institutions were invited to develop proposals for school self-evaluation. Subsequently, the two complementary reports by the Authority for Quality Assurance in Primary and Secondary Education (ADIPPDE) and the Institute for Educational Policy (IEP) were submitted. The proposals provided to the OECD review team following the fact-finding visit in May 2017 reflect lessons learned from the 2013 teacher evaluation reform which quickly foundered, as described above.

The ADIPPDE report notes the necessary elements of school self-evaluation as including:

- the detailed mapping of the existing situation at school, where all aspects are registered, needs and problems are identified
- the annual planning in each school unit, to include the design and implementation of improvement actions, and enabling schools to use evidence within their own context, to identify specific problems and decide upon corrective actions
- the monitoring and evaluation of integrating improvement actions and the overall annual progress of the school unit
- the final evaluation of all activities and processes implemented during the academic year in the form of an annual self-evaluation report, which is to include:
  - explicit indicators and criteria in order to highlight progress and good practices as well as needs, problems and points that require targeted support
  - a synthesis of the views of all teachers

- annual school planning synthesising the directions put in place by the state, integrating the teachers' vision for the school (ADIPPDE, 2017[44]).

The ADIPPDE proposal anticipates that teachers would work on SSE and planning prior to the start of the school year – typically teachers report for work ten days before school opening – and again at the end of the year. The SSE is to cover school infrastructure, resources, teaching and learning, school culture and climate, and student achievement. Teachers, parents and representatives of the local community would contribute to the development of plans and specific actions for improvement.

The ADIPPDE notes that SSE will also offer an opportunity to identify and disseminate good practices as well as trends at local, regional and national levels. They also emphasise that the "conclusions from the self-evaluation be used exclusively for feedback and formative purposes, and in no case will they be auditing or punitive". The proposal suggests that this planning process will help to improve teacher collaboration and support professional learning. A "critical friend" (the regional school advisor), it is suggested, can provide additional objective feedback and mediate any internal disagreements. The resulting annual school reports would then be posted on a public web-based platform. Regional school advisors are to develop a joint report on the schools within their jurisdiction for the Head of the Scientific and Pedagogical Guidance of the Regional Directorate of Education. Reports with feedback are then to be generated (ADIPPDE, 2017[44]).

The IEP proposal builds on a school self-evaluation pilot about which the OECD review team was informed during its fact-finding visit. The pilot, in contrast with previous top-down attempts to introduce school self-evaluation in parallel with other evaluation approaches, was conducted on a small scale during 2011-13. The IEP, the pilot was based on a model developed by MacBeath (1999[45]), comprised of four key elements that prioritise school empowerment and self-determination:[1]

- an overarching philosophy
- a set of criteria or 'indicators'
- a toolkit.

The IEP researchers engaged with the project reported that the pilot went well, primarily because teachers understood that it was not linked to any kind of external control. The October 2017 proposal on Education Support Structures confirms this report and proposes greater pedagogical autonomy for schools and additional support for schools and teachers, including new regional centres of educational planning to support teachers at local level, and a stronger pedagogical and guidance role for school principals. Support for networking and collaboration among school "groups" and with supporting structures are also emphasised (Ministry of Education Research and Religious Affairs, 2017[43]). The proposal also suggests greater support for teacher collaboration to strengthen school improvement and as professional development, and to increase public recognition of educators' work as part of the evaluation process.

It is apparent that Ministry officials have taken into account lessons learned from past efforts. The ADIPPDE and IEP proposals both suggested a scaffolded approach to building trust among teachers before introducing a more elaborated system of evaluation for improvement. The Ministry informed the OECD review team during its fact-finding visit that it also intends to hold itself more openly accountable to schools, communities and families. This is a strategic approach. However, to ensure that they can have long-term success both proposals require careful development of the details of the design and

implementation, including the need to strengthen teacher buy-in and trust in this new system.

4.2.4. Enhancing the role of school principals

School principals have an important role to play in guiding school improvement and teacher development. Indeed, there is evidence that effective school leadership is key to student outcomes, second only to the quality of the teachers (Hargreaves and Fullan, 2012[46]; Leithwood and Louis, 2011[47]; Robinson, Rowe and Lloyd, 2009[41]). Principals establish the school environment for great learning to take place, and sets expectations for students and teachers to succeed. Pont, Nusche and Moorman (2008[48]) highlight four core responsibilities of school leadership that are important: 1.) supporting, evaluating and developing teacher quality; 2.) goal-setting, assessment and accountability; 3.) strategic financial and human resource management: and 4.) collaborating with other schools. These roles however, also depend on the context, and their level of autonomy.

In Greece, the role of school principals, as reviewed in Chapters 1 and 2, is more administrative, as they do not have the responsibility for selecting or evaluating teachers or a high autonomy in resource allocation or curriculum. There have been recent changes in the selection of principals, moving towards greater school level inclusion in the selection process and input in the principal's appraisal. However, it is important to consider not only the principal's selection process, but also their specific roles and opportunities for career development, including the need for targeted initial training, their recruitment and selection, appraisal, and opportunities for ongoing professional development. The definition of the key role they are expected to play, which referred to as "school leadership standards", can underpin efforts to develop principal professionalism.

The definition of standards is based on existing research identifying areas where school leadership appears to make the greatest difference: working with and supporting teachers in the school, setting directions, and developing the school. According to Pont, Nusche and Moorman (2008[48]), standards for principal performance are needed. It is particularly important to preserve principals' roles in pedagogical management and support for teaching teams (principals' key contribution to student learning) as their duties and responsibilities in other areas expand.

Standards for principals can define what they need to know and be able to do, thereby providing clear expectations for their performance. In fact, countries that have developed performance standards for school principals perceive them as a strategic tool in raising education quality (CEPPE, 2013[49]). These frameworks or standards may bring clarity, and guide the development of processes to strengthen principals' roles, such as initial training, selection or continuous professional development. Frameworks and/or standards can also serve to signal the essential character of the principal's role as leadership for learning.

It is important that leadership frameworks also include local and school level criteria. For example, in Australia five specific professional practices for principals have been set out:

- leading teaching and learning
- developing self and others
- leading improvement, innovation and change
- leading the management of the work of the school

- engaging and working with the community (Australian Institute for Teaching and School Leadership, 2018[50]).

At a European level, a wider recognition of the need to enhance the role and support for school leadership has led to the development of the European Policy Network on School Leadership. This network has developed a set of policy kits for improving school leadership across Europe. In Ireland, school leadership draft standards were developed to support school principals' self-evaluation (Irish Department of Education and Skills, 2015[51]). These draft standards also reflect expectations for school leadership in an education system that is characterised by a significant proportion of small and rural schools.

Recruitment processes have an impact on school leadership quality. There is a need to ensure that these processes are transparent and that criteria used can support selection of the most suitable candidates. At the system level, procedures and criteria need to be transparent, consistent and effective. School board members, often composed of individuals without an extensive education background, may need to be prepared for their role in selection of school principals. School-level involvement is critical to ensure the "fit" between the candidate and the school staff. In Greece, recruitment processes have recently been updated to include teacher votes in decisions related to hiring of their school's principal. Rigorous selection procedures that go beyond traditional job interviews, that are based on clear standards and procedures, and that that include external professional stakeholders can contribute to selection of the best candidates (Pont, 2014[52]).

Additionally, an IEP proposal had recommended tri-annual evaluation of school principals, based on the Portuguese school self-evaluation model. In this model, the focus of each evaluation is on improvement; school principals receive feedback at the end of each year, and at the end of three years, they are to receive a summative assessment. All public school principals are evaluated without exception, as part of the required appraisal in their teaching career by members of the school governing board, whose views account for 60% of the evaluation, with the remaining 40% of evaluation given by an external school evaluation agency (OECD, 2015c[53]).

4.3. Policy recommendation: Support school improvement

Greece has a committed teaching body which is accomplishing average results. The policy options outlined in this section are intended to establish an environment where school improvement can take place: improving workforce management in terms of allocation and working hours, supporting individual and collective professional development of teachers and principals, and developing capacity and a strategy for evaluation and assessment for accountability and improvement. A particular focus on developing valid and reliable student assessments will be a necessary pre-condition for success.

4.3.1. Improve workforce management and efficiency for quality

More strategic approaches to teacher workforce management can help ensure resources are used more efficiently and effectively. As explored in this section, teacher allocation needs to be objective and fair, but to also consider the needs of schools and teachers. Teacher-student ratios need to be monitored to balance priorities to maintain small schools in remote locations and to support cost-effectiveness. Teacher time also needs to

be used effectively, with more time devoted to core tasks of teaching and collaborative work with peers.

Teacher allocation

Teacher allocation needs to be objective and fair, but it should also make sense for schools and teachers. School principals need to have a greater say in the overall composition of their teaching staff in order to ensure that the overall team has complementary competencies. In addition, each school needs to have an effective mix of more experienced teachers (with some teachers having mentor status) and newer teachers. This is important for ensuring equity of provision – students in remote schools with inexperienced teachers may not have the same learning opportunities as those in more prestigious urban schools with experienced teachers.

Additional criteria may be considered within the placement decisions, as well. For example, for teachers who are from remote areas, proximity to their home town may also be considered. Training and experience in working with different types of students – for example with refugee learners – are also important. Currently, this type of experience is not taken into consideration, and valuable professional learning is lost with each new cohort of teachers. The burden of annual teacher relocation, which involves moving costs and in some cases, an increase in the cost of living, need to be taken into account, as well.

Teacher-student ratios

While teacher-student ratios are lower than the European average, the above analysis (Section 4.3) highlights the impact of Greece's geography on the average teacher-student ratio in Greece. The choice to maintain small schools in remote communities represents a political decision to support those communities. Nevertheless, the Ministry should continue to monitor the data on teacher-student ratios in schools throughout Greece. Demographic trends in declining birth rates, new immigration, family relocation to urban areas, and so on, will have a corresponding impact on school and class size.

In addition, teachers should be provided with training to work with different types of classes. In remote areas, teachers may need targeted support to work with mixed-age classes. In larger classes, teachers may need training, including strategies for identifying and meeting diverse needs of students within the class. Training to manage student behavioural issues may also be needed.

Optimisation of teaching time

Teachers in Greece have fewer teaching hours, on average, as compared to teachers in other OECD countries and in the EU. This is in part because teachers have high administrative burdens, which may cut into teaching time. Another cause is that more experienced teachers are rewarded with fewer teaching hours. With growing numbers of teachers in the higher age bracket, this may have an important impact on overall teaching time.

Better use of teachers with more seniority time is needed. More experienced teachers may be provided with opportunities to mentor newer teachers. As schools are given greater pedagogical autonomy, more experienced teachers may also take leading roles in teacher collaborative work and in school self-evaluation and school planning. This may be part of a broader career strategy to prevent burn-out of older teachers and to capitalise on their

experience. Streamlining of administrative procedures may also allow teachers to devote more time to working directly with students and colleagues.

A study of how teachers currently spend their working hours and the implications of new reforms granting greater school-level pedagogical autonomy and requiring school self-evaluation will be needed. This study should also identify opportunities to streamline routine procedures and to optimise time spent on substantive work. The focus needs to be on ways to increase efficiency as well as effectiveness.

4.3.2. Promote teacher professionalism with support for individual and collective development

A focus on teacher professionalism is central to any school improvement strategy. A professional competency framework can guide teacher policy. It can also take a career continuum perspective, with clear pathways for professional development and career growth. Teacher collaboration is also a key element in school improvement. Teachers need competencies to work in school-based teams and wider teacher networks. In turn, they may deepen their professional learning through this collective work. School improvement is supported as schools operate as learning organisations.

Develop professional competency frameworks for school principals and teachers

The IEP has recommended teachers be given greater pedagogical autonomy. As teacher opportunities to develop their own content and to innovate are currently fairly limited, this is a significant development. Teacher collaboration is also being encouraged through involvement in school self-evaluation and in teacher networks to support school improvement professional learning and development.

This focus on building teacher professionalism can be further supported through 1.) attention to building school principal competencies for pedagogical leadership, and 2.) development of professional competency frameworks defining the knowledge, skills and attitudes school principals and teachers are, respectively, expected to develop at different stages of their careers. Professional competency frameworks may include guidelines on content knowledge, pedagogical practices, learner development (including learning diversity), the ability to organise and explain ideas, to diagnose learning progress, and to adapt teaching to meet a range of learning needs. In addition, dispositions as such as willingness to engage in professional learning and to collaborate with peers, and to engage in research and innovation may be included (European Commission, 2012[54]).

These competencies should align with overall aims for education in Greece, and with the school curriculum. They should also reflect the skills teachers need to manage classes where students have diverse needs, and to ensure that all students can achieve to high levels.

In Greece, teachers working in remote regions with learners of different ages may need specific competencies that are not required in urban settings (such as working with mixed-age classes). Teachers working in Education Priority Zones (ZEP) may need competencies appropriate for working with disadvantaged students.

Developing a teacher career continuum perspective

Professional competency frameworks may be used to define the teacher's career continuum and opportunities for professional growth, beginning with admissions to initial teacher education, certification processes and school recruitment. More experienced

teachers may deepen professionalism, with advanced competencies related to research, mentorship, or in policy. Competency management may require a culture-shift toward greater employee self-direction and responsibility (Horton, 2000[55]).

Estonia is an example of a country that has used a competency framework to shape initial teacher education, continuing professional development and career growth. There are clearly defined stages for development (see Box 4.3 on Teacher Professional Competences in Estonia).

Box 4.3. Teacher Professional Competencies in Estonia

As of 2013, a new system of teacher professional qualifications has been introduced in association with a new career structure. Unique features of the career structure are that it has no formal links to salary levels and access to its higher levels is voluntary. Its main aim is to serve as a reference for teachers' competency development. There are four career grades, which reflect different levels of professional competencies and experience:

Teacher (level 6): applies only to pre-primary teachers upon entrance in the teaching profession, following the completion of an initial teacher education programme (at bachelor's degree level) or following the recognition of professional qualifications for this level by the teacher professional body. This career stage is awarded indefinitely.

Teacher (level 7.1): is awarded upon entrance in the teaching profession, following the completion of an initial teacher education programme (at master's degree level) or following the recognition of professional qualifications for this level by the teacher professional body. This career stage is awarded indefinitely.

Senior teacher (level 7.1): is awarded to a teacher who, in addition to conducting teaching activities, supports the development of the school and of other teachers and is involved in methodological work at the school level. This career stage is awarded for five years' period, after which the teacher needs to submit a new application.

Master teacher (level 8): is awarded to a teacher who, in addition to conducting teaching activities, participates in development and creative activities in and outside his or her school and closely co-operates with a higher education institution. This career stage is awarded for five years period, after which the teacher needs to submit a new application.

The career structure is associated with a set of teacher professional standards, which define the competencies associated with each career stage. The development of the teacher professional standards is the responsibility of a teacher professional organisation (the Estonian Association of Teachers). Teachers can apply for certification at any of the levels twice a year (April and November). The certification procedure involves two stages: i) an evaluation of a set of documents submitted by the candidate; and ii) an interview. The certification procedure is undertaken by a three-member committee.

Source: Santiago, P. et al. (2016[56]), *OECD Reviews of School Resources: Estonia 2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264251731-en.

Singapore's Enhanced Performance Management System similarly supports teacher evaluation and career development. It is based on a competency model which is aligned with professional learning paths (the Teacher Growth Model and the Leader Growth Model), and includes four competency clusters: individual attributes, professional mastery, organisational excellence and effective collaboration. Within each competency

cluster there are behavioural indicators, which articulate how these competencies can be demonstrated. With their school principals, they can identify areas for learning and development that are also aligned with the school needs.

Greece may consider, over the long term, developing teacher career paths that provide a way for teachers to build on professional experience and competencies developed. This could include opportunities for teachers to work as mentors, as master teachers, as specialised teachers, or as part of larger networks.

School leadership selection and recruitment

Eventually, the career path can also integrate the post of school principal (with the principal's role incorporating pedagogical leadership). As in a number of OECD countries, until recently, there have been few formal requirements for teachers wishing to become principals in Greece beyond years of teaching experience and undergoing a selection process.

The process for promotion to school leadership would need to be updated to reflect new roles and responsibilities. Candidates may be required to present evidence of their track record, training, and other qualifications in order to be considered. And to achieve transparent and professional selection processes there should be objective procedures to find suitable candidates, which can build on alignment to the school leadership standards. The composition and professionalism of recruitment panels for vacancies is important to ensure that the best possible candidates are selected for the position.

To support newly selected principals, Greece may consider having an induction period, as well as leadership training. For example, in Austria, there is a strong induction programme as the main way to provide foundation skills for principals. Principals are initially appointed on a provisional basis. Extension of their appointment is based on completion of a course in management training within the four years after their initial appointment. When first introduced, the training was limited to preparation for legal and administrative tasks, but as school autonomy has grown, more appropriate qualifications have been adopted. The two-year programme has different phases of study, including basic training modules and independent study. In other countries, induction training periods may complement of initial training or be the only leadership training focused on legislative, financial and other administrative topics. Greece may consider introducing induction over the longer term to ensure that principals are well prepared to respond to the increased autonomy and to the new school support strategy that is planned.

Enhance recruitment and support for initial teacher preparation (ITP)

Teacher professionalism begins with an effective process for identifying teacher candidates who have strong academic qualifications and are motivated to teach, and effective initial teacher education programmes. In Greece, it will be important to build on the existing quality initial teacher education and consider it as part of the broader teacher career continuum. ITE provision may also need to be updated to respond the needs of 21st century students (see Chapter 3). To this end, the government can:

- Evaluate the current quality of provision of teacher education across the country to understand how the different educational institutions equip teachers for their future in schools to include not only knowledge, but also enhance their capacity to develop competences and skills for their students. This may also involve raising the bar for accreditation to improve the quality of ITE programmes, incentivising

school-university partnerships, and collecting input and outcome data to support workforce planning and improve ITE programme quality and feedback loops (see Box 4.4).

- Strengthen criteria for selection into ITE programmes, to ensure that teacher candidates have strong academic qualifications and are motivated to teach. A variety of country efforts to raise the bar for entry into ITE are described in Box 4.4.

Box 4.4. Quality assurance in ITP in the Netherlands

Initial teacher preparation in the Netherlands has built several quality assurance measures into the system, which in all promote a culture of equity and quality in ITP provision:

A strong university accreditation system. The accreditation process for ITE programmes looks at vision, quality assurance systems and the culture of improvement. It also involves a review panel of peers and consequences for very poor performing institutions.

All frameworks are developed collaboratively for system-wide minimum quality standards. There are legislated professional standards for teachers and national tests for primary school teacher candidates in three subject areas, in addition to teacher educator standards and teacher knowledge bases for different subject areas and year levels. These elements set system-wide expectations for the base level of what new teachers and teacher educators need to know.

The system analyses and actions data to make improvements. The ministry conducts a survey of all newly qualified teachers, which are reviewed collaboratively to identify national trends and to make policy recommendations that are based on what is actually happening in schools.

Accreditation of school-university partnerships. The accreditation body looks at some school partnerships and has to approve these before they are funded.

The certification examination for entering teachers should also align with the competency framework. The Greek ASEP examination has been critiqued for its heavy emphasis on teachers' knowledge, with little emphasis on how the teacher would use pedagogical knowledge in practice, or how they would address various classroom challenges. Nor does the examination assess how teachers would adapt teaching to meet diverse learning needs. These shortcomings need to be addressed.

Box 4.5. Selection criteria into ITE programmes

In recent years, the use of academic criteria, namely results from the end of secondary education, as the principal selection criteria into initial teacher education has been challenged by policy makers (OECD, 2014[57]) for the following reasons:

By raising the bar to enter the teaching profession, these systems discourage young people with poor qualifications from entering teaching and attract people with high qualifications. Capable young people who could go into high status occupations are not likely to enter an occupation that the society perceives as easy to get into and therefore likely to attract people who could not get into more demanding professions (OECD, 2011, p. 236[58])

A number of countries participating in the ITP Study have taken this line as part of their ITE reform agendas:

In **Australia**, national selection guidelines implemented from 2017 recommend the use of both academic and non-academic criteria, and encourage use of evidence-based and transparent selection methods. National accreditation guidelines require providers to use evidence-based selection process, minimum entry requirements and show evidence of impact (Australian Institute for Teaching and School Leadership, 2015[59]).

In the **Netherlands**, new entry requirements (i.e. entrance exams) for initial teacher education programmes at primary level appear to be reducing dropout rates and increasing the quality of candidates, though more empirical evidence is needed to support this.

In **Norway**, entry to ITE programmes was recently raised to results in upper secondary education based on minimum score of 35 points, minimum of grade 3 in Norwegian languages, and minimum of four in mathematics. Those who attain only grade 3 in mathematics are offered preparatory courses.

However, research on the predictive value of academic and other ITE selection criteria – such as essay writing, interviews, reference letters, psychometric test and standardised test results – on teacher quality is relatively scarce and shows mixed results (Byrnes, Kiger and Shechtman, 2003[60]) (Jacobowitz, 1994[61]), though Caskey, Peterson and Temple's (2001[62]) study of admission data for 82 successful ITE applicants found that ratings of reference letters were most highly correlated with overall programme performance, followed by writing test scores, simulations and essays. Academic achievement as measured by Grade Point Average (GPA) showed the second lowest correlation with overall course.

In effect, an ITE programme may not be highly selective, but may still do an excellent job of preparing teacher candidates (Feuer et al., 2013[63]). The need to show evidence of impact of selection methods in countries such as Australia may shed light on this issue to help guide further reform efforts (Australian Institute for Teaching and School Leadership, 2015[59]).

Support schools as learning organisations

The Ministry sees policies to promote greater pedagogical autonomy as well as school self-evaluation as an important vehicle to promote school-level learning and teacher collaboration. These aims are also in line with the idea of schools as learning organisations (SLOs). Drawing on the work of Watkins and Marsick (1999[64]) as well as other theoretical perspectives, Kools and Stoll describe SLOs as involving "…an integrated model that consists of seven overarching 'action-oriented' dimensions: 1.) developing and sharing a vision centred on the learning of all students; 2.) creating and supporting continuous learning opportunities for all staff; 3.) promoting team learning and collaboration among staff; 4.) establishing a culture of inquiry, innovation and exploration; 5.) establishing embedded systems for collecting and exchanging knowledge and learning; 6.) learning with and from the external environment and larger learning system; and 7.) modelling and growing learning leadership" (Kools and Stoll, 2016[33]).

School cultures, teacher and school principal capacity, and accountability are all necessary components of the SLO model (European Commission, 2017[65]). These aspects are also important because they shape the context in which teachers and school principals work, and thus have an impact on their job satisfaction and effectiveness (Johnson, Kraft and Papay, 2012[66]).

The Ministry may support the development of schools as learning organisations by setting out clear expectations in teacher and school principal professional competency frameworks as well as providing support for capacity building and evaluation. For example, competency frameworks may set out guidelines for knowledge, skills, attitudes and values that are important within the SLO model, including abilities to: collaborate effectively, give and respond to feedback, address pedagogical challenges, innovate, engage in action research and other modes of inquiry, communicate with others within and beyond schools. Competencies for data gathering and interpretation, planning and reflection should also be highlighted. Teacher and school principal engagement in professional learning opportunities may be seen as pre-conditions for professional advancement, as well.

In addition to setting guidelines for professional competency development, investments in building teacher and principal capacity are also essential. A range of professional development opportunities, aligned with the overall aims for education and with the specific school and teacher/principal needs, should be made available. These may include professional development courses delivered by external providers (universities and other providers) tailored to meet the local needs, and support for internal school collaboration and inquiry. As schools gain greater autonomy they should simultaneously be encouraged to launch school-based learning and to reach out via networks of schools and communities. The Ministry will also need to ensure that teachers and school principals have the time and opportunity to participate in different professional learning opportunities. School self-evaluation may itself place an emphasis on professional learning of the school staff. Annual school measures of teacher and school principal engagement in collaborative and individual learning to support school development may be tracked and its effectiveness measured. Engagement of more experienced teachers in mentoring junior colleagues, peer learning, collaborative inquiry and other modes of professional learning may be tracked.

The Japanese method of Lesson Study is one model of teacher collaboration that may be of interest for Greece as it develops schools as learning organisations. Lesson Study is a structured process for teacher-led research focused on a specific area for development.

Teachers' research, plan lessons, teach and observe lessons and discuss how to improve practice in a specific area on an ongoing basis. They also monitor and reflect on their progress. This process is described in more detail in Box 4.6.

Box 4.6. Lesson study: A means for collaborative professional learning of teachers in Japan

In Japan, all teachers participate in regular lesson studies in their schools. The Japanese tradition of lesson studies in which groups of teachers review their lessons and how to improve them, in part through analysis of student errors, is an effective mechanism for teachers' self-reflection as well as a tool for continuous improvement.

Observers of Japanese elementary school classrooms have long noted the consistency and thoroughness with which a mathematics concept is taught and the way in which the teacher leads a discussion of mathematical ideas, both correct and incorrect, so that students gain a firm grasp on the concept. This school-by-school lesson study often culminates in large public research lessons. For example, when a new subject is added to the national curriculum, groups of teachers and researchers review research and curriculum materials and refine their ideas in pilot classrooms over a year before holding a public research lesson, which can be viewed electronically by hundreds of teachers, researchers and policy makers.

The tradition of lesson study in Japan also means that Japanese teachers are not alone. They work together in a disciplined way to improve the quality of the lessons they teach. That means that teachers whose practice lags behind that of the leaders can see what good practice is. Because their colleagues know who the poor performers are and discuss ways to support them, the poor performers have support to improve their performance. Since the structure of the teaching workforce in Japan and other East Asian countries includes opportunities to become a master teacher and move up a ladder of increasing prestige and responsibility, it also pays for the good teacher to become even better.

Source: OECD (2011[58]), *Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States*, OECD Publishing, Paris, www.oecd.org/pisa/46623978.pdf.

Support the development of teacher networks

School clusters in Portugal have facilitated pedagogical collaboration and smoothed transitions for students moving from primary school to lower and to upper secondary levels (see also Chapter 3). In Croatia, which like Greece has a number of small islands, networks are increasingly seen as a way to support small and dispersed schools and their teachers as they are given more autonomy (see Box 4.7).

Box 4.7. Croatia: Closed Networks for Professional and Institutional Development

The Ministry of Science and Education in Croatia has established a County Council of Experts to carry out and co-ordinate professional development of teachers, educational school experts and principals in accordance with the Institute of Education's programme. These networks are currently developing approaches to support the new Strategy of Education, Science and Technology. The strategy identifies priorities as: raising the level of institutional autonomy and accountability; establishing mechanisms to support co-operation; and ensuring targeted training for those working with special education or gifted students.

The networks may be used as a platform to consult with national councils and school principals on national policy reforms, as well as for a public consultation on proposed changes. In addition, it is hoped that teacher and school principal local networks (within school clusters) will initiate or get engaged in school change processes. This may include new approaches to organising public consultation.

The development of school networks has involved adoption of new regulations with the establishment of specific support networks.

The County Council of experts are organised in two different networks:

- The County Council for general subject teachers and school principals is managed by the Education and Teacher Training Agency with four regional offices, each facilitating the work of sub-networks of county council leaders.
- The Agency for Vocational and Adult Education facilitates County council for vocational subjects teachers (engineering, health care, tourism), each with multiple programmes.

Source: Adapted from ET2020 Working Group Schools 2016-18 (2016[67]), "Quality assurance for school development: Guiding principles for policy development on quality assurance in school education", European Commission, Brussels.

4.3.3. Support capacity building and processes for effective school self-evaluation and school principal appraisal

The Ministry has introduced requirements for school self-evaluation (following a pilot phase which is seen as successful) and is considering the appraisal of school principals. These are two key components of an overall evaluation and assessment framework. School principals and teachers will be required to monitor their performance and to identify areas for improvement. Effective processes and capacity to interpret and respond to results will be key to their success.

Develop capacity for effective school self-evaluation

School evaluation, whether internal or external, requires specific competencies, including for identification, gathering and analysis of data, as well as development of strategies for improvement. Evaluators need strong observation skills, the ability to deliver constructive feedback, and to develop relationships that foster trust and openness. Evaluation may also be strengthened by gathering results from beyond the school including parents or parent groups, the student council, and local community organisations through the use of questionnaires and interviews (Poland and Sweden each reach out to these various

stakeholders) (European Commission, 2017[68]). National governments may offer targeted training to school principals and teachers on how to gather and interpret results.

Developing the capacity to use results of SSE for school planning is also essential (OECD, 2013[40]). Schools may follow established planning approaches, such as the Deming Plan-Do-Check-Act (based on (Hofman, Dukstra and Hofman, 2005[69])):

- The *planning* stage involves an analysis of strengths, weaknesses, opportunities and threats (SWOT); setting of goals to support mission development; the setting of priorities; indicators to track progress; communication among team members; resource allocation.
- The *do* stage involves implementation of the plan, ongoing communication with the aim of stimulating a professional culture and advancing the plan.
- The *check* stage involves evaluation of progress toward goals, an analysis of staff and student satisfaction, reporting of results to the school community.
- The *act/adapt* stage involves analysis of results and whether adjustments are needed to strengthen the plan. At this stage, the cycle begins again.

Schools will need to be careful to identify priorities that are achievable, and to be careful not to try to do everything at once. A systematic approach to planning and implementation will also support early successes. Follow-up on what has gone well and what has not and why can support development over time (Vanhoof and Van Petegem, 2012[70]). Scotland's approach to continuous improvement could serve as a model for this plan (see Box 4.8).

Box 4.8. Scotland (United Kingdom): School self-evaluation and plans for improvement

In Scotland, schools take responsibility for the quality of the education they provide and must demonstrate that they are taking action for continuous improvement. The standards in Scotland's Schools Act 2000 require public schools to produce an annual self-evaluation report and a plan for improvement. The approach to self-evaluation and the effectiveness of the improvement process is one of the five quality indicators subject to external inspection by Education Scotland.

In evaluating their own work, schools are supported and challenged by their local education authorities. The self-evaluation report and a plan for improvement completed by schools are analysed by local authority staff, which seek clarification to ensure schools continue to improve. Schools who require additional support to improve will work closely with local authority staff. All three actors (schools, local authorities and inspectors) use the same, shared criteria to identify strengths and areas for improvement, listed in the framework, "How good is our school" (DICE, 2015[71]; European Commission/EACEA/Eurydice, 2015[72]).

The quality of the teaching and learning process is arguably at the heart of school improvement so observations of classroom teaching and learning should be a part of the SSE process. While this may be challenging in schools where there has not been a culture of collaboration focused on instructional development, effective and sustained training and evaluation tools may support this process. For example, the International Comparative Analysis of Learning and Teaching (ICALT) developed for external evaluators may also be used for internal peer observations. The tool allows reliable and valid observations of five classroom features which are positively correlated with student

involvement, attitude, behaviour and attainment: efficient classroom management; safe and stimulating learning climate; clear instruction; adaptation of teaching and teaching-learning strategies (OECD, 2013[40]; Van de Grift, 2007[73]).

At the school level, plans for school self-evaluation may be complemented by capacity building for school staff to gather and interpret data, and over the long term, external school evaluation. While Greece has indicated its preference to avoid ranking and comparison of schools, a more fully-developed system of school evaluation seems preferable. External evaluators can provide an objective view of school performance, and can develop a well-rounded view of the strengths and challenges of a school. They can also share insights from other schools that have addressed similar challenges.

Luxembourg has recently introduced internal evaluation structures and processes to provide support as needed in schools. These processes are described in detail in Box 4.9.

Box 4.9. Luxembourg: School self-evaluation to drive improvement

Luxembourg emphasises school self-evaluation (SSE) as a means of improving the quality of schools. In 2009, the Agency for the Development of School Quality (ADQS) was created within the Ministry of Education, Children and Youth (MENJE) to offer methodological and evidence-based support to help schools improve their quality. This SSE approach, based on national guidelines and templates, involves an initial analysis of the school context, strengths and weaknesses, after which priorities are identified, objectives defined and annual action plans drawn up and implemented. Progress and achievements are reviewed annually (DICE, 2015[71]; European Commission/EACEA/Eurydice, 2015[72]).

All primary schools are legally required to draw up, implement and review the results of their three-year development plan. For primary schools, each school development plan should be based on a standard form available on the ADQS website. This requires a diagnosis of the schools' strengths and weaknesses according to a common methodology. Schools are encouraged to examine student performance results when examining their priorities for improvement. Beyond these requirements and recommendations, schools are free to choose how best to gather and analyse their data, as well as to define their priorities (DICE, 2015[71]; European Commission/EACEA/Eurydice, 2015[72]) ADQS strongly recommends secondary schools to also create a three-year development likewise although this is not yet prescribed in law.

The goal of this internal evaluation is for the school itself, and results are intended solely for school improvement, not for external accountability purposes (DICE, 2015[71]).

Another example of co-operation between the central evaluation office and individual schools may be found in New Zealand. The Ministry’s Education Review Office (ERO) and individual schools have established strong cooperative relationships (Box 4.10)

Box 4.10. New Zealand: Self-review as centre piece of school evaluation

New Zealand's approach to evaluation is collaborative, characterised by good levels of trust between schools and the Education Review Office (ERO). Schools and ERO work together to agree on a vision of the school that recognises its strengths and areas for ongoing development. In recent years, school self-review has become the centre piece of school evaluation. Schools have gained an increased responsibility for accountability while ERO provides an external validation of the process and focuses on building self-review capacity.

ERO and the Ministry of Education provide support for schools to conduct self-review. Since 2008, ERO has been leading the Building Capacity in Evaluation Project, seeking to build the capacity of ERO members, school leaders and Boards of Trustees. The Framework for School Review (Education Review Office, 2014[74]) distinguishes three types of self-review: strategic reviews that are long-term and evaluate the capacity of school to achieve its vision, regular reviews that are part of the schools' ongoing monitoring process and emergent reviews that need to be put in place as a response to unplanned events or new initiatives. ERO's guidance documents set success indicators, formative and summative tools for external evaluators that schools can benefit from to implement their own self-review processes. Workshops disseminate good practices, reassure staff, give schools access to tools to support self-review for improvement and accountability purposes.

ERO has been promoting self-reviews as habit embedded in teachers' daily practices rather than an exceptional event. Self-reviews are conducted through a participatory approach that involves both teachers and students in the process. Teachers invite students to participate in the school evaluation and equip them with the knowledge and vocabulary on assessment and evaluation.

Sources: OECD (2013[40]), *Synergies for Better Learning: An International Perspective on Evaluation and Assessment*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264190658-en; Education Review Office (2014[74]), *Framework for School Reviews*; Nusche, D. et al. (2012[75]), *OECD Reviews of Evaluation and Assessment in Education: New Zealand 2011*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264116917-en.

School principal appraisal

Developing a central appraisal framework for school principal appraisal may be an option in more centralised system, such as in Greece. This can ensure consistency and fairness, and that expectations for the process are shared. The framework should also leave a margin for adjustments to regional or local circumstances. To be effective, it needs to be embedded in the overall appraisal framework and build on its different components, especially aligning school principal appraisal to teacher appraisal and existing or planned school evaluation. Relevant examples of education systems that integrate or combine or align school and school principal appraisal include Portugal or Poland in Europe, or Australia and Ontario, Canada, in the wider OECD membership (OECD, 2013[40]).

Define the purposes of the appraisal

Defining and clarifying the purpose of the principal appraisal is key. School principal appraisal should be aligned to the overall educational goals of the system, and focused on leadership for improved teaching and learning in schools.

Appraisal can be used to identify the principal's strengths and areas where improvements are needed, and to provide feedback. In selected countries, it is used to hold school principals accountable for their performance, and can inform career and employment decisions. This is the case in the Czech Republic, France, Poland, Portugal and Spain (some provinces), where summative appraisal is linked to performance incentives such as career advancement, and/or other rewards or consequences of underperformance (OECD, 2013[40]).

There is evidence pointing towards conflicts in combining formative and summative assessment into one evaluation process. Condon and Clifford (2012[76]) also point out that summative appraisal seeks to assess competencies without a vision for future development, while formative appraisal is oriented towards future actions and individual growth. The objective also changes the nature of the relationship between the people who do the evaluation and the school principals, and the information which may be presented, with more openness to appraisal if it is for improvement and more potential to influence practice. Indeed, as suggested in the OECD report, policy makers face the challenge of finding a balanced appraisal that ensures that principals receive feedback and support, but that they are also held accountable for the quality of their schools. Within these constraints, it is important to ensure that the system design does not undermine the process and objectives of school and educational improvement.

In studies of jurisdictions that have introduced appraisals, it was found that appraisal of school principals could provide the opportunity for reflection and growth (Anderson and Turnbull, 2016[77]; Parylo, 2012[78]). What is important to consider is how the evaluation system can contribute to improve the practice of school principals and how it is integrated within the broader evaluation and assessment framework.

Selected examples of a more comprehensive approach to school leadership policies and support can be found across OECD, including in Victoria, Australia, Ontario, Canada, and Poland or Portugal (OECD, 2013[40]).

In Poland, school evaluation and school principal appraisal processes are aligned as the results of school evaluations are also taken into account. In Portugal, appraisal has been introduced for principals, schools and school cluster directors, but it appears that the processes have shifted towards self-appraisal for each of these, accompanied by a five-year cycle of external appraisal.

It is also important to ensure that the objectives of the evaluation are clear and agreed among those participating. Research has found that evaluators and principals being appraised may have different conceptions of the objectives. Evaluators may perceive the process as more serving accountability purposes, while principals may consider it as supporting professional development purposes – or *vice versa*. Having clarity on the objectives that are agreed by all those involved is key for success (OECD, 2013[40]).

Tools and guidelines

There is clear evidence that good school leadership can directly contribute to improving school performance and student outcomes. Several select limited criteria in leadership appraisal can be core to this process. These include:

- working with teachers and developing collaborative working environments in schools for effective teaching and learning
- allowing for contextualisation, in relation to the particular goals or issues and challenges the individual school may face.

School principals are also key in school evaluation processes, as they are not only involved in but may well be the drivers of these processes. Leadership appraisal can also introduce aspects to support this practice as well as develop the skills to be able to respond to the results (OECD, 2013[40]).

Consider capacity, availability of information and frequency

To achieve success in the implementation of a school principal appraisal, the quality and capacity of the evaluators is paramount. In different countries, appraisals are undertaken by educational supervisors, inspectors, by "school improvement partners", or by evaluation partners who are already part of the education system. At stake is their capacity to engage in evaluation – that is, their ability to gather and interpret the evaluation materials within the context of the principal and their school and to provide feedback in a way that contributes to their improvement. In Northern Ireland for example, school principals are evaluated by two reviewers from the school's Board of Governors, and are supported by External Advisors (OECD, 2013, p. 540[40]). The OECD report on evaluation and assessment frameworks suggests that building capacity for implementation at the local level requires finding the right partners to undertake the evaluation, and who have the trust of the professionals. Funding for targeted training and development for evaluators, the piloting of new systems, and the opportunities for evaluators to discuss and share experiences, as well as ongoing discussions to review and improve the system for effectiveness are also important.

One possible way for the Ministry to reassure those being appraised is to ensure that evaluators are themselves appraised. There are relevant examples from a range of countries which have internal appraisal of the inspection work in place. Internal evaluation of the inspectorate includes discussions on approaches and instruments within the inspectorate, often under the supervision of a co-ordinating inspector or a chief inspector. Data on the experiences of school managers or parents with the inspectorate can be systematically gathered, as is done in the Netherlands and the United Kingdom. In the Czech Republic, after finalising the inspection report, the Czech School Inspectorate (ČŠI) Headquarters sends a questionnaire to the school heads in order to receive feedback on the work of the inspection in the school.

A separate unit within the inspectorate can be exclusively focused on the quality of the inspection work (Standaert, 2001[79]). In Scotland, an audit unit is responsible for evaluating the work of the inspectorate, including the results of the follow-up to the inspections, while a working group of inspectors is permanently engaged on the effectiveness of the guidelines (Standaert, 2001[79]).

Systematic evaluation of each inspector may be considered in Greece, following practice from several countries. In the Flemish Community of Belgium, each new member of the inspectorate has to complete a one-year trial period, which is round off by an evaluation

carried out by the co-ordinating inspector. During the trial period, beginning inspectors are supported by a mentor and receive around 30 days of training focused on the core stages of an inspection and differentiated according to the level of education they will inspect, and which is tailored according to their personal development plan. Thereafter, each inspector receives is evaluated annually in the first three years of their career, and is evaluated at least every two years after that (European Commission/EACEA/Eurydice, 2016[4]; Faubert, 2009[80]). The Department of Evaluation in the Swedish agency was evaluated in 2004, and the agency as a whole in 2005. Similarly, the Danish Evaluation Institute's methods were evaluated in 2005 by Högskoleverket, a Swedish institution which usually evaluates the Swedish higher education sector (Faubert, 2009[80]).

In addition to the staff undertaking the evaluation, a set of materials and instruments needs to be made available to gauge performance. Using a mix of materials and tools can provide a fairer and more reliable picture of performance than just individual interviews, but this also depends on the availability of data at the school level. There is a need to identify and gather data with the necessary levels of fairness, reliability and validity. In some countries, school principal portfolios have been used, as they can present school principals' views on their own performance. School documents can also be used, as well as interviews, and other materials including school plans, student outcomes and information related to the school environment. The standards can be used as self-evaluation tools for principals to reflect on their own practice, and can then be used to gather information and guide the evaluation process between evaluators and the school principals.

Finding the right frequency for the evaluation is a challenge. Across OECD countries, there is great variety (Pont, Nusche and Moorman, 2008[48]). In some education systems this happens annually, while in other countries it may range between every three to five years. The frequency is important in terms of the impact it may have on principals and on the system, and needs to take into consideration capacity, costs, contractual arrangements, and the sustainability of the process.

At the heart of the purpose of the appraisal is how the results will be used by the practitioners and the system – and their capacity to do so effectively. Many countries use the results to guide training and professional development, or to provide additional support to school principals in areas of need. It is important that the appraisal provides feedback which is of value for principals and which supports their own career development, as well as for the needs of the system more generally. In some systems, it may result in the development of improvement plans and the provision of support or training, in other systems it may result in contractual reconsideration or career progression. What is indicated as a result will act as the main incentive for how principals and evaluators engage in the process. A study of school principal appraisal systems in selected states in the United States found that principals reported that the system was fair, and had provided a common language for professional practice, set clear expectations for performance, and had been useful in informing professional practice and identifying areas for improvement (Anderson and Turnbull, 2016[77]). For this to happen, there needs to be solid investment in engaging with stakeholders, ensuring that it is fair, that there is enough capacity in the system to undertake the evaluation, that there are data, and that the purposes are clearly identified and valued by those who will need to engage in the process.

To conclude, there are three key issues in developing school principal appraisal:

- Start by developing leadership standards or frameworks.

- Focus the evaluation on the aspects that matter most for improving practice.
- Reflect on, and clarify if necessary, the purposes of the evaluation with a focus on the future.

Whether for accountability or for improvement, how the appraisal is embedded or integrated into the broader evaluation processes needs to be articulated. This includes both school and teacher evaluation, as well as how the appraisal fits into the broader school leadership policy framework (Anderson and Turnbull, 2016[77]; OECD, 2013[40]; Pont, Nusche and Moorman, 2008[48]).

4.3.4. Develop a long-term strategy for an overall evaluation and assessment framework

To support school improvement and increase transparency, it is important to develop a long-term strategy to introduce an overall evaluation and assessment framework. This final recommendation goes beyond the specific remit for this report, which is focused on teacher professional, and evaluation for school and school principal improvement, to suggest the need for an overall evaluation and assessment framework. This more comprehensive approach to evaluation and assessment would underpin efforts to support teacher professionalism and the quality and equity of student outcomes across the education system. Moreover, in the context of the Greek economic crisis, well-designed evaluation and quality assurance in education can support reforms focused on improving efficiency and effectiveness.

Design of an overall evaluation and assessment framework that bring the different components together

Over the past two decades, OECD countries have developed a range of evaluation and assessment components for a range of purposes. Systems have been typically developed in piecemeal fashion, and subsequently countries have faced challenges in ensuring consistency and alignment across the different components (OECD, 2013[40]).

Table 4.2 outlines the features of an evaluation and assessment framework as developed in OECD's review of evaluation and assessment frameworks across OECD countries (OECD, 2013[40]). It takes the view that the elements of any evaluation and assessment framework should reinforce and support each other, and that the primary focus should always be on improving student learning and well-being. An overall framework supports gathering of data to support a student learning, school improvement, school principal and teacher development, and system-level evaluation (see Table 4.2).

Table 4.2. Main features of an evaluation and assessment framework

A holistic approach	Engage stakeholders and practitioners in the design and implementation of evaluation and assessment policies.
	Place the students at the centre of the evaluation and assessment framework.
	Align the evaluation and assessment framework with educational goals and student learning objectives.
	Establish articulations between components of the evaluation and assessment framework.
	Sustain efforts to improve capacity for evaluation and assessment.
Students at the centre	Place the students at the centre of the evaluation and assessment framework.
	Engage stakeholders and practitioners in the design and implementation of evaluation and assessment policies.
	Draw on a variety of assessment types to obtain a rounded picture of student learning and well-being.
	Maintain the centrality of teacher-based assessment and promote teacher professionalism.
	Ensure the consistency of assessment and marking across schools.
	Ensure a good balance between formative and summative assessment.
	Ensure that student assessment is inclusive and responsive to different learner needs.
School evaluation to support improvement	Ensure the focus for school evaluation is the improvement of teaching, learning and student outcomes.
	Develop nationally agreed criteria for school quality to guide school evaluation.
	Raise the profile of school self-evaluation (SSE) and align external school evaluation with school SSE.
	Evaluate and adapt external school evaluation to reflect the maturity of the school evaluation culture.
	Strengthen school principals' capacity to stimulate an effective SSE culture.
	Promote the engagement of all school staff and students and other stakeholders in SSE.
	Report a broad set of school performance measures with adequate contextual information.
School principal appraisal focused on whole- school improvement	Promote the effective appraisal of school principals within the broader assessment and evaluation framework.
	Develop a common leadership framework or set of professional standards.
	Promote the appraisal of whole-school leadership together with scope for local adaptation.
	Build capacity for effective school principal appraisal.
	Ensure school principal appraisal informs professional development.
	Consider career advancement opportunities to reward successful school principals.
Teacher appraisal to enhance professionalism	Establish teaching standards to guide teacher appraisal and professional development.
	Establish periodic career-progression appraisal involving external evaluators.
	Establish links between teacher appraisal and career advancement decisions.
	Prepare teachers for appraisal processes and strengthen the capacity of school principals for teacher appraisal.
	Consolidate regular developmental appraisal at the school level.
System evaluation to inform policies for system improvement	Ensure policy making is informed by high-quality measures, but not driven by their availability.
	Develop a national education indicator framework and design a strategy to monitor student learning standards.
	Ensure the collection of qualitative information on the education system.
	Ensure collection of adequate contextual information to effectively monitor equity.
	Establish and secure capacity for education system evaluation.
	Strengthen analysis of education system evaluation results for planning and policy development.

Source: Adapted from OECD (2013[40]), *Synergies for Better Learning: An International Perspective on Evaluation and Assessment*, OECD Reviews of Evaluation and Assessment in Education, http://dx.doi.org/10.1787/9789264190658-en.

Greece has the opportunity to design a coherent overall framework for evaluation and assessment. In this way, different components can be conceived as part of a holistic

system. By taking this approach, it is possible to generate complementarities and to prevent inconsistencies across the system.

The elements of a coherent evaluation and assessment framework, as set out in Table 4.2 (OECD, 2013[40]) can be applied to the Greek context with the following considerations:

- ***Student assessment:*** Student assessment may include national (full-cohort or sample-based) standardised assessments, with diagnostic and monitoring purposes, and externally based summative assessment, including for secondary education certification. At the school-level, classroom-based assessment provides information on student learning. It may include tests, student projects and activities, and may be formative or summative.
- ***School evaluation (internal and external):*** External and school self-evaluation are the two main forms of evaluation**.** External evaluation is typically conducted by an external agency. It may involve a sequence of activities, beginning with school-level reflection and a visit by an external evaluator or team of evaluators, followed by a summative report that may be published and may require a follow-up process.
- ***Teacher appraisal:*** Approaches vary considerably across countries but in addition to probationary appraisal, appraisals may also be: 1.) part of a performance management process, including regular appraisal to gain and maintain registration/accreditation to teach, and for promotion; and 2.) to identify a select number of high-performing teachers to reward and acknowledge their teaching competency and performance. These formal schemes are often complemented with more informal school-level practices of feedback to teachers (by school principals or through peer review).
- ***School principal appraisal:*** Approaches vary considerably across countries but, in addition to probationary processes, they are typically part of the employer's performance management processes with emphasis on administrative and pedagogical leadership.
- ***System-level evaluation:*** Education system evaluation may involve: 1.) the monitoring of student outcomes at a given point in time, including disparities across regions or among student groups (e.g. by gender, socio-economic or immigrant background); 2.) trends in student learning; 3.) the monitoring of the impact of specific policy initiatives or programmes; 4.) the monitoring of demographic, administrative and contextual data; 5.) sharing of relevant information at different levels of the system; and 6.) the use of information generated for policy analysis, development and implementation.

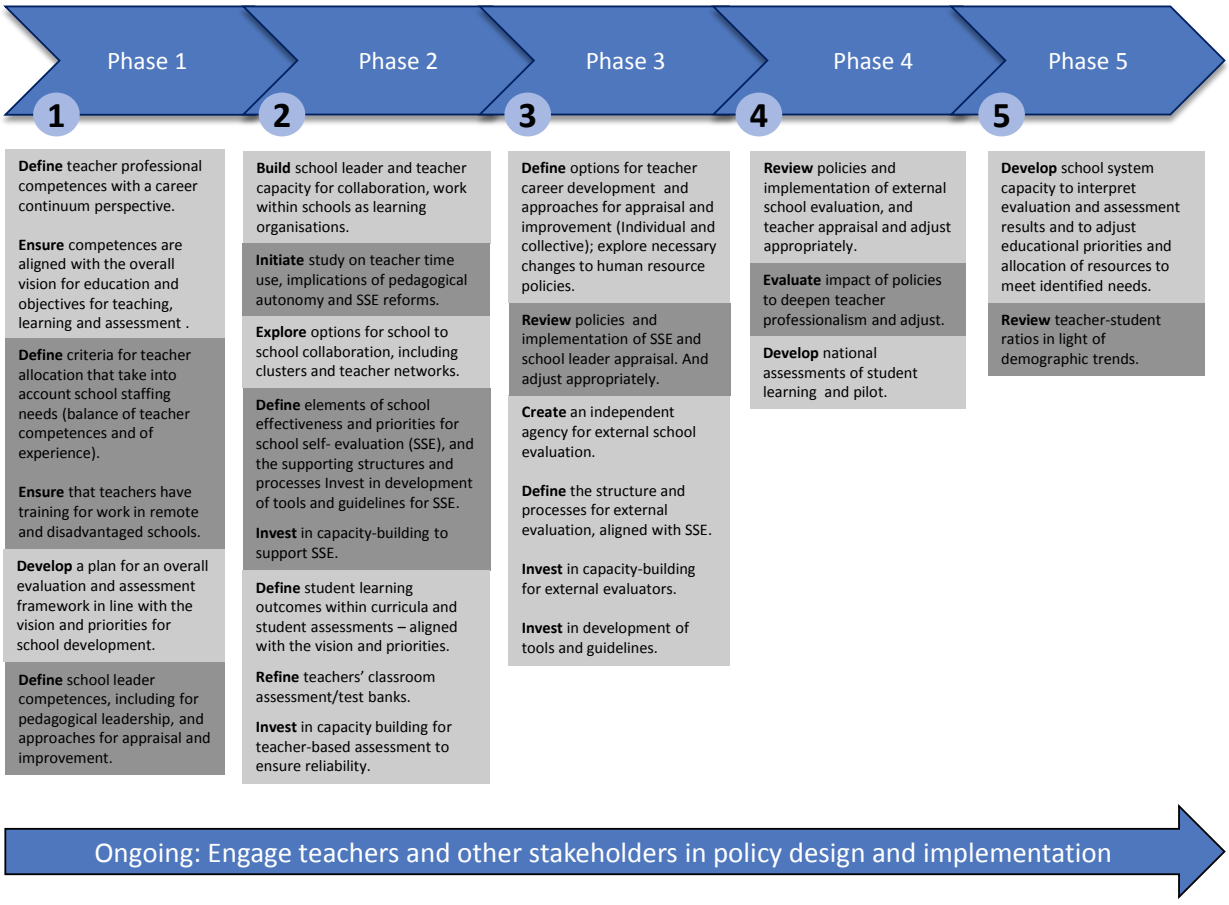
A coherent framework incorporating these components can ensure that evaluation and assessment provide information needed at each level, and that they are aligned. For each component, different kinds of information are gathered and used to support different purposes. Ultimately, the components need to work together effectively to improve student outcomes.

4.3.5. Sequencing of the policy options

This chapter includes a set of recommendations for Greece to move forward with school improvement strategy, highlighting teacher professionalism, school evaluation, principal appraisal, and eventually, an overall assessment and evaluation framework. These require a long-term sequenced strategy that integrates and takes into account the different

components. Figure 4.12 sets out a sequenced strategy for the introduction and development of evaluation for school and school leadership improvement.

Figure 4.12. Suggested steps for school improvement: A sequential approach



In *Phase 1*, it will be important to define competences teachers and school principals need throughout their careers, in line with the overall vision for education (see also Chapters 1 and 2), and objectives for teaching, learning and assessment. Stakeholder involvement will be important to ensure buy-in and support.

At this stage, it will also be important to consider how teachers are assigned to schools. As schools prepare for greater pedagogical autonomy, school principals should have the opportunity to communicate staffing needs to ensure that staff have a full complement of competencies needed, and that there is a fair balance of teachers with different experience levels. Teachers who are working in remote or disadvantaged schools have training needs.

In parallel, it will be important to also define what are the core elements of school effectiveness, what are the priorities for school self-evaluation, and what are the supporting structures and processes that will underpin evaluation. Plans for school self-evaluation may be further developed, including the definition of tools and assessments, which can then be piloted. In addition, specific standards for school principals can be developed which can then serve for their appraisal.

As part of the longer-term planning, it will be important to also define student learning outcomes aligned to the curricula, and to the vision and priorities for learning identified in the Preparatory Phase. It will also be important to strengthen classroom-based training for effective assessment. This will require training to support formative assessment practices (that is, the frequent assessment of student progress to identify learning needs and shape teaching) (OECD, 2005[81]). Some investments will need to be made to ensure consistency of teacher marking across schools. Surveys, research and engagement of stakeholders to define knowledge, skills, attitudes and teachers' need will also be important at this point.

In *Phase* 2, it will be important to use teacher competencies as part of the certification examination and to define career paths. Options for school-to-school collaboration, including through school clusters and teacher networks, should be explored. The objectives for effective inter-school collaboration should be clearly defined, and resources to support this work identified.

Approaches for teacher appraisal, beginning with a self- and peer-assessment are important. Feedback should target strengths and areas for individual improvement, and collective capacities for the school's staff. Given Greece's negative history of teacher appraisal as an instrument to cut the workforce, it will be important to demonstrate the importance of feedback to support teacher professionalism and career growth and school improvement, and to ensure that weak teachers always are provided with necessary support to improve.

At this stage, earlier phases of the process should be evaluated, including school self-evaluation and school principal appraisal, and adjusted as appropriate. At this point, plans for development of an external agency for school evaluation may also be launched. The structures and processes should align with school self-evaluation. External evaluators will need to be trained, and to have tools and guidelines to ensure reliability and validity of evaluation.

In *Phase 3*, new options for teacher career development may be defined. This may include options for experienced teachers to expand their roles to include mentorship or roles as practitioner researchers or for school leadership. These new roles may require changes to employment legislation, and should be considered along with any changes based on recommendations of Chapter 2. It will also be time to review policies and implementation for new external evaluations and teacher competencies and to adjust as appropriate. It will be important to track student learning, and at this point, some type of national student assessments may be developed and piloted. Undertaking parent and student surveys regarding their views on the school may also be an option.

In *Phase 4*, it will be important for the government to analyse the results of school self-evaluation, strengthen its capacity to interpret the various elements of the evaluation and assessment framework and to adjust priorities and allocation of resources to better meet needs. Teacher competency models should also be reviewed to be sure they have been used effectively, and that they are aligned with curricula and evolving priorities.

Phase 5, the school system itself should be developing capacity to interpret the results of evaluation and assessment results and to adjust educational priorities and allocation of resources to meet identified needs. Throughout this process, it will be vital to keep attention focused on overall goals for education and learning that have been defined with stakeholders. The Ministry will need to engage stakeholders and to communicate the vision for educational development on an ongoing basis. At this point, a review of class

size and teacher-student ratios should be implemented, taking into account the impact of demographic trends,

Ministry officials may wish to set out a more specific timeline for the introduction of each of these phases as well as detailed steps to be followed in each phase to ensure the overall objectives are attained. This would require:

- the definition of objectives for each phase
- the allocation of concrete responsibilities for carrying out the different objectives
- the allocation of resources and funding for their implementation;
- the definition of sustained training for those involved
- the definition of the calendar.

Teachers and other stakeholders need to be engaged in the allocation of responsibilities throughout reforms, the definition of indicators to measure progress in implementation, as well as for evaluating the reform. This will both strengthen the quality of policy design and implementation, and support stronger buy-in in the challenging process of reform.

Note

[1] A detailed description of the calculation can be found in Box B7.1 in the OECD *Education at a Glance 2017* (OECD, 2017[5]). The analysis computes the differences in expenditure per student among countries and the OECD average, and then calculates the contribution of these different factors to the variation from the OECD average.

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Chapter 5. How higher education can help Greece restore prosperity

Tertiary education in Greece is at the crossroads. This chapter analyses and provides recommendations to enhance tertiary education governance, quality and links to the labour market in Greece. A population with high educational attainment presently has low skill levels as measured by the OECD's Adult Skills Survey. There are ongoing mismatches between the skills graduates have and the skills employers require, alongside high levels of unemployment. There is a need to build a national-level consensus on what tertiary education is for, on its governance, on how it interfaces with the labour market, and on how quality is to be assured.

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.

The Greek tertiary education system offers opportunities for economic growth and social cohesion; it is one of the most powerful means of improving the skills of the workforce, it can help counter the country's fall in productivity and it is an important mechanism for strengthening the innovation system.

The tertiary education aspects of this review cover three broad areas:

Governance:

- the framework for governance in the Greek higher education system, the regulation of the system, the autonomy of higher education institutions (HEIs) – including the rights of institutions in decision making on organisational, financial and scientific matters
- the network of higher education provision in Greece
- the role and composition of the governing bodies of HEIs.

The resourcing of the system:

- the approach to funding
- alternative sources of funding for institutions, including the role of tuition fees in graduate education
- improving efficiency in institutions.

Quality and quality assurance:

- the current performance of the system, including completion and dropout rates in HEIs and the outcomes of the system
- the quality assurance of higher education programmes and the role of the Hellenic Quality Assurance and Accreditation Agency (ADIP)
- internationalisation of Greek higher education.

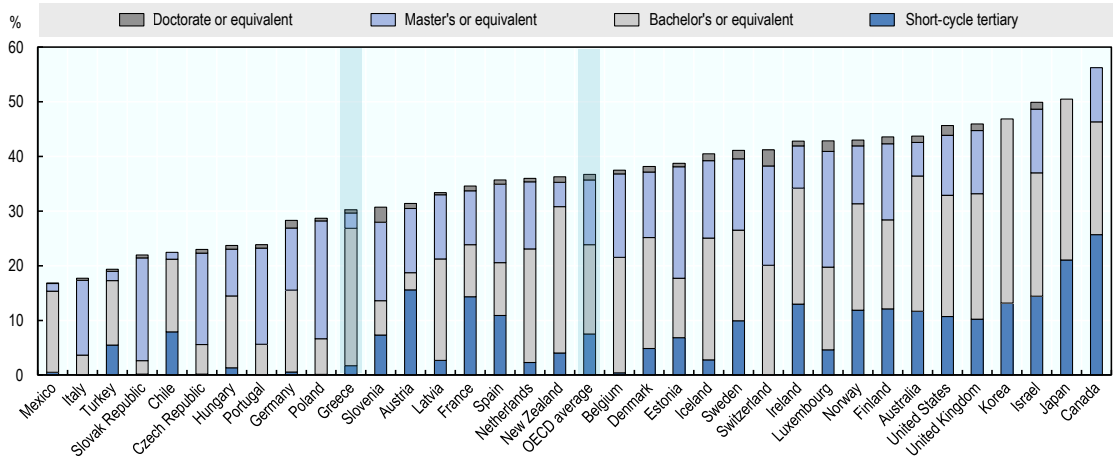
The analysis in this chapter first summarises the skills profile of the Greek population, reviews the state of tertiary education in Greece, then reports on policy issues facing the system, drawn from the OECD review team's visits and interviews, from data on higher education in Greece and from the research literature. Finally, it lays out some policy options, drawn from the analysis of the challenges and from the practices of other OECD countries.

5.1. Tertiary education at a crossroad

5.1.1. A population with high educational attainment but low skills and high unemployment

Educational attainment in Greece is around the OECD average. Around 25% of the population hold a bachelor's degree – well above the OECD mean of 16%. However, the proportion holding a qualification at master or doctoral level in Greece is relatively low; overall, the proportion with a bachelor's degree or higher is around the OECD mean of 29%. In the 25-34 year-old age group – the group of people likely to be at the core of the workforce over the next three decades – 41% have a tertiary qualification, close to the OECD mean of 43% (OECD, 2017[1]).

Figure 5.1. Proportion of the population holding a tertiary qualification, 2016



Source: OECD (2017[1]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

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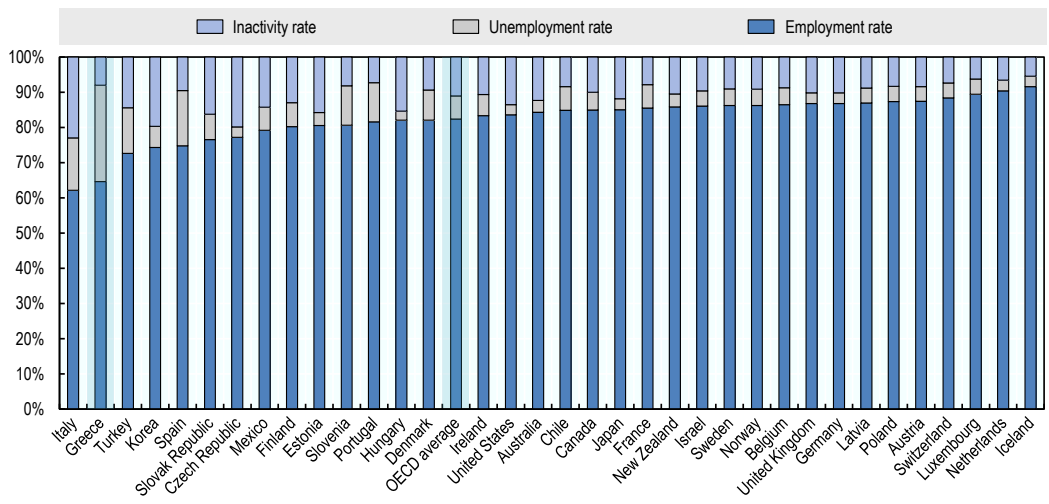
Employment outcomes for graduates, as shown in Figure 5.2, are poor: in the wake of the economic crisis, employment rates are relatively low, even for those who hold educational qualifications, and especially for young people. In the 25-34 year age group, 66% of tertiary graduates were in employment in Greece, down from 77% in 2010 and compared with the OECD mean of 83%. That employment rate is second lowest in the OECD (above only Italy, where the employment rate of tertiary graduates in that age range was 64%). Unemployment of tertiary qualified 25-34 year-olds is correspondingly high, the highest in the OECD at 28%, compared with the OECD mean of 6.6% (Foundation for Economic and Industrial Research (IOBE), 2017[2]; OECD, 2017[1]).

Figure 5.2. Working status of tertiary qualified people aged 25-34, 2016



Source: OECD (2017[1]), *Education at a Glance 2017: OECD Indicators*, http://dx.doi.org/10.1787/eag-2017-en.

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Skills of the population are lower than in other countries

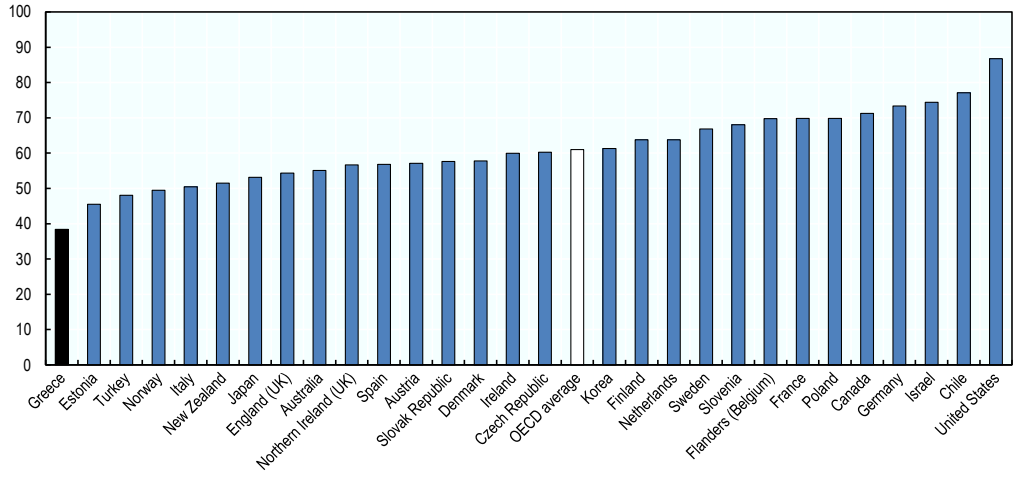
Despite the levels of educational attainment in Greece, the OECD's Survey of Adult Skills[1], conducted in Greece in 2015, shows that the skills of the adult population in Greece are lower than in most OECD countries. There is a lower proportion in the high-skilled categories in the three skill domains measured in the survey (literacy, numeracy and problem solving in technology-rich environments) – and a higher proportion in the low-skilled categories (OECD, 2016[3]) (see Chapter 1).

Of particular concern is the skill level of higher education graduates. While those with a bachelor degree or higher were found in the survey to be more skilled than those without a degree, the skill margin is significantly less than is typical among the countries that participated in the Survey of Adult Skills (OECD, 2016[4]). Tertiary-educated Greek adults aged 25-65 score 19 points higher in literacy than those with an upper secondary qualification (the OECD average difference is 33 points) and 38 points higher than those without an upper secondary qualification (the OECD average difference is 61 points) (OECD, 2016[3]).

This result raises questions about the effectiveness of the Greek tertiary education system in adding skills to the individuals who participate in it. One part of the reason for the low-skill premium for a tertiary qualification in Greece may be the high emigration of many of the highest skilled and most successful young people, in response to the economic crisis Greece has faced. As noted in Chapter 1, a high proportion of emigrants between the ages of 25 and 39 were graduates or holders of postgraduate qualifications (Kasimis and Kassimi, 2004[5]; Labrianidis and Pratsinakis, 2014[6]). At the same time, immigration to Greece by trained and skilled young people is low – likely because of the difficulty of obtaining employment in Greece. Questions remain, however, over the effectiveness of the Greek system in adding value to its students.

Figure 5.3. Difference in literacy proficiency, 2015

Difference in scores between adults with a tertiary qualification and those with lower than an upper secondary qualification:



Note: Year of reference for Greece is 2015. All other countries: Year of reference 2012. Data for Belgium refer only to Flanders and data for the United Kingdom refer to England and Northern Ireland jointly.
Source: OECD (2016[3]), *Skills Matter: Further Results from the Survey of Adult Skills*, http://dx.doi.org/10.1787/9789264258051-en.

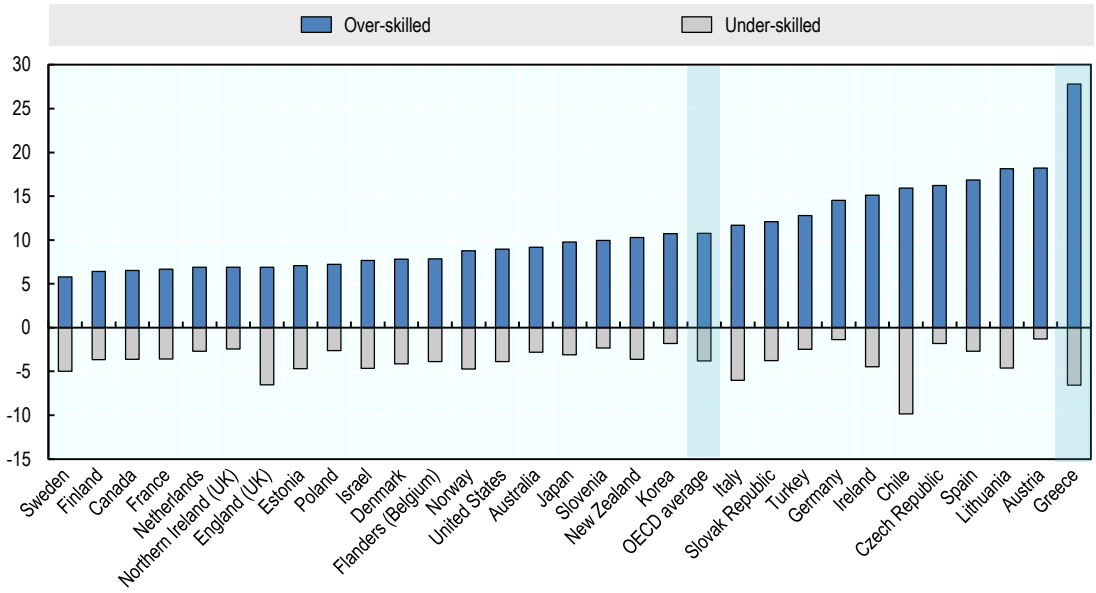
StatLink http://dx.doi.org/10.1787/888933365719

Mismatches between the skills workers have and the skills they need

There is a high level of mismatch between the literacy skills Greek workers have and those they need in their jobs. Around 28% of workers in Greece have a higher level of literacy than they need at work – the largest proportion across all countries participating in the Survey of Adult Skills, and compared to the OECD average of 11%. Around 7% of workers have lower literacy proficiency than required for their job, against the OECD average of 3.8% (OECD, 2016[4]).

Figure 5.4. Level of mismatch in the working population aged 25-64, 2015

The mismatch corresponds to the difference between employees' literacy proficiency and the literacy demands of their job



Note: Year of reference for Greece is 2015. All other countries: Year of reference 2012. Data for Belgium refer only to Flanders and data for the United Kingdom refer to England and Northern Ireland jointly.
Source: OECD (2016[3]), *Skills Matter: Further Results from the Survey of Adult Skills*, http://dx.doi.org/10.1787/9789264258051-en.

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In many participating countries, there is a positive relationship between information processing skills and labour market outcomes. In Greece, however, it is educational attainment, rather than proficiency, that has the strongest impact on the likelihood of being employed and on earning higher wages. This suggests that Greek employers make employment decisions on the basis of applicants' credentials, rather than on their demonstrated skills (OECD, 2016[3]).

The low-skill profile required by employers is likely a factor in the low and falling productivity seen over the course of the recession (OECD, 2017[7]). It also goes some way to explaining the difficulties faced by Greek employers in finding people with the appropriate skills for job vacancies identified in the 2015 Manpower Survey, and as reported in Chapter 1 and Figure 1.3 of this report (Manpower Group, 2016[8]).

These results paint a picture of a complex skills environment. It is likely that the high rate of graduate unemployment in Greece has encouraged graduates to seek low-skilled jobs; as a result, many employees work in jobs for which they are over-skilled, despite the fact that graduate skill levels in Greece are lower than in other European countries. The extent of over-skilling may also reflect the nature of the Greek economy, with a higher proportion of lower-skill industries than is typical in European countries. However, those firms operating in industries that require the highest skill levels struggle to compete for skills, given the relatively low overall skill profile of the country and given the fact that a high proportion of young emigrants have high levels of qualifications[2] (Labrianidis and Pratsinakis, 2014[6]).

A complicating factor is the emerging threat posed to employment by the growth of automation. As noted in Chapter 1 and Figure 1.4 of this report, analysis of the skill requirements of the jobs of Greek respondents to the Survey of Adult Skills suggests that nearly 40% of Greek employment is in occupations that have a significant risk of being automated – above the OECD average of 34% (Arntz, Gregory and Zierahn, 2016[9]).

The challenge for Greece is to increase the proportion of the population with higher skills – to meet the skills shortage facing some employers, to enable the economy to move to a higher-skilled, higher-value footing and to help manage the risks to individuals' employment of increasing automation.

Challenging demographic trends

The birth cohorts working through the education system are smaller than in the recent past; the number of live births dropped 22% between 2008 and 2014 (European Commission, 2016[10]). Over the next 15 years, that reduced cohort size will flow through to the core age for tertiary education population, while the effects of current high emigration will also reduce the size of the higher education intake. As a result, it is likely that fewer people will gain higher education qualifications in the medium term. If Greece is to lift productivity and to regain and maintain its former economic strength, there is a need to ensure that the higher education system is able to improve the efficiency and relevance of its programmes so that it can supply the skills, including non-cognitive skills, that the labour market needs.

5.1.2. The role of the higher education system

Education, and the higher education sector in particular, is an essential part of the solution to these issues. Part of the solution also involves better take-up of quality lifelong learning. As technological change accelerates, firms need to adapt and to ensure that their employees acquire appropriate skills. The forecast ageing of the population poses risks to the supply of skills while the risks from the forecast growth in automation suggests that the adult population needs to keep updating its skills (Council of the European Union, 2011[11]; UNESCO Institute for Lifelong Learning, 2009[12]).

Lifelong learning is crucial both to keep workers' knowledge up-to-date and to redirect workers towards economic sectors less threatened by technological replacement. The OECD identifies the need to move from a complete reliance on initial education towards fostering lifelong and skills-oriented learning (OECD, 2016[13]). In an uncertain environment, lifelong learning and training can tackle human capital depreciation and the shrinking of the talent pool.

Adult participation in lifelong learning in Greece rose after 2011, despite the economic downturn[3] (Karalis, 2017[14]). However, compared with other European countries, participation is low (Karalis, 2017[14]; OECD, 2016[3]); in 2015, 80% of the Greek population aged 25-64 had no engagement with formal or non-formal education, against an OECD mean of 50% (OECD, 2016[4]). The Greek government has recognised the importance of this shortcoming; it has recently encouraged the creation of lifelong learning centres at higher education institutions.

5.1.3. The Greek higher education system

Greece has a long tradition in higher education and the Greek people place a high value on that tradition and on their higher education system. Greek nationals, graduates of the Greek higher education system, can be found throughout the academic world in leading scholarly roles.

Visiting higher education institutions, the OECD review team was impressed by the level of commitment and enthusiasm of students and their teachers and by the determination of institutional leaders to manage their institutions through a challenging period.

The current system of higher education in Greece

The shape of the system

In modern Greece, higher education institutions (HEIs) include 22 universities as well as 14 Technological Education Institutes (TEIs). While universities deliver a general academic education, TEIs have a mission to conduct higher education at bachelor's and postgraduate level in science, technology and arts, but with an applied and vocational focus (European University Association, 2015[15]).

Table 5.1. The Greek higher education system

	2002/03	2008/09	2014/15
Number of HEIs			
Universities	19	21	22
TEIs	15	16	14
Number of teaching staff			
Universities	11 079	13 058	10 770
TEIs	10 948	10 882	4 140
Number of students			
Universities	175 597	171 882	190 835
TEIs	124 874	112 337	99 391
Master's and doctoral students	28 952	52 574	62 973
Percentage of Greek 18 and 19 year-olds in their first year higher education			
Universities	14.0%	17.1%	23.7%
TEIs	12.5%	9.5%	10.4%

Source: Foundation for Economic and Industrial Research (IOBE) (2017[2]), *Higher Education in Greece: Impact of the crisis and challenges*, Foundation for Economic and Industrial Research, Athens.

The Greek public places great value on higher education

The population of Greece places a high value on higher education. Having a university degree mitigates the risk of unemployment and means that a person is more likely to earn a higher income (Mitrakos, Tsakloglou and Cholezas I, 2010[16]; OECD, 2017[1]). As

discussed in earlier chapters, families make substantial financial sacrifices to enable their children to achieve good scores in the Panhellenic entrance examination, in order to secure a place in a good department of a Greek higher education institution (HEI) (OECD, 2017[17]; Psacharopoulos and Papakonstantinou, 2005[18]; Sianou-Kyrgiou, 2008[19]; Saiti and Prokopiadou, 2008[20]). A significant number of families send their children overseas for a university education (Tsakloglou and Cholezas, 2005[21]).

One consequence of the high competition to obtain places in prestige programmes and institutions, and the requirement to pay for additional classes (at *frontistirio*) to prepare for the Panhellenic examination, is that the tertiary education system has become stratified on socio-economic lines, both at an institutional and departmental levels (Sianou-Kyrgiou, 2010[22]; Sianou-Kyrgiou and Tsiplakides, 2011[23]; Tsakloglou and Cholezas, 2005[21]). Because of the inequities built into the earlier stages of the education system and into the rationing of higher education places, the government's investment in the tertiary education system is disproportionately captured by those from higher SES groups (Saiti and Prokopiadou, 2008[20]; Sianou-Kyrgiou and Tsiplakides, 2011[23]).

The government has committed to revising the university admissions process so that students' Panhellenic entrance examination scores will count for just 80% rather than 100% of the admission decision. The other 20% will be determined by their teachers' assessments (see Chapters 2, 3 and 4).

Governance and regulation

In 2017, a new law (4485/2017) consolidated the regulatory framework for higher education. The new law defined the structures for HEIs' internal decision making; it set out the composition and role of the senate and the rector's council, the two key internal management boards, so as to counter the risk of the politicisation of institutional leadership. This law also created regional councils responsible for developing strategic plans for the development of higher education and research in the region – including exploring the synergies between the HEIs and the research institutes in the region and looking to align with the development priorities for the region. It also strengthened quality assurance in postgraduate programmes, provided for institutions to create two-year vocational qualifications[4] and created lifelong learning centres in institutions. The law was developed following an extensive period of consultation with the tertiary education sector.

Free public education

Like many European countries, Greece has no tuition fees in undergraduate higher education. This is provided for under Article 16 of the Greek Constitution which affirms that education is a core function of the state and that the public education system aims to help people to become free and responsible citizens. It specifies that Greek citizens have the right to free education at all levels in public educational institutions (Hellenic Republic, 2008[24]).

This article is interpreted as covering the whole of a person's initial education – that is to the level of a first higher education qualification. As a result, institutions may (and do) charge fees for master's degrees but not for undergraduate studies.

The new law (4485/2017) imposed restrictions on the level and setting of fees for postgraduate qualifications, which had previously been set at the discretion of the institution. Institutions imposing such fees have to have the resourcing and the budget for

each degree approved by the Ministry. No more than 30% of the revenue generated by the degree may be used as a contribution to institutional overheads[5]. This provision has caused some rectors concern, given the importance of fee revenue to institutions in a period of highly constrained resourcing.

Private higher education

The private higher education sector in Greece is small. An article in the publication ToVima[6] estimates that there are 15 000 students enrolled in private colleges. Under the Greek laws 4093/2012 and 4111/2013, colleges are designated as "providers of non-formal post-secondary education and training services". However, under European Union (EU) rules, the Greek government is obliged to grant full recognition to the qualifications undertaken at the Greek outposts on branch campuses of EU countries[7]. Some private colleges have gained recognition for their work by establishing arrangements with universities in other EU countries under which they offer the other university's qualification (Tovima, 2015[25]). One (evidently thriving) private higher education institution, the American College of Greece (ACG), offers some degrees accredited by a US authority as well as others offered in co-operation with EU institutions.

Under the present Greek law, qualifications granted by the ACG and accredited in the United States are not recognised. This means that their degrees are not recognised if a graduate applies to join the public service. Someone whose four-year bachelor degree is from ACG but who also has a two-year master's degree from a Greek public institution is treated under the government qualification recognition rules as having two years of post-secondary education – given that the four years of study at ACG is not counted. Such a person, applying for a position in the Greek public service, would be ranked lower than someone with a four-year bachelor's degree from a public institution. However, someone who followed exactly the same path, but earned an equivalent four-year bachelor degree abroad in the United States would be treated as having six years of post-secondary education when applying to join the Greek public service.

Participation in higher education

Participation in higher education in Greece increased sharply between the late 1990s and the middle of the following decade and then stabilised (Foundation for Economic and Industrial Research (IOBE), 2017[2]). Table 5.1 shows that university enrolments increased by 9% between 2002/03 and 2014/15, while TEI enrolments fell by 20%. The number of students enrolled at master's and doctoral level more than doubled over that time. And the proportion of the 18-19 year-old population enrolled in higher education rose from around 26% to 34%[8].

Completion rates

Because of the intense competition for places in the most popular programmes and the inability of HEIs to move resources in line with student and labour market demand, some students end up following programmes that they are less interested in and potentially less motivated for; this point is discussed more fully in Section 5.2.2.

One effect is that completion rates are low (Foundation for Economic and Industrial Research (IOBE), 2017[2]; OECD, 2011[26]) and the time taken to complete a qualification is relatively long, with the majority of students unable to complete within the minimum time for their qualification plus two years. In 2014/15, of all undergraduate higher education students in Greece, 54% were in the eleventh semester or more of an eight-

semester qualification, up from 37% in 2002/03 (Foundation for Economic and Industrial Research (IOBE), 2017[2]).

International linkages

As noted above, significant numbers of Greek students go abroad for their studies in response to the rationing of places in the Greek public higher education system and in order to advance their career prospects (Tsakloglou and Cholezas, 2005[21]). The OECD review team was given examples of strong connections between Greek institutions and institutions abroad. TEIs have only relatively recently earned the right to offer their own master-level degrees; before that, they sought relationships with other higher education institutions in other European countries and offered teaching toward their partner institution's degrees.

The OECD review team was informed that now that TEIs have the right to offer master degrees in their own name, they have maintained many of those relationships with their partners abroad. In some cases, these TEIs now offer joint master-level degrees with European university partners.

Fuelling the international focus of Greek higher education institutions is the Erasmus + EU programme. The OECD review team observed instances of vibrant and highly active exchanges under the auspices of Erasmus, with good numbers of inbound and outbound students, to mutual advantage.

The OECD review team was informed of cases where foreign institutions have sought to offer joint degrees with Greek institutions in order to enable their students to study Greek history and culture.

Resourcing higher education

The OECD review team was told that HEI revenue comprises multiple elements. Salaries of permanent staff are paid directly to the staff members by the Ministry of Education, Research and Religious Affairs (MofERRA) without passing through the institution's accounts. The government provides funding directly to the institutions in several distinct streams:

- an operating budget
- a grant for meals for students
- a grant for salaries for adjunct staff
- a capital grant through the public investments framework
- programmes funded through the EU structural and investment funds.

In addition, institutions raise funding directly through their own efforts:

- competitive research funding and consulting (including through funds administered by the European Commission and corporations)
- postgraduate student fees.

The OECD review team was told that the Ministry's funding is determined by an algorithm that includes elements such as: the number of students, a weighting for the cost of delivery of the field of study, personnel costs and the level of study. There are also adjustments for the number of sites at which the institution operates.

Infrastructure funding and operating funding have been reduced as a result of the economic crisis. According to Stamelos and Kavasakalis (2017[27]), funding was cut by

around 11% during 2014, following a 24% reduction in the preceding year. The European University Association's analysis shows the public funding for Greek universities declined more sharply than in any other European country[9] (European University Association, 2016[28]).

One institution reported to the OECD review team that, between 2010 and 2017, the amount paid in salaries directly to staff by the MofERRA was held stable while the total funding paid to the institution dropped by 37%.

Reductions to the base research funding were offset by an increase in research programme funding (that is, funding for approved research projects) (see Section 5.1.5). However, many universities and TEIs have been able to shield their budgets to a considerable extent through revenue from research contracts (from European Union funds, businesses, philanthropists etc.) and through revenue from fees for master degrees.

5.1.4. Working with the labour market

HEIs report that they support graduates' transition to the labour market through job fairs and careers advice. Some HEIs offer internship programmes to help students transition to the workforce following graduation.

Given their vocational focus, Technological Educational Institutions (TEIs) state that they have a focus on the needs of industry. However, the OECD review team found no examples of universities prepared to build strategic, long-term relationships with employer/ industry groups.

As shown in Figure 5.2, young graduates in Greece have the highest unemployment rate among OECD European countries and the second lowest rate of employment (OECD, 2017[1]). Criticism of a lack of a systematic or strategic focus of Greek universities on the labour market is widespread (Foundation for Economic and Industrial Research (IOBE), 2017[2]; Livanos, 2007[29]; Livanos I., 2010[30]; Liagouras, Protogerou and Caloghirou, 2003[31]; Mitrakos, Tsakloglou and Cholezas I, 2010[16]; OECD, 2011[26]). Graduate unemployment has more than doubled since the economic crisis, rising from 7% in 2009 to 18% in 2016 (Foundation for Economic and Industrial Research (IOBE), 2017[2]). Graduates of disciplines that have high levels of private sector employment, such as computer science and engineering, fare reasonably well in the labour market while those who have graduated in fields that typically lead to employment in the public sector (for instance, the social sciences and humanities) faced poor employment prospects even before the economic crisis. The time taken for a graduate in Greece to get a job is long except for high-demand disciplines like medicine, law and computer science (Liagouras, Protogerou and Caloghirou, 2003[31]; Livanos I., 2010[30]).

The very difficult financial climate in Greece since the onset of the crisis and the consequent freeze on public sector recruitment has compounded the problem of graduate unemployment. It is to be expected that graduate unemployment would rise if there were fewer jobs. However, even before the downturn, graduate employment rates were lower in Greece than in other European countries; many of the papers cited above draw their data from the relatively expansionist time before the crisis.

In response to poor employment prospects for young people, the government formed the National Council for the Education and Development of Human Resources (ΕΣΕΚΑΑΔ or ESEKAAD, established under law 4452/2017), replacing the former National Council of Education, with the role of advising government on education policy, employment promotion and the link between education and the labour market (Esos, 2017[32]).

ESEKAAD includes representatives of business, research and professional organisations. It aims to sponsor research into the relationship between the education system and the labour market, including skill mismatches. It is promoting the creation of two-year vocational qualifications, provided for in the 2017 higher education law and designed to address areas of skill shortage. ESEKAAD has plans to initiate projects intended to support student mobility in the tertiary education system and it aims to work with the lifelong learning centres at higher education institutions.

With their vocational focus and their strategic relationships with industry, TEIs see this emphasis on employment promotion as creating opportunities for themselves. The OECD review team was told that TEIs aim to develop new two-year vocational qualifications with a view to offering some from the 2018/19 year. The OECD review team learned during its review visit that some TEIs are building on their existing strong relationships with industry groups to seek input into the design of these qualifications. The OECD review team was also told that TEIs consider that offering two-year vocational qualifications in institutions that also have a higher education mission will lend prestige to those qualifications, meaning that they expect to create demand among students and families for this path.

While it is too early to comment on their likely effectiveness, these measures reflect government's awareness that the system has been too inwardly focused in the past and needs to direct more of its attention to the Greek labour market. The mission of ESEKAAD signals the government's resolve to address that problem.

5.1.5. Research funding and performance

University research performance in Greece is reasonably good. Universities are responsible for the majority (~80%) of Greece's research output and research citations, while the research profile of TEIs is growing (Foundation for Economic and Industrial Research (IOBE), 2017[2]; Sachini et al., 2015[33]). Several universities[10] appear in many of the main world university rankings systems (which have a focus on measures of research performance).

During the economic crisis, the government reduced core research funding to universities but compensated by increasing the research programme funding through the National Strategic Reference Framework (which takes greater account of the strategic or economic value of the research it funds), meaning that, in total, government funding of research in higher education rose slightly between 2011 and 2013, when the downturn was at its height. Research funding from overseas funders fell by around 4% over that time. Likewise, domestic business funding for universities' research fell during the crisis (National Documentation Centre (EKT), 2015[34]).

In 2016, the government made a strategic investment in science and research, through the creation of the Hellenic Foundation for Research and Innovation (HFRI) as a funding and evaluation agency for investigator-led research, for post-doctoral fellowships and doctoral scholarships[11]. The HFRI is funded through the government's budget and through loans from the European Investment Bank.

This means that the Greek government now has a four-tier research funding system:

- capability funding through the core funding for universities and research institutes
- blue skies research funded through the new HFRI
- research programme funding on applied topics of strategic importance to Greece mainly through the National Strategic Reference Framework (NSRF) and with

some additional project funding from other government budgets and from municipalities
- support for the acceleration of the commercialisation of research through government equity investment funds and low interest loans.

Under this funding framework, the government's share of the funding of research declines as a project matures and approaches transfer and commercialisation stages, and as risk reduces.

These funding streams are complemented by funds from the State Scholarships Foundation (IKY) established to offer grants for postgraduate study, both in Greece and abroad. IKY also funds post-doctoral research fellowships and provides grants for students undertaking research degrees.

As part of the National Social Dialogue on Education over 2015/16, the Greek government looked at the opportunities to strengthen the research system in the regions. This led to the provision in the 2017 higher education law for Academic Councils for Higher Education and Research (ASAEE) designed to bring HEIs and research institutes closer. The purpose is to lift research quality in Greece's regions and to address problems such as:

- the geographic isolation of research groups
- a lack of critical mass of researchers in regions
- low commercialisation of research results (Ministry of Education, Research and Religious Affairs, 2016[35]).

These councils are expected to produce two-year strategic plans for higher education and research in the regions that seek to increase co-operation between HEIs and research centres, to look for efficiency gains through rationalisation and resource sharing, and to strengthen linkages with regional development priorities.

With the private sector having significantly increased its expenditure on research and development – by more than 50% between 2014 and 2016 (National Documentation Centre (EKT), 2017[36]) – and with the government having maintained its research investment, expenditure on research and development in Greece reached almost 1% of GDP in 2016 (National Documentation Centre (EKT), 2017[36]). While that is well up from 0.7% in 2008, it is below the level in most other European countries; the mean for European countries was more than 2% in 2013-2015 (Foundation for Economic and Industrial Research (IOBE), 2017[2]; National Documentation Centre (EKT), 2015[34]).

While Greek higher education research output has been growing, research commercialisation has not kept pace. In its 2017 report on trends in and the performance of the higher education sector, IOBE cites evidence that the Greek universities lag behind other European university systems in measures of commercialisation, such as patents and the ability to attract venture capital finance for spin-offs from research activities (Foundation for Economic and Industrial Research (IOBE), 2017[2]). The government will need to monitor these trends as the new acceleration funding system becomes established.

5.1.6. Quality assurance in Greek higher education

The Hellenic Quality Assurance and Accreditation Agency (ADIP) was established under the Greek law 3374/2005 to oversee issues of quality in higher education. The impetus for the creation of ADIP was to enable the Greek higher education system to engage with the Bologna process (Papadimitriou, 2011[37]). The creation of ADIP was controversial, with

trade unions and student unions having objected to an institutionalised approach to quality evaluation (Dimitropoulos and Kindi, 2017[38]; Stamelos and Kavasakalis, 2017[27]). The opposition from faculty members and their unions derived from the widely held mistrust of the state, and from anxiety that they would lose authority in educational matters. Students feared that assessments might lead to higher workloads. Students were also concerned that a negative quality assurance assessment could lead to a devaluation of their qualifications (Dimitropoulos and Kindi, 2017[38]).

ADIP became an affiliate of the European Association for Quality Assurance in Higher Education (ENQA) in 2007. Following an external review of its operations, ADIP was granted full membership of ENQA in 2015 (Stamelos and Kavasakalis, 2017[27]). The ADIP is an independent body, governed by its own board and overseen by the MofERRA. Its role is "…to develop and implement a unified quality assurance system as a reference system for the achievements and the work done by Higher Education Institutions. The [ADIP] should also collect and codify the crucial information that will guide the State in effectively strengthening higher education in the country…in order to ensure the confidence of Greek society in the national system of higher education" (Hellenic Quality Assurance and Accreditation Agency (ADIP), 2007[39]). ADIP's website[12] states that its purpose "…is to promote within the country's higher education institutes its guidelines for the procedure of evaluation as well as to oversee, co-ordinate and support all evaluation procedures in higher education institutes… [and] to develop and implement a unified quality assurance system, as a reference point for the achievements and work for the Higher Education Institutions".

The ADIP website states that: "…each higher education institution is responsible for ensuring continuous improvement of the quality of teaching and research work, and for the efficiency of performance of services in accordance with international practices, in particular those of the European Higher Education Area". Under law 3374/2005, each institution must establish its own academic quality unit while ADIP conducts external evaluations of an institution's quality.

The ADIP process is:

- to require the institution to set up each year an internal evaluation group to conduct an internal quality report that collates data on the indicators that ADIP specifies
- to require the institution to undertake a complete internal evaluation every four years
- for an ADIP team to meet the institution to discuss and clarify the internal evaluation
- for ADIP to convene a committee of independent experts, some from overseas, to conduct the external evaluation
- for the independent experts to conduct a critical analysis and evaluation of the internal review report (Hellenic Quality Assurance and Accreditation Agency (ADIP), 2007[39]; Stamelos and Kavasakalis, 2017[27]).

ADIP states that "… the purpose of the external evaluation procedure is to determine the completeness, transparency and objectivity of the internal evaluation [and] its documentary data and … [to form an] opinion …:

- to point out good practices and areas for improvement
- to highlight and provide documented support for the logical requests of the Unit made at the level of the Institution or the State

- to collect and promote the best practices nationwide".

The internal evaluation report is expected to cover:

- "the achievements of the [internal quality assurance unit]
- the areas for improvement or corrective actions
- the effectiveness of the actions already taken by the unit in order to assure and improve the quality of the work performed, and
- …the adherence of the unit to its mission and objectives".

The internal evaluation group collects information from staff and students. It also assesses performance against indicators such as student-staff ratios, dropout rates, progression rates and the ratio of graduates to new students (Stamelos and Kavasakalis, 2017[27]).

Under the new consolidated higher education law (4485/2017), the government has introduced new evaluation procedures for postgraduate programmes that will complement the ADIP processes.

5.2. Policy issues

5.2.1. Governance of the system

Governance encompasses the structures, relationships and processes through which policies are set and decisions are made (OECD, 2008[40]). Governance sets the basis for the system to operate. At a system level, governance refers to how the system is steered, managed, regulated and organised.

There is a need to build consensus on a vision for tertiary education

The Greek higher education system has been undergoing great change. As noted above, a new law (4485/2017) restructured the regulatory basis of the system, consolidating most of the higher education law and adding a range of new measures. That law replaced an earlier 2011 law that introduced institutional councils, including external members, as a means of establishing a new approach to governance and accountability. Both laws have proved controversial; institutional leaders advised the OECD review team that they considered that both laws had major shortcomings.

While law 4485/2017 followed extensive sector consultation, there appears to be little consensus on the best approach for the Greek higher education system as it works to manage its way out of the constraints that followed the prolonged economic crisis. In addition to that lack of strategic consensus, the public acceptance of the government's reforms of the higher education sector is affected by:

- the highly detailed and technical character of the Greek legislative style
- the frequency of legislative change (see Chapter 1, and in particular, Table 1.6)
- the fact that it is difficult to get an objective understanding of the performance of the sector in the absence of authoritative and readily available data on the sector.

Recent policy making on tertiary education in Greece thus, has the appearance of lacking coherence. The practice of making frequent amendments to legislation in response to emerging problems risks unforeseen consequences, with the effect of one measure nullifying the intent of another (OECD, 2008[40]). In addition, frequent technical changes to the law make it hard for institutional leaders to interpret and implement policy, leading to further uncertainty.

In these circumstances, there is a case for the government to work with the sector to develop a set of strategic principles to underpin its policy making, in an effort to win consensus on a vision for the system. A shared vision could define the purpose of the system and create a balance between the various roles tertiary education plays – of supporting students to build careers, supporting the economy by supplying skills to the labour market, contributing to the research and innovation system, and contributing to social, community and regional development.

This is not to suggest that the Greek government has not taken a strategic approach in its reform work or to addressing the serious challenges facing the system. The National and Social Dialogue on Education, held between December 2015 and July 2016, identified a number of significant problems that prompted strategies from the government. In particular, the government has created the opportunity for regions to explore the consolidation of their higher education and research institutions; it has reviewed and restructured research funding; it has developed plans aimed at making higher education more focused on economic and labour market needs.

While those are important initiatives, the OECD review team considers there is a need for a strategy that will take a forward-looking view of the whole system. There is a need to identify long-term and medium-term priorities, incorporating some of the important initiatives taken to date.

Higher education in the context of the Greek public sector culture

Under the current governance arrangements, higher education institutions (HEIs) are seen in Greek law as part of the administrative pyramid (see Chapter 2) and their tenured staff are designated as public servants. The place of HEIs as branches of government means that their financial and human resource decision-making rights follow those of government departments. As a consequence, even relatively minor decisions require ratification by central government. That level of centralisation of authority leads to problems of confused and weak accountability (Dimitropoulos and Kindi, 2017[38]).

Currently, in HEIs – as in all of the Greek public sector – accountability is guaranteed by controls on decision making and on finances, rather than from clear decision making parameters and delegations coupled with after the fact accountability, as is typical in countries that have followed a modern public management model (Hood and Dixon, 2015[41]; OECD, 2008[40]). The consequence is that HEI decision making can require a protracted approval process and negotiations between HEI leadership and ministry officials.

It is obvious that public finances and other aspects of the operation of HEIs must be managed with integrity and prudence and without favouritism. However, sector leaders told the OECD review team that they consider the current requirements carry high transaction costs and lead to delays in decision making.

HEIs' decision-making powers and accountability requirements should reflect the size of institutions, the complexity of their mission and the demands of competing for funding in an international and highly competitive research funding market. Requiring these institutions to follow the same procedures and processes as all government agencies is limiting. The challenge is to move to greater autonomy of decision making, coupled with a rigorous regime of accountability for the integrity of the decision making. However, given that data on higher education are patchy and often difficult to locate, and that performance information on Greek higher education and Greek HEIs is often poor, a shift

to accountability based on actual results would need to be accompanied by an improvement to the overall quality and quantity of data on the system.

5.2.2. Governance in institutions

The operating environment

The fact that HEIs are seen as an integral part of central government means that the most important strategic aspects of the management of an institution – its financial, staffing and academic decisions – are either made or ratified by the MofERRA, rather than by the rector, as chief executive and academic leader of the institution. This is a problem of long standing; the 2017 law didn't alter the roles of the ministry and institutions with respect to decision making.

Funding is provided in distinct revenue lines. Salaries are paid directly to employees by the government, rather than through the employing HEI, while capital and infrastructure funding is provided through a separate funding stream. Institutions also receive a separate operating grant that they administer. The separation of these revenue lines makes it very difficult for HEI rectors to make strategic trade-offs – such as reducing personnel expenditure and transferring the savings to operating budgets or conversely. This closes off opportunities for rectors to make strategic decisions.

It also means that a rector is not responsible or accountable for the whole of his or her institution's budget.

As a result:

- Rectors can't shift staff resourcing into fields of study where student demand is high and away from areas where demand is weak.
- Rectors report that they are often required to operate as negotiators with MofERRA officials, not as chief executives, as they try to have their recommendations ratified.
- Final decisions are made remote from the issues being decided. They are made by people without a direct understanding of the trade-offs being made and who won't have to experience the impacts of those decisions.
- As a consequence of the above, accountability is diffuse and confused. Decision making appears less transparent.

With limited powers of decision making in matters of financial and human resources, rectors cannot take a strategic approach to their leadership role. This creates the risk that institutional managers will adopt short-term, tactical decisions. If rectors see their role as negotiators rather than as strategic leaders, there are risks that institutions may miss opportunities for long-term development, and won't perform to their full potential.

Academic decision making is centralised

Academic decisions (for instance, on new programmes, on programme changes and on admissions to the institution) are made at the Ministry, not by institutional managers.

Students who want to undertake higher education apply to the Ministry, specifying the programmes they are interested in studying, in order of their preference. The Ministry then assigns each student to a department on the basis of their performance in the Panhellenic entrance examinations, taking account of the students' preferences. Because of the inability of institutions to shift resources to areas of high demand, there are limited

places available in many programmes. This means that some students end up studying in fields they may not be interested in and in institutions they may not want to attend (and hence, they are less likely to succeed). Institutions are obliged to take the students that the Ministry allocates to them.

In allocating institutional places to students, the Ministry is making a key academic decision on behalf of institutions. Because some students are taking programmes that don't necessarily interest them, institutions reported to the OECD review team that teacher education, of particular interest for this review, faces a bimodal distribution – with a good number of highly motivated and well-prepared students, balanced by others with weak motivation and scarcely adequate preparation. Coupled with this, there is no student performance element[13] in the current funding system.

These features weaken incentives on institutions to work on improving student performance and contribute to three important problems that have been identified by commentators on the Greek higher education system:

- As noted in Section 5.1.3, completion rates are low, with graduation rates in 2007 less than half the OECD average (OECD, 2011[26]; OECD, 2014[42]). The time to completion is slow, with the majority of students unable to complete a four-year bachelor's degree in less than six years (Foundation for Economic and Industrial Research (IOBE), 2017[2])[14].
- As described in Section 5.1.4, there is a disconnect between the supply of graduates and labour market demand (Liagouras, Protogerou and Caloghirou, 2003[31]) and unemployment among graduates is high (Foundation for Economic and Industrial Research (IOBE), 2017[2]; Livanos, 2007[29]; Livanos, 2010[43]; Liagouras, Protogerou and Caloghirou, 2003[31]; Mitrakos, Tsakloglou and Cholezas I, 2010[16]; OECD, 2011[26]), while employment rates of recent graduates are very low – in 2015, 32 percentage points below the EU-28 average (European Commission, 2016[44]).
- The time taken to get a job for a graduate in Greece is long. Even before the crisis and the significant increase in unemployment, it took an average of 20 months for a graduate to find employment and for graduates in some fields (such as librarianship, sports, applied arts and humanities) even longer (Livanos, 2010[43]).

This combination of factors, plus the rigidity of the employment arrangements for academics (see Section 5.2.1) makes it difficult for the system to adjust in response to changes in the labour market and to student demand.

Managing staff

Staff performance management is weakened by the fact that rectors, deans and heads of schools and departments have limited power to reward good performance or to sanction poor performance. The OECD review team was told that managers are able to recognise good performance through promotion across "hard bars" in the career structure – for instance, promotion from associate professor to full professor – and through assigning additional tasks that lend prestige to high performers. But most institutions appear not to have regular evaluations of the performance of individual staff. Outside of the hard bars in the promotion system through the career structure, there are no opportunities to sanction poor performance. In addition, there is no mandatory system for student evaluation of the quality of teaching.

Strategic decision making

The policy of integrating HEIs into the core public service, of applying the same rights of financial, and personnel decision making to HEIs as to core government departments and of giving the Ministry (rather than the institutions) the right to assign students to programmes has the effect of undermining the opportunities for strategic management. It encourages short-term planning. It confuses lines of accountability, leading to unpredictable results. This means that the government is often forced to address problems through legislation.

5.2.3. Funding tertiary education

Institutions have faced a difficult funding environment

As noted in Section 5.1.3 above, funding levels have been cut substantially in Greece in the last six years as the government has struggled to address its economic difficulties. In its Public Funding Observatory report for 2016, the European University Association (EUA) included Greece as one of six European countries whose higher education systems were "in danger" as a result of funding cuts (European University Association, 2016[28]). Commenting on the period 2008 to 2015, the EUA noted that student numbers in Greek universities had risen by 15% while operating funding had fallen by 60%[15]. Higher education funding fell as a proportion of the Greek GDP (European University Association, 2015[15]), even as the Greek GDP was declining. The reduction in real (i.e. inflation-adjusted) terms was even more severe (European University Association, 2015[15]).

Institutions, and universities in particular, have managed to offset these losses to a significant extent by performing well in winning research contracts and in generating demand for fee-paying master-level degrees. However, the severity of the cuts meant that there has been a freeze on recruitment of staff, while the Ministry continued to allocate a large number of places to new students. The increased enrolment on the back of less funding has increased the pressure on institutions and their teaching staff.

The new higher education law (4485/2017) places new controls on who teaches in master degree programmes and the balance between their teaching at master and bachelor levels, and will restrict the level of fees that may be charged. Fees will need to be set so that 70% of the amount is to cover the marginal costs of the programme. As a result, no more than 30% can offset the difference between the full and marginal cost. This means that the revenue from master's degree fees will be unlikely to cover the full cost of mounting those qualifications[16]. This measure risks cutting one of the few sources of income that institutions can strive to increase and thus, their opportunity to offset the restrictions in other revenue lines.

The OECD review team was told that the purpose of these aspects of the new law was to deal with the problem of institutions taking on excessive teaching loads, leading to some faculty members teaching under contract to several institutions and hence, capturing more than a full-time salary. While fixing those problems was a reasonable intention, the new law goes beyond remedying an anomaly in employment contracts. At a time when they have been facing very tight budget constraints, institutions were showing initiative and commendable entrepreneurship in launching new products that broaden their revenue base and help them remain viable.

The funding of teaching and learning is not based on student demand and is not transparent

Internationally, governments develop funding systems that create incentives for institutions to deliver on the government's goals (OECD, 2008[40]). For instance, if maintaining or increasing participation is a government priority, then we would expect to see a factor in the funding formula that rewards institutions for enrolling more students. If the commercialisation of research is a priority, a government might grant extra funds to institutions that generate more commercial research contracts.

As noted in Section 5.1.3, the MofERRA uses an algorithm as the basis for determining the operational funding of higher education institutions. However, the detailed operation of that algorithm isn't widely understood[17]. As noted above, information given to the OECD review team suggests that the funding for the salaries of teaching staff employed in tenured positions has remained relatively stable while funding for institutions' operations and infrastructure has dropped. It is not clear what determines the level of salary funding. Given that salaries represent upwards of two-thirds of the total government resourcing of institutions[18], there is little transparency of funding. This means that it is hard for institutional managers to determine how the government is using funding to steer the system and hence, how they should adjust their strategies in response.

This suggests that funding is designed primarily to support institutions; it is influenced, but not led, by student demand and isn't affected by students' success in completing their qualifications. As a result, there are weak incentives to cater for students' needs or to support students to complete their qualifications. Given the pressures of a staff recruitment freeze and the bimodal nature of institutions' student body (referred to in Section 5.2.2 above), the OECD review team was told that the need of poorly prepared students for additional academic support often goes unmet[19].

A transparent funding approach, with a clear formula that is linked to government's strategic objectives, would encourage institutions to deliver on those objectives and would build public and sector confidence in the system through increased accountability.

Funding of research works differently

It was noted in Section 5.1.5 above that the government changed the emphasis of its research funding for higher education institutions between 2011 and 2013. The core, untagged funding was reduced by around EUR 88 million, or 25%. This was offset by an increase of EUR 95 million in other government research funding, mostly through funding through the National Strategic Reference Framework (NSRF) for designated research projects (National Documentation Centre (EKT), 2015[34]).

In effect, the government was shifting the funding away from research capability and for investigator-led research and towards projects that would have economic or strategic value for Greece[20]. That is an example of a strategic decision by government using a transparent change in the funding formula leading to a behaviour change in institutions. The OECD review team was unable to determine a similar example of the use of a change in the approach to teaching and learning funding for a strategic purpose[21].

There are inefficiencies in the system

Poor completion rates and protracted time to completion

The protracted time to completion (Foundation for Economic and Industrial Research (IOBE), 2017[2]; OECD, 2011[26]) described in Section 5.1.3 above is a sign of inefficiency in the system. The limited environment for decision making and weak accountability don't provide incentives for rectors to improve efficiency in their institutions by lifting student completion rates.

A reluctance to exploit the potential for efficiencies

In Greece, academic programmes are strongly embedded in departments – students are admitted to a department which controls a programme. Because a department owns a whole programme, the incentive for departmental and faculty managers is to create specialist courses in each programme: the OECD review team was told of cases in which opportunities to use a single course to service multiple programmes (and to create efficiencies) went begging. This led to duplication and also discouraged interdisciplinary programmes. Rectors have only weak incentives to address this sort of inefficiency[22].

Free textbooks

Greece is unusual in issuing new free textbooks annually to all undergraduate students and gifting them to students at the end of the academic year. While not an institutional issue, it is inherently wasteful for the system overall. A longer discussion of the free textbook issue is in Chapter 2.

Questions remain about the cost of the current network of provision

Additional questions that have troubled some sector leaders are the number of higher education institutions, their geographical spread and the duplication of teaching, especially in sparsely populated regions. These are complex questions. Greece has wrestled with these problems through the Athina project in the past, but without resolution (European Commission, 2016[45]; Zmas, 2015[46]).

The Athina project was initiated as a result of the 2011 higher education law (4009/2011). It aimed to consolidate the network of higher education institutions and to improve internal efficiency through departmental mergers. It also sought to make universities more innovative, create regional excellence hubs, connect the academic sector with regional development needs and strengthen research by mergers between universities and national research institutes (European Commission, 2016[45]; Zmas, 2015[46]). The Athina project also aimed to improve the visibility and the rankings of universities (Foundation for Economic and Industrial Research (IOBE), 2017[2]). The arguments for the Athina project drew from the success of the Danish experience where 12 universities and a number of research institutes and specialist colleges were consolidated into 9 larger institutions with wide geographical spread (Pruvot, Claeys-Kulik and Estermann, 2015[47]; Zmas, 2015[46]).

Mergers, however, are complex, time-consuming processes with uncertain results[23] (Foundation for Economic and Industrial Research (IOBE), 2017[2]; Zmas, 2015[46]). The European Commision argues that the Athina project didn't produce the financial gains targeted, as many of the departments which were consolidated were not in fact operating and existed in name only (European Commission, 2016[45]). Even if the Danish model of

mergers produced good results, there was no guarantee that this would translate to success when it was applied to the very different Greek context (Zmas, 2015[46]).

The government established a procedure under the 2017 higher education law (4485/2017) to remap the higher education and research resources of Greece. This procedure creates opportunities for the consolidation, clustering and/or merging of similar departments or of institutions in a region. The new law provides for regional Academic Councils for Higher Education and Research (ASAEE) which will produce plans to increase co-operation between HEIs and research centres and seek efficiency gains through rationalisation while strengthening links to the regional development priorities.

The initiative for consolidation proposals will come from local stakeholders, with plans to be developed by the institutions in a region and agreed by the MofERRA. This new bottom-up approach is likely to mitigate some of the risks that arise in top-down rationalisation plans once a consolidation or merger is agreed on. There is, however, a risk that local interests may mean that some proposals may never get off the ground.

Consolidation of institutions involves a trade-off between the regional development that arises when institutions are embedded within local and regional centres, and the goals of improving quality and efficiency.

Advocates of greater consolidation argue that:

- Quality and efficiency are both compromised by the spread of institutions across a wide area. Spreading academic capability over a wide area reduces the critical mass of expertise that is needed to maintain quality and to generate successful research programmes. Multiple campuses constrain opportunities to exploit economies of scale, while also leading to unnecessarily high infrastructure costs, putting further pressure on already constrained funding.
- In some countries, rural communities are served by a single campus that consolidates all the higher education in a region. There are other examples – such as the US state of Georgia – where changing demography undermined the viability of the university network, but where a programme of university mergers has led to a sustainable system with teaching delivery dispersed across rural communities.
- Mergers can build quality through the creation of “critical mass”, in particular of researchers. In the report on the National Social Dialogue on Education, it was argued that redrawing the boundaries between higher education institutions and research centres would address problems that result from the geographic isolation of research units, the fragmentation and overlap of research, a lack of critical mass and the limited use of research results in the "innovation chain" (Ministry of Education, Research and Religious Affairs, 2016[35]).
- This suggests that redrawing the higher education and research landscape around a small number of hubs of excellence, with strong links to the regional economy, with teaching outposts in smaller communities and with the use of new teaching technologies could create larger institutions that combine excellent research and better engagement with the local economy without the elimination of “local” delivery.

Those sceptical of mergers argue that:

- Problems of fragmentation of expertise, a lack of critical mass and of the diseconomies of multiple campuses may be mitigated by new communications technologies.

- Locating an institution or a campus in a region is, of itself, an economically important decision; a higher education campus can be one of the largest employers in a region and an important contributor to the local economy. One of the benefits of higher education is that, if an institution has an academic profile well-aligned to the economic and social needs of its community, then it can work with and support local industry and with community groups and hence, contribute to the development of the region.
- International examples suggest that the potential financial gains of mergers are sometimes not realised. Merging or clustering of institutions carries high opportunity costs as leadership becomes internally focused on the organisation, rather than on the primary mission of the organisation. Unless a merger is well resourced and unless there is wide understanding and acceptance of the rationale, a merger can end up costing a great deal.

The matter of how many institutions a region needs and how the institutions in a region are linked is contentious. The OECD review team is not well placed to evaluate the trade-offs in the Greek situation in detail. However, the difficulties faced by small isolated institutions and the potential gains in quality, efficiency and regional links that could result from a consolidation of regional institutions make a strong case for change.

5.2.4. Comparing institutional governance with other countries

Studies find that Greek higher education institutions have less autonomy than the corresponding institutions in any other OECD countries (Foundation for Economic and Industrial Research (IOBE), 2017[2]; OECD, 2011[26]). In the Universitas 21 ranking of 50 national higher education systems (Universitas 21, 2017[48]), Greece ranks 35th overall. But that ranking is significantly affected by its ranking as 50th out of 50 on the "environment" dimension (which scores countries on their policy process, autonomy in budgets and academic programmes, diversity, competition between institutions and external monitoring of performance). Greece's score on that measure is substantially lower than that of the next lowest countries (Saudi Arabia and India). On the output measure, which scores systems on their success in delivering research and producing graduates, Greece ranks 29th of the 50 countries.

The Universitas 21 environment measure draws from the European University Association (EUA) analysis of decision-making autonomy in 29 European countries and jurisdictions and which rates systems on organisational, financial, staffing and academic autonomy (Pruvot and Estermann, 2017[49]).

5.2.5. The operation of the quality assurance system

The OECD review team was informed by institutions that their own quality assurance units operate in co-operation with ADIP's programme of external evaluations. However, some concern was expressed to the OECD review team about the demands on ADIP to conduct external evaluations across the whole of the higher education sector.

Stamelos and Kavasakalis (2017[27]) report that the creation of ADIP and the establishment of institutional quality units and external evaluations of institutions have had many positive effects on institutions and academic units/departments. They note, for instance, that the quality assurance process has encouraged institutions to prepare a vision and a strategy. This has encouraged institutions to strengthen connections with external stakeholders and to support graduates' career placement. They have developed better

internal management systems and controls. Departments have re-thought academic programme design. The practice of student evaluations of teaching has grown.

However, many of the indicators against which institutional quality is measured are not within the control of the institutions – for instance, both components of the student-staff ratio are determined by the MofERRA, rather than by institutional managers and at least part of the cause of high dropout rates is the Greek admissions practices – whereby the Ministry determines which students take each qualification (Dimitropoulos and Kindi, 2017[38]; Stamelos and Kavasakalis, 2017[27]). Dimitropoulos and Kindi (2017[38]) argue that, as a consequence, evaluations are "…often restricted to merely recording the existing state of affairs and the difficult conditions under which universities and faculty operate…", undermining their rigour and value.

The issue of what aspects of performance are the responsibility of the Ministry, as opposed to the institution, illustrates the problem of diffuse accountability mentioned elsewhere in this chapter – for instance, in Section 5.2.5. There is a risk that institutions may shrug their shoulders and point to the Ministry in the face of poor results on measures such as poor completion rates; this could jeopardise some of the gains made as a result of the quality assurance mechanism.

Dimitropoulos and Kindi (2017[38]) note that "…no systematic research has been carried out to date, to assess the impact of the first round of evaluations in Greek higher education. So it is not known whether higher education institutions have taken advantage of the recommendations made". Such an assessment of the effectiveness of the quality assurance system would be useful, particularly if it were to include a focus as to whether the system has led to improvements in the effectiveness of academic programmes.

5.3. Policy recommendation: Establish the pre-conditions for tertiary education to be effective

With high participation in higher education, and with relatively low proficiency in literacy, numeracy and problem solving among Greek tertiary graduates, it is important for Greece to re-establish the pre-conditions for the tertiary education system to function effectively and with high quality and performance. To do so, Greece needs to focus on improving the governance of the tertiary education system as a whole and of its institutions. A progressive approach to providing greater autonomy to institutions, improving the alignment between the funding system and the government's strategy for higher education, and counterbalancing increased autonomy with greater accountability for outcomes is needed.

The following policy options can contribute to achieving this:

- Progressively increasing the autonomy of HEIs in organisational, financial and scientific terms, including revisiting the role and composition of the governing body, in order to:
  - enhance financial accountability in university governance
  - increase flexibility
  - promote internationalisation
  - facilitate change and adjustment and improve responsiveness to future needs of the economy.
- Alternative sources of resourcing for institutions should be examined, including:
  - the role of tuition fees in graduate education

  - reducing/eliminating costly or redundant services in relation to increasing resources and providing essential new services.
- Quality assurance and more effective accreditation by the Hellenic Quality Assurance and Accreditation Agency (ADIP) can be improved.
- Dropout rates in HEIs can be reduced.
- The current network of HEIs, including mergers between universities and TEIs in line with a smart specialisation strategy and regional development needs can be revisited.
- Internationalisation Greek higher education and its attractiveness for cross-border mobility of students and academia, using EU qualifications frameworks can be addressed.

5.3.1. Improve the governance of the system and of institutions

A shared vision on the purposes of higher education and strategic principles to underpin policy making can support greater coherence and balance across the sector. Reliable data on institutional performance will be important for monitoring progress toward the vision, and for improving transparency of the system. In addition, a review of the governance arrangement of HEIs and of European best practice can help clarify the most appropriate structures and roles and responsibilities of governing bodies in the Greek context.

The Ministry has proposed greater autonomy for HEIs. A progressive shift of powers from the central government to institutions may take time. Capacity for strategic and timely decision making, including decisions related to academic offer, and effective performance management will need to be further developed.

Define the vision and set a strategy for Greek higher education

As noted above, system-level governance relates to how the system is steered, managed, regulated and organised. It deals with the relationships between government agencies and institutions, the policy process and the rights of the actors to make decisions. Governance sets the ground rules on which the system actors operate (OECD, 2008[40]).

Given the concerns about system governance that the OECD review team encountered, there is a need for greater clarity of the vision for higher education and for that vision and mission to be enduring, so as to avoid dramatic shifts with the political cycle. Establishing and disseminating a strategy for a tertiary education system is part of any government's role; the government sets national system goals, defines the operating rules and establishes a regulatory framework that enables system actors to perform effectively (OECD, 2008[40]).

One option that Greece might take to address the concerns about system governance is to develop a consolidated statement of its strategy for higher education. Such a strategy also provides a vehicle for addressing a number of the other issues of system design that Greece currently faces.

Many OECD countries devise statements of strategic aims for tertiary education that provide goals, priorities and plans that help the government to "steer the system" towards the desired outcomes (rather than to rely exclusively on legislation or regulation to direct the sector) (OECD, 2008[40]). A number of European countries have adopted this approach with a view to strengthening the performance of their national higher education systems (refer to Box 5.1 for descriptions of the approach taken in Ireland, France and Romania). Steering a system through a strategy enables a government to grant greater

autonomy to institutions, confident that they will work on the enduring system goals and the priorities that have been set.

Tertiary education strategies typically identify a time period and then set out:

- a statement of vision and/or mission statement that defines the purpose the country sees for tertiary education and sets out the government's aspirations for the system
- a status report that identifies where the system is strong and as well as its challenges, its opportunities and strengths
- the longer term strategic goals for the system
- the medium-term priorities and actions
- an indication of how the public will know whether the system is on track as it works towards those priorities – i.e. an explanation of the approach to monitoring over the life of the strategy (McCarthy, 2017[50]).

Box 5.1 sets out how three European countries have set their strategies.

Box 5.1. National higher education strategies: Three European examples

In 2011, **Ireland** set its national strategy for higher education to 2030. The strategy defines the context for a national strategy for higher education – looking at how higher education needs to change to meet new economic, social and cultural challenges and the expanding demand. It explores the mission of higher education in Ireland, looking at teaching and learning, research, engagement with wider society, and internationalisation. The strategy examines recent structural reforms – to governance, funding and structural arrangements – to ensure that the system can continue to deliver on its mission.

The strategy includes a set of high-level objectives together with a number of action areas (Department of Education and Skills, Ireland, 2011[51]).

In **Romania**, the National Tertiary Education Strategy 2015-20 aims to improve tertiary education attainment, quality, and efficiency, and to make higher education more relevant to labour market needs and more accessible to disadvantaged groups (European Commission, 2016[52]). It identifies needs and constraints and sets priorities that ensure the education system drives a knowledge-based economy.

The strategy contains three "pillars":

- enhancing participation in tertiary education by improving the pathways into higher education, redesigning student financial support systems, improving participation by under-represented groups and improving information on pathways,
- promoting flexible curricula well-linked to labour market requirements,
- promoting a strategic commitment to the economy: fostering dialogue between education and economic sectors and involving employers in designing and delivering programs, and including practical experience in courses.

The strategy also includes monitoring and evaluation, based on agreed performance measures (European Commission, 2015[53]).

In **France** in 2013, the government legislated to require the Minister to set a national strategy for higher education as well as one for research. The strategy is intended to

"… ensure clear choices and to rally the country's support for its issues …"

The development plan for the strategy proposed five strategic tenets:

- build a learning society and strengthen our economy
- increase the European and international components of the system
- boost social mobility and further social inclusion
- design 21st-century higher education
- respond to our young people's aspirations.

It also identified three main levers:

- define a new higher education landscape
- listen to and support the men and women who work in higher education
- invest in a learning society.

These led to an action plan (Béjean and Monthubert, 2015[54]).

Scotland has taken a slightly different approach for a similar purpose, creating a skills strategy that sets expectations for all actors in the skills system – including the tertiary education sector, which is the most important supplier of skills to the labour market (The Scottish Government, 2010[55]).

A strategy lends coherence by providing greater stability of the underpinning principles on which the system is managed and on the high-level goals of the system. A strategy can also create a yardstick against which to measure policies for the system.

Such a strategy should build a consensus and cut across political divides through wide and genuine consultation. Effective consultation should mean that the resulting strategy will be better informed and should win greater support from those affected – partly through their participation in the process of engagement, and also because it is more likely to reflect their perspectives. This will lead to a greater chance of successful implementation (Morgan, 2017[56]).

On system governance**,** the Greek Minister of Education could define a new and comprehensive strategy and direction for the Greek higher education system. This could involve:

- reactivating the national social dialogue on education – building on that base with the aim of creating a national strategy for tertiary education to build consensus on the approach to meeting the longer-term challenges facing the system
- freezing changes to tertiary education policy/law – except in urgent and pressing cases – while consulting on the strategy
- using the consultation to address the major questions facing the system – for instance, questions such as:
  - What are Greece's priorities for tertiary education in the medium term?
  - How should Greece balance the range of purposes of tertiary education, for instance: supporting students to achieve their learning goals, supporting the development of a high-skilled workforce, supporting economic development, supporting regional development, creating innovation, building social cohesion, etc.?
  - How should the funding system be structured to reflect those priorities?

- How and to what extent should Greece seek to consolidate the current network of provision to improve efficiency, lift quality and build critical mass, by creating hubs that consolidate the current regional institutions – including research centres – and that are capable of building strong connections with the regional economy?
- What are the appropriate decision rights of institutions? Given the need for institutions to be granted greater decision-making rights, what is the path to greater autonomy?
- What types of factors should be measured and monitored in the performance measurement system? How should Greece publish and disseminate performance data?
- What is the appropriate role for private institutions in the Greek higher education system?

Performance measurement

Data on the Greek higher education sector are patchy, incomplete and hard to locate. Data on the teaching and learning function (enrolments, completions and outcomes) are weak, and those data that are published are out of date. Data on the overall finances of the system are non-existent.

For instance, the Greek MofERRA does not supply data to the OECD on resourcing, participation rates and completion in higher education. Yet those are critical elements of the design of good system and institutional performance measures. The OECD review team has had to rely on data gathered by independent researchers from the Foundation for Economic and Industrial Research (IOBE) in order to complete this analysis. On the other hand, the data on research in higher education, produced by the National Documentation Centre (EKT) are excellent – detailed and readily available.

One consequence of the lack of availability of higher education data is that it undermines public and sector confidence in the performance of the system. It also reduces the opportunity for comparisons between the Greek system and other European Systems. The OECD review team understands that the formal responsibility for education statistics and information rests with the Hellenic Statistical Agency (HSA) rather than the MofERRA. However, as a national statistical agency, the HSA has a brief that covers all areas of government responsibility. In addition, their analysts may be removed from the detail of the education system and thus not well placed to conduct the sort of deeper analysis the system needs. Therefore, the OECD review team proposes that the MofERRA and the Hellenic Statistical Agency should:

- clarify their respective roles in the collection, analysis and publication of data on the higher education system
- improve the collection, management and accessibility of data on tertiary education, including data on enrolments, completions, equity and other measures supply more complete data to the OECD and other international agencies and improving the timeliness of the publication of statistics
- develop and publish a timetable that sets out the information releases (and hence, builds trust in the system)
- develop measures of longer-term outcomes of higher education and in particular, employment outcomes (in the first instance, by exploring the Labour Force Survey data and census data)

- develop a draft performance framework for HEIs, constructed from indicators of performance (in attracting enrolments, completions, performance in improving equity, etc.) that can be used as the basis for monitoring the progress of the system and institutions towards the goals of the strategy as well as providing incentives for good performance and sanctions for weak performance.

5.3.2. Improve institutional governance and autonomy

Organisational theory creates a distinction between "governance" and "management". The former sets direction, strategy and plans, oversees risks, recruits and monitors the chief executive, and sets the delegations within which the chief executive operates. The chief executive leads the management team and, within the parameters set out by the governance body in its delegations, has the freedom to operate (Cornforth, 2002[57]; Keasey, Thompson and Wright, 1997[58]). This sort of model has been widely implemented in universities (Bargh, Scott and Smith, 1996[59]; Köhler, Huber and Bergan, 2006[60]). The European Association of Universities' report on autonomy in European university systems describes the ways in which this broad approach is applied in the university systems of 29 European countries and jurisdictions. Their analysis notes that each participating country chooses a model appropriate to its traditions, background and laws (Pruvot and Estermann, 2017[49]).

In 2011, the Greek government enacted a higher education law (4009/2011) that created institutional councils with external members as a means of establishing a new approach to governance and accountability. In some respects, the 2011 councils had the appearance of orthodox governance boards and appeared to fit the European model described by Pruvot and Estermann (2017[49]). But the OECD review team was told that the Greek 2011 experiment had failed. One of the causes of that failure was that the role of the council was not clearly focused on organisational governance, leading some councils to believe they had a role in ratifying decisions made by rectors within their delegations. This role confusion undermined the position of rectors. The 2011 law had a substantial amendment in 2012 (law 4076/2012) and then was replaced in 2017 with the new higher education law (4485/2017) which did away with the institutional councils and instead, specified the composition and responsibilities of the internal management and decision-making bodies of institutions.

Under the new law, the Ministry retained its role in prior ratification and approval *ex-ante* many spending decisions and its role in academic decision making. Despite the expectation in Article 16 of the Greek Constitution that institutions are to be self-governing, the decision-making arrangements mean that this is not so in practice.

In not providing for an orthodox governance role, this new law in effect consolidates the role of the MofERRA as the *de facto* governor of institutions on behalf of the minister. The consequence is that there is a risk that institutions won't be able to make strategic choices about their direction because the Ministry's focus is on the whole of the system, rather than on individual institutions. A governance body that has a measure of independence from the machinery of government is also better placed to build longer-term trust in the wider public.

Further, the Ministry is not well placed to be the "employer party" in the employment of the rector – to monitor the rector's performance and to provide for the rector's professional support and development. Under the current arrangements, there is no body able to undertake that role.

If the 2011 attempt to create more independent institutional governance did not succeed, it does not mean the goal was wrong; rather, it suggests that the detailed design of the model may have been flawed. European best practice, described by Pruvot and Estermann (2017[49]), suggests that the model had good features, in that it aimed for a separation of management and governance, but it may have been flawed by:

- failing to spell out the role of councils and the limitations of that role
- compromising the position of rectors as chief executives, especially in denying the rector the right to appoint a management team
- leaving much of the real power in institutional governance and management in the hands of the MofERRA.

The OECD review team considers that there is an opportunity to make a new attempt at an improved governance model. The Minister of Education could review the governance arrangements for higher education institutions, taking account of European best practice models and of the experience of the failed 2011 experiment.

Such a review might lead to new HEI governing bodies with clarified powers, noting that:

- Those bodies should be clearly positioned as governance bodies, and should include members from outside the institution.
- They should focus on high-level institutional strategy, oversight of the institution's performance and of risks.
- As governing bodies, they should manage the performance of the rector, as chief executive of the institution.
- With a clear focus on governance and not on management, the governing body should define the rector's role as chief executive, responsible for academic leadership, financial performance of the institution, operational management and line management of vice-rectors, deans and other managers.

Explore progressive increases in institutional autonomy

The European University Association assesses university autonomy in 29 European countries and jurisdictions, using a framework that has four dimensions:

- organisational autonomy
- financial autonomy
- staffing autonomy
- academic autonomy (Pruvot and Estermann, 2017[49]).

Greece doesn't participate in the EUA assessment, but information supplied to the OECD review team makes it clear that an assessment of the Greek higher education system against the EUA framework would show very low autonomy on each of the four dimensions. While countries like Estonia, Luxembourg and the United Kingdom are rated as having high levels of autonomy across all the dimensions, others like Ireland, the Netherlands, Portugal, and the Scandinavian countries are rated as having high- or medium-high autonomy on three of the four dimensions.

The limits on decision making in Greek institutions can have negative consequences. These limits mean:

- It is very difficult to reach a satisfactory equilibrium between what institutions can provide and what students and the labour market want.
- It is hard to address persistent problems of student performance.

- Managers struggle to manage and improve the performance of staff.
- It is difficult for rectors to make strategic decisions, encouraging them to focus on short-term tactical decision making.
- Decision making carries excessive transaction costs.
- Accountability for quality is diffuse, and as a result, there are risks that institutions neglect their responsibilities for academic quality and student welfare.

Therefore, the Minister of Education could initiate a progressive devolution of decision-making powers to institutions, subject to appropriate accountability.

A shift to a more autonomous system is likely to require a phased transition, in order to allow a change in management culture to evolve in institutions. Some institutions that have been successful in managing extensive postgraduate and research activity are likely to have a base on which to build the capacity to manage in an autonomous environment; others will need time to build capability. A progressive shift of powers could involve stages such as:

- The efficiency and speed of decision making: as a first step and once the performance framework is in place, facilitate rapid decision making by changing accountability for rectors' decision making from *ex-ante* to *ex-post.*
- Moving to strategic decision making: as a second step, facilitate strategic decision making by enabling rectors to make trade-offs in their decision-making between their salary budgets and their operating budgets, accepting that this freedom could lead to the redundancy of tenured staff.
- Managing performance: as a third step, guarantee the right of rectors to appraise staff performance and to reward and sanction staff on the basis of performance, consistent with employment law and natural justice.
- Improve strategic decision making: as a fourth step, provide institutions with the right to manage their budgets on a whole of institution basis, including personnel, capital and operating budgets.
- Improve academic decision making: finally, improve academic strategy and quality by:
  - allowing institutions the right to determine who enters their programmes
  - requiring rectors to submit to the Ministry for approval each year, their policies on admissions to the institution that take account of equity concerns, academic quality risks and student welfare concerns and to report on their implementation of those policies (to address the equity concerns that have arisen in an environment of excess demand – refer to Section 5.1.3).

5.3.3. Improve the certainty and transparency of HEI resourcing

Government funding in all areas of public service in Greece was severely reduced when the economic crisis broke and has been constrained since then. This has affected all HEIs, which have had to cope with reductions in their allocations for salaries and for operating expenses (OECD, 2017[17]; Stamelos and Kavasakalis, 2017[27]). In these circumstances, government and institutions need to make sure that they get the best value they can from their spending. This means that the funding system needs to be structured carefully to incentivise the goals Greece seeks from its higher education system (Estermann, Pruvot and Claeys-Kulik, 2013[61]; Maassen, 2000[62]; OECD, 2008[40]). It also needs to maximise opportunities to broaden the sources of revenue and reduce the overwhelming reliance on the government's grants. A review of funding dedicated to teaching and learning, postgraduate tuition levels, funding for research and capital is needed. The results of this

review can provide the basis for a new and transparent funding formula that supports the Greek strategy for the higher education system.

Funding for teaching and learning

The system of funding for teaching and learning needs to incentivise institutions to perform better. The design needs to strike a balance between meeting the high upfront costs of higher education provision, while incorporating performance elements that are linked to the government's enduring goals for the system. It needs to align with the decision-making rights of institutions, so that, as these rights expand, rectors are able to take advantage of the extra autonomy by moving funding in ways that lift the institution's performance (Pruvot, Claeys-Kulik and Estermann, 2015[47]).

Given the critical role of a higher education system in providing skills to the Greek population and to the Greek economy, the teaching and learning funding system should be designed to:

- keep participation levels high – to ensure that the system is educating as large a proportion of the population as possible
- foster equity – to ensure that able people are not shut out of the system and that the higher education system works to improve the prospects for disadvantaged groups
- improve success rates – to lift system efficiency and improve cost-effectiveness
- incentivise efficiency in institutions – to help get the best value for the spend.

These system goals are likely to be enduring and should underpin funding even as medium-term priorities change, meaning that they are likely to survive the political cycle.

The funding system should also be transparent, so that institutional governors and managers can understand how they can adjust their strategies to serve the direction that the system needs to move in. It needs to have enough elements and variables to send clear signals and incentives to rectors and to be likely to be stable over an extended period. And it should avoid too much complexity that could blunt those signals and that would likely cause fine-tuning and tinkering over time.

The analysis in this chapter suggests that the funding formula needs three elements:

- enrolments – a measure of volume of enrolments, to incentivise institutions to encourage participation
- performance – a measure of success (e.g. a completions measure, such as a qualification completion rate), to incentivise system efficiency
- cost – such as funding rates that vary according to the cost of the field of study[24], so as to avoid unintended incentives to target particular fields or particular student groups because of their "profitability".

The funding system should avoid factoring in the number of staff employed (as the current formula appears to do), as that risks incentivising rigidity and stability at the expense of performance and at the expense of responsiveness to student demand signals. It should also, for the same reason, avoid variables such as the amount of space occupied (Pruvot, Claeys-Kulik and Estermann, 2015[47]).

It would also be important to modify the funding system to deliver funding in a block grant or bulk sum – as in Belgium (NL), Denmark, France, the Netherlands and Sweden and most other countries in Europe (Maassen, 2000[62]; Pruvot, Claeys-Kulik and

Estermann, 2015[47]). The bulk government funding can be consolidated with institutions' other revenue lines that don't pass through the Ministry's books – for instance, from research contracts and postgraduate fees – to give the institution the autonomy to manage its total budget. Bulk funding is important as institutions move to greater autonomy, as it enables each institution to make strategic trade-offs across its budget by shifting expenditure between fields of study and between operating and personnel costs.

This combination rewards a mix of institutional inputs and outputs. In this respect it is like approaches in Ireland[25], the Netherlands[26] and Sweden[27] but unlike Denmark (which funds teaching on the basis of measures of completions) and Hungary, Latvia and Lithuania (which fund teaching on the basis of the volume of inputs) (Estermann, Pruvot and Claeys-Kulik, 2013[61]; Maassen, 2000[62]; Pruvot, Claeys-Kulik and Estermann, 2015[47]).

It is beyond the scope of this report to propose an actual funding formula. The precise details of the formula must take into account: the costs faced by institutions operating in Greece and the evolution of the decision-making rights of institutions and the priorities of the government[28]. The sorts of questions that need to be addressed to construct a formula based on the design principles in the paragraphs above, include:

- Would the performance measure be based on successful completion of qualifications (like the Czech Republic France, several German jurisdictions, and Ireland) or credits obtained (like Norway and Sweden) or a combination of the two (like Belgium (NL), Denmark and Finland)?
- What data collection system changes are needed to build a completion rate measure?
- What is an appropriate weighting of the enrolments measure and the performance/completions rate measure? That decision needs to balance the fact that the costs of tertiary education delivery are largely encountered upfront (so the enrolments funding must have a high weighting) against the need for a completions weighting high enough to address poor completion rates through incentivising institutions to increase learning support.
- How should the cost relativities of laboratory-based, field-based and lecture-based subjects be designed? This question needs to reflect actual relative costs of those subjects in the Greek system (so as to mitigate the risks of sending perverse signals to decision makers). It needs also to maintain simplicity and transparency by avoiding striving for excessive precision.

In other words, designing a funding formula is a matter of setting the enduring goals of the system, and developing a formula that incentivises those goals while avoiding too much complexity that can blunt the formula's power and that can invite excessive fine-tuning.

Tuition fees for postgraduate teaching

The law (4485/2017) has placed new restrictions on institutions' fee setting for master's degrees. That measure was introduced for a defensible reason: it was intended to prevent individuals from "double-dipping" (drawing a full salary from their tenured position as a professor and then being paid in addition and separately for their teaching into a master degree).

However, the new law goes beyond rectifying that problem, in limiting the fees so that no more than 30% of the revenue can go to institutional overheads. That means that the fees

for these qualifications are unlikely to cover the full cost of their delivery. It also limits the opportunity of institutions to broaden their income sources and to offset the constraints on their operational and infrastructure funding.

Funding research

As noted in Section 5.1.5, the Greek government has recently modified the research funding system to create a four-component life-cycle approach to research funding. The OECD review team heard nothing that would suggest an immediate need for change.

Capital funding

A further matter for consideration in the modification of the design of the higher education funding system is whether to preserve the separation of infrastructure/capital funding from other funding. European countries are divided on this question – with the Netherlands, Sweden and the United Kingdom integrating capital funding into their bulk grant, while many countries keep the two separate (Maassen, 2000[62]).

The argument for integration is that it strengthens the strategic options for institutions, enabling transfers between capital and operating spending to be made at an institutional level. The argument for retaining separation is that it allows the government greater opportunity to control the strategic development of the system. For a country in Greece's situation, with a tradition of separated revenue lines and in the context of severe financial restraints and tightly controlled budgets, a prudent course of action would be to keep the two separate for now while keeping the matter under review.

Funding considerations

The Minister of Education could initiate a project to design a new and transparent funding formula that serves the strategy for the Greek higher education system and that incentivises institutions to work towards a set of enduring goals for the system.

The considerations to take account of in the design are:

- Delivering funding to higher education institutions as a bulk sum strengthens strategic decision making and the accountability of rectors.
- The current elements of the research funding system appear to be working well and needn't be adjusted.
- For teaching and learning, the design needs to take account of elements such as:
  - enrolments – a measure of volume, to incentivise participation
  - performance – a measure of success (for instance, a measure of completions or completion rates), to incentivise system efficiency
  - cost – so as to avoid unintended incentives to target particular fields or particular student groups because of their "profitability".
- The formula needs to be underpinned by improved data/information systems that will build confidence and improve transparency.

The Minister of Education also needs to consider whether to maintain a separate grant for capital or integrate capital funding into the institutional bulk funding.

The Minister should also reconsider the changes to the rights of institutions to charge fees for master-level degrees and other postgraduate programmes. In particular, the limits on how the fee revenue is spent should be reconsidered – to retain the previous incentives on

institutions in order to offset the constraints in other revenue lines and to ensure that these programmes' revenue meets the full cost of offering them.

Managing efficiency in institutions

It was noted above (Section 5.2.3) that the OECD review team saw instances of inefficiency in the way institutions allocate their resources internally. It was not possible to form a view on the extent or frequency of these cases.

In the circumstances, the Ministry could consider:

- requiring rectors to submit and implement efficiency plans (covering such matters as duplication of teaching), with milestones and targets, that can be used to create rewards for efficiency and sanctions for inefficiency
- discontinuing the current scheme of free textbooks for undergraduates.

One of the sources of inefficiency is the poor completion rates of Greek higher education students. This is a system-wide problem. Part of the solution to that issue lies in the funding system design. If the funding system provides a reward for higher completion rates, then institutions would be likely to provide greater learning support for students who are at risk of failing. Part of the solution would be to provide greater freedom for students to change their courses once at university, in the expectation that fewer would end up pursuing degrees that they are poorly suited to.

Another part of the solution depends on the government unpicking some of the rigidities in the conditions of employment of the staff of HEIs. One of the reasons that institutions cannot respond to student demand is that they cannot switch their staffing from fields with low demand to fields with high demand, except as staff resign or retire. If employment arrangements were less rigid, it would be possible to increase the number of places in high-demand degrees, and to reduce the number of students studying in areas they have little interest in.

5.3.4. Refine the quality assurance system by resolving problems of accountability

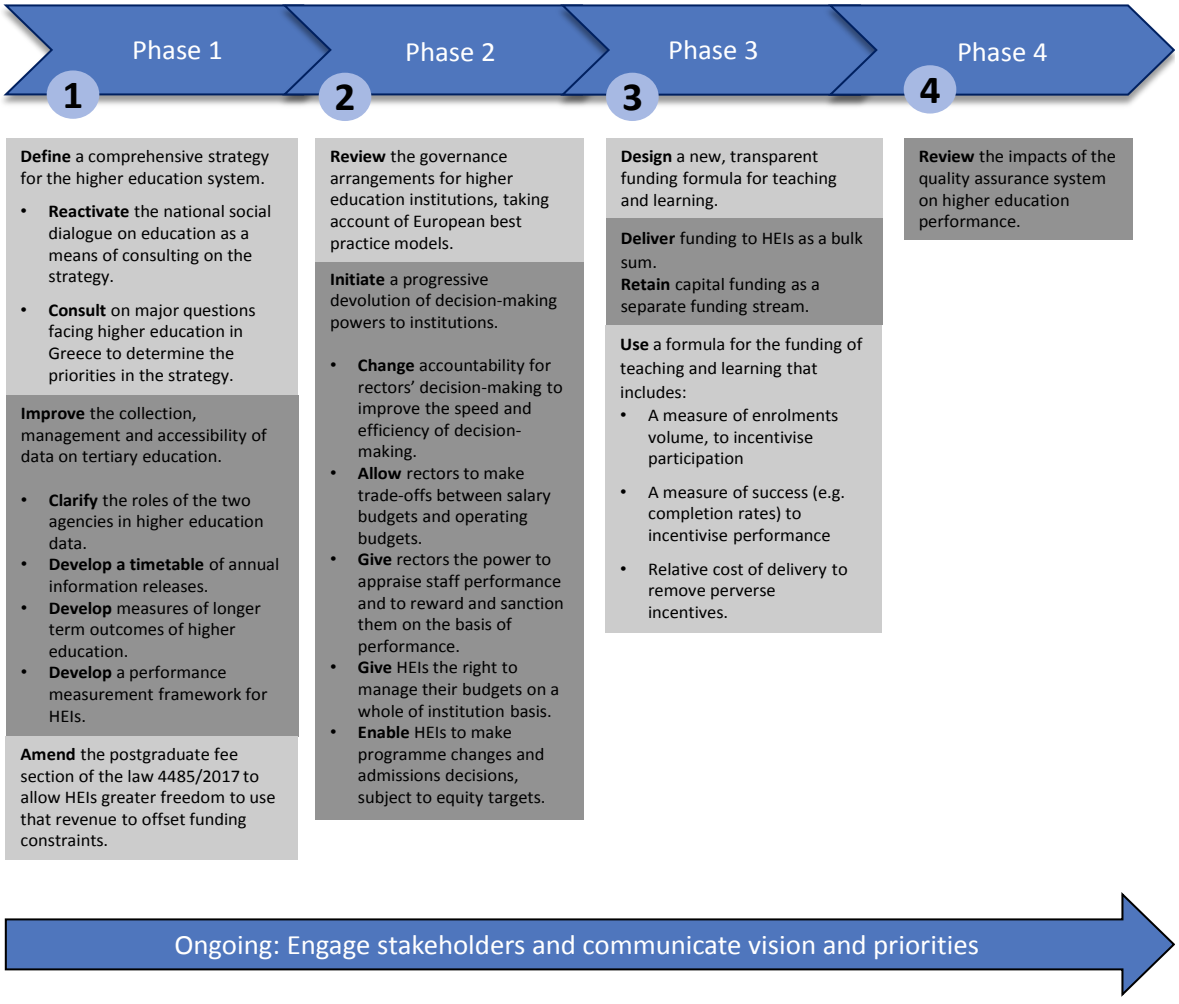
The quality assurance system in Greek higher education has had benefits to the operation of the system, institutions and departments. If the Greek government adopts the proposal to devolve decision-making on academic matters and increases the autonomy of institutions, this could ease the issues of accountability described in Section 5.2.5.

However, there remain doubts as to the effectiveness of the system (Dimitropoulos and Kindi, 2017[38]), suggesting that that the Minister of Education should look to initiate an assessment of the impacts of the quality assurance system on higher education performance.

5.3.5. Sequencing of policy options to establish the pre-conditions for tertiary education to be effective

Figure 5.5 sets out a summary of the options canvassed in Section 5.3. It lays out possible ways forward for the Greek authorities in six areas. These are not the only ways of addressing the questions raised in this chapter. It is up to the Greek government to find a way of addressing the challenges the system faces in ways that are appropriate to the Greek educational and governmental culture and to the Greek context.

Figure 5.5. Suggested steps to enhance tertiary education: A sequential approach



The Greek education system has evolved over a long time. Any country's education culture is the product of its history and circumstances. But every country can learn from the experiences of others. However, what works in one country won't necessarily work in another country; it needs to be adapted to fit a new environment.

The changes proposed above cover many aspects of the Greek higher education system. While some are straightforward, others will be challenging. Those related to decision making are particularly complex. Given the current limited decision-making rights of Greek universities, university leadership hasn't had the opportunity to develop the capability to manage strategy, finances and human resources programmes in an autonomous decision-making environment – especially in smaller and provincial institutions. However, the universities that have been successful in generating external research funding have created the basis on which to build management capability.

It is therefore likely that any change in the decision-making environment would need to be accompanied by an investment in capability building. Change would have to proceed in stages – with more capable HEIs assuming greater powers more quickly and institutions picking up more powers as they build capability.

Notes

[1] The survey was conducted as part of the Programme for the International Assessment of Adult Skills (PIAAC).

[2] In addition to the research on emigrants from Greece conducted by Labrianidis and Pratsinakis (2014[6]), Greek business services firm ICAP Group has twice surveyed Greek emigrants. Respondents to the ICAP surveys were highly qualified, with 72% holding a postgraduate qualification. The results were reported in the website NewDiaspora and in the news media.

[3] Karalis (2017[14]) notes that the participation in lifelong learning rose substantially between 1980 and 2000. He attributes the increase over the period of the economic downturn to two factors: increased subsidies (funded by European structural funds) for adult education offered through municipal centres for lifelong learning; and recognition by individuals of the value of increasing their skills in a precarious employment environment.

[4] These qualifications are expected to be at Level 5 on the European Qualifications Framework.

[5] The restrictions imposed mean that 70% of the revenue from the fees for a master's degree must match the marginal cost of running the programme, leaving only 30% to cover the difference between the full and marginal cost. The consequence is that the revenue is unlikely to recover the full cost in the case of many or most of these programmes.

[6] http://www.tovima.gr/education/article/?aid=736981

[7] This is a consequence of Directive 48/1989 of the European Union.

[8] Despite the high participation, the economic crisis and the consequent reductions in government expenditure saw the number of teaching staff working in higher education fall over that period by 32% - refer to Table 5.1 above.

[9] The EUA analysis excludes funding for the salaries of permanent staff paid directly to individuals by the Ministry of Education. That resourcing declined more slowly, largely driven by attrition.

Among them, the National Technical University of Athens, Aristotle University of Thessaloniki, National and Kapodistrian University of Athens, the Universities of Crete, Patras and Ioannina and the Athens University of Economics and Business. Refer to the web pages of: QS, THE, US News and the AWRU.

[11] The HFRI was established through law 4429/2016.

[12] http://www.adip.gr/en/index.php

[13] A student performance element is a component of the funding system that rewards factors such as high completions and penalises high failure rates. European countries with performance elements in their funding system include Denmark, Ireland, the Netherlands and Sweden.

[14] There are weaknesses in Greek higher education data that make it difficult to measure completion rates with accuracy or in ways that allow valid comparisons with other countries. This means that there have been conflicting estimates of completion rates – for instance, a recent book (Kiprianos, 2016[63]) suggests that rates in Greece are close to European norms. The most reliable data, however, are from Foundation for Economic and Industrial Research IOBE (2017[2]), which makes clear that the time to completion of Greek bachelor's students is very long.

[15] The EUA analysis looks only at funding provided by the government to the universities. It excludes the resourcing of salaries for permanent staff which are paid directly to staff (European University Association, 2015[15]). Reductions in that resourcing line were less severe.

[16] Refer to Gazette notice 57935, 12 December 2017 at http://www.schooltime.gr/wp-content/uploads/2017/12/document-38.pdf. In particular, the salary cost of tenured teachers of a master's degree may not be included in the 70% component. Nor may the costs of capital or infrastructure. Given that salaries represent the largest share of the cost of running an institution, it would be likely therefore, that a programme would not be profitable. However, salaries may be seen by rectors as a "free good" (because the cost is met by the ministry),

[17] This problem applies also in the school system – refer to Chapter 4 of this report.

[18] Data seen by the OECD review team show that salaries represent an increased share of total resourcing as cuts have been less severe in this budget line. In one university, for instance, salaries represented 74% of total government resourcing in 2015.

[19] That is not true of all institutions, however. One TEI and one private HEI visited by the OECD review team had measures in place to support struggling students.

[20] As noted in Section 5.1.5, however, the government is currently phasing in a new fund for blue skies research, administered by the Hellenic Foundation for Research and Innovation (HFRI).

[21] Obviously, the funding of institutions was cut significantly in response to the government's economic crisis. But the OECD review team is not aware if there were changes to the balance of components within the funding allocation. Without that information, institutions would be unable to respond in a strategic way.

[22] However, the OECD review team is aware that some institutions have exploited this sort of opportunity. In particular, following the economic crisis when staff positions were disestablished if the incumbent resigned, institutions had little choice but to seek rationalisation opportunities. However, in the absence of a resignation, incentives to seek efficiencies are absent.

[23] Refer also to https://www.timeshighereducation.com/news/more-university-mergers-cards-predicts-moodys and https://www.insidehighered.com/news/2017/08/01/higher-ed-mergers-are-difficult-likely-grow-popularity-speakers-say

[24] Many countries fund enrolments in laboratory-based subjects and field-based subjects at a higher rate than other subjects to reflect the fact that they have higher costs of delivery.

[25] Refer to http://hea.ie/funding-governance-performance/funding/how-we-fund/

[26] Refer to: http://highereducation.si/Arhiv/images/stories/2_presentation_funding_of_he_in_the_netherlands_heerens.pdf

[27] Refer to http://english.uka.se/facts-about-higher-education/higher-education-institutions-heis/funding-of-swedish-heis.html

[28] Pruvot, Claeys-Kulik and Estermann (2015[47]) discuss in detail the designs of 28 European higher education funding systems and elaborate on the trade-offs discussed above. Pages 32 and 33 of their report itemise the indicators and measures used in the funding formulae of each of those countries.

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Annex A. OECD review team members

External experts

JAN HERCZYŃSKI

Dr. Jan Herczyński has over 15 years of experience in education finance, in education policy and in formulation and analysis of education strategy. Between 1999 and 2001, he advised the Polish Ministry of National Education on the problems of education finance and education decentralization, developed and helped implement the new per student algorithm for the allocation of education subvention to local governments. Between 2002 and 2007, under USAID funded projects in Skopje, Dr. Herczyński was advising the Macedonian Ministry of Education and Science on strategic issues of education decentralization and finance, including preparation and implementation of a per student allocation formula for categorical and block grants for education. Between 2010 and 2012 Dr. Herczyński coordinated a 3 year project on strengthening strategic capacities of Polish local governments in the education sector, and edited 7-volume Library of Local Government Education (2012).

Dr. Herczyński participated in the capacity of consultant and report author in many short-term projects in education finance, strategy and management in transition countries, including Albania, Belarus, Bulgaria, Georgia, Kosovo, Kyrgyzstan, Lithuania, Macedonia, Moldova, Poland, Romania, Serbia, Tajikistan, and Ukraine. Prior to taking up education finance and management Dr. Herczyński worked for 17 years as lecturer and researcher in applied mathematics at Faculty of Mathematics, Warsaw University, worked in IT quality assurance and strategic planning in a major Polish commercial bank (the implementation of new banking software), and conducted trainings and analysis in the field of industrial safety (analysis of accidents, risk analysis). Dr. Herczyński holds a Ph.D. in Mathematics.

JANET LOONEY

Ms. Janet Looney is the director of the Institute of Education and Social Policy and the joint editor of the European Journal of Education. Currently, she is the project lead for the ongoing Study on policy measures to support, develop and incentivise teacher quality, funded by the European Commission. She is also providing consultant support to the ET2020 Toolkit Editorial Board presenting strategies to prevent early school leaving, and is providing support to two European SchoolNet projects related to online professional development: Mentoring Technology Enhanced Pedagogy (MENTEP) and the recently launched TeachUP project. Ms Looney also had a lead research role in the KeyCoNet (2013 – 14), which included a network of more than 100 organisations representing educational stakeholder groups from 30 European countries focused on improving the implementation of key competences in school education. In 2013 - 2015, she served as a senior expert for a Cedefop project, “The application of learning outcomes approaches across Europe – a comparative perspective (2013 – 2015)”. The project covered policy development and implementation of learning outcomes across school, vocational

education and training, adult learning and university sectors. It also featured case studies on teacher training and professional development related to learning outcomes approaches. Between 2002 and 2008, she worked at the OECD, leading two major international studies on assessment and evaluation. She was Associate Director of the Institute for Public Policy and Management at the University of Washington (1996 – 2002), focusing on community development and urban education reforms. At the Institute, she also led the Progress Project to consider how we define, measure and promote progress. She began her career as a programme examiner in the Education Branch of the U.S. Office of Management and Budget, Executive Office of the President (1994-1996). has participated in several European-level studies.

ROGER SMYTH

Roger Smyth has worked in tertiary education in New Zealand for nearly 30 years. He was Assistant Vice Chancellor at Lincoln University between 2000 and 2002. From 2002 until 2017, he worked at the New Zealand Ministry of Education, initially heading the Ministry's tertiary sector performance analysis unit. From 2013, Roger headed the Ministry's Tertiary Education Group, responsible for all policy advice to the Government on tertiary education and for monitoring and evaluating the performance of the system. He has published more than 25 papers on tertiary education, mostly focused on student financial support, the employment outcomes of tertiary education and university research performance.

He was New Zealand national co-ordinator during the OECD thematic review of tertiary education, 2004-2006. He was an expert member of the OECD panel that reviewed the tertiary education system of Iceland and of the OECD review of the Japanese education system.

Since April 2017, he has been working as an independent advisor/consultant on tertiary education.

FANI STYLIANIDOU

Ms. Fani Stylianidou has a BSc in physics from the University of Athens, followed by an MA and a PhD in Science Education from the Institute of Education, University of London. She has worked as a researcher in major European projects concerned with the implementation of curriculum innovations by science teachers, and the development of an open modelling collaborative software. Her previous jobs in Greece have included teaching undergraduate nursery education students, as deputy national co-ordinator of the OECD Activity "Attracting, Developing and Retaining Effective Teachers" and she has worked as a consultant for the OECD Directorate for Education and Skills in the design and management of the 'Improving School Leadership' project. She held the post of deputy director at the Science Learning Centre London and co-directed a ESRC-funded project on "Understanding Participation in post-16 Mathematics And Physics" at the Institute of Education, University of London. Her research interests include: professional development of science teachers; pupils' attitudes to science; use of innovations in the science classroom; pupils' difficulties with reading pictures in science; the use of computer modelling in science lessons; teaching about energy.

OECD analysts

BEATRIZ PONT

Dr. Beatriz Pont, Senior Policy Analyst is currently leading OECD countries' school education policy reviews in the OECD Directorate for Education and Skills. Focused on education policy analysis and advice, she has managed and contributed to a range of education policy comparative reviews in the area of school improvement, school leadership, equity, adult learning and adult skills, among others (Education Policy Outlook 2015; Equity and Quality in Education: Supporting Disadvantaged Students and Schools, 2012; Improving Lower Secondary Education in Norway, 2011); Improving Schools in Mexico, 2010; Improving School Leadership, 2008); Promoting Adult learning, 2005). She was previously a researcher in the Economic and Social Council of the Government of Spain, and in Andersen Consulting. She has a BA from Pitzer College, a Masters of International Affairs from Columbia University, a PhD in Political Science from the Complutense University in Madrid and an honorary Doctorate from Sheffield Hallam University.

ANDREW MACINTYRE

Andrew Macintyre, Policy Analyst in the OECD Directorate for Education and Skills, has been at the OECD since 1995. In a varied career he has worked in external communications for several of the OECD's specialised agencies and in the Directorate for Public Affairs and Communications before becoming Counsellor to the OECD Director of Education and Skills in 2012. He has a BA from Otago University (NZ), a Postgraduate Diploma in Economics from SOAS, University of London, and an MA in Sociology (Mass Communications) from the University of Leicester (UK).

Annex B. Description of meetings during OECD review visits

FACT-FINDING VISIT: 29 MAY - 1 JUNE 2017

Kick-off meeting at the Ministry of Education, Research and Religious Affairs (MofERRA)

- Minister of Education, Prof. Kostas Gavroglu
- Steering Committee:
  - Prof. Spyros Georgatos, President of National Council for Education and Development of Human Resources
  - Prof. Gerasimos Kouzelis, President of the Institute of Education Policy
  - Dr. Nikos Paizis, Deputy President of the Ministry Committee for Economics of Education
  - European Commission DG EAC: Ms. Ulrike Pisiotis
  - European Commission SRSS Unit: Ms. Theodora Giouroukou
  - Director of the Minister's Office: Ms. Niki Mountzouroglou
- Scientific Support Team:
  - Dr. Yiannis Roussakis, Institute of Education Policy
  - Dr. Dimitra Makatsori, MofERRA

Meetings with MofERRA Directors

- Ms. Androniki Barla, General Director
- Mr. George Politis, Director of Preschool and Primary Education
- Dr. Spyros Konstantatos, Director of Secondary Education
- Mr. Panagis Kassianos, Director of Special Education
- Mr. George Athanasopoulos, Advisor to the Minister for Primary Education
- Dr. Iraklis Pliakis, Advisor to the Deputy Minister for VET

Meetings with MofERRA General Directors and Regional Directors

- General Director of Education Personnel: Ms. Eudokia Kardamitsi
- General Director for Strategic Planning: Ms. Kalomoira Marouga
- Director of Vocational Education: Mr. George Moustakas
- Regional Directors of Education:
  - Dr. Charalambos Liontos, Attiki
  - Ms. Aggeliki Foteinou, Epirus

Meeting on the education of refugee children

- Committee for the Support of Refugee Children: Prof. Nikos Belavilas; Prof. Alexandra Androusou; Dr. Aggeliki Aroni
- Ms. Xenia Passa, UNHCR
- Ms. Naoko Imoto, UNICEF
- Representative from "Save the Children"

Meeting on school evaluation and assessment

- Prof. Emeritus E. Matsagouras, President of the Authority for Quality Assurance in Primary and Secondary Education (ADIPPDE)
- Dr. Kostas Apostolopoulos, School Advisor, Member of the Governing Board of ADIPPDE

Meeting with the Economics of Education Committee

- Dr. Nikos Paizis, Alternate Chairperson of the Committee for the Study of Economics of Education in Greece
- Dr. Haris Retsos, Member of the Committee
- Dr. Vangelis Mavrikakis, Member of the Committee
- Dr. Iraklis Pliakis, Member of the Committee

Visit to the 2nd Primary School of Tavros, Athens

- Dr. Dimitris Fileles, School Director
- Dr. George Kentros, Director of Primary Education for South Attiki ("D" Region of Athens)
- Members of the School Teachers' Assembly who work in the All-Day Program
- Teachers of the All-Day Program
- Teachers and Children of the Structure of Reception and Education of Refugee Children

Meeting on school evaluation and assessment - assessment of education directors and senior education staff – in-service training of teachers

Institute of Education Policy (IEP)

- Professor Gerasimos Kouzelis, President of IEP
- IEP Counsellors:
  - Dr. Georgia Fermeli, Member of the Governing Board, Coordinator for Science Education
  - Dr. Aspasia Oikonomou, Coordinator for Social Sciences in Education
  - Dr. Athina Nella, Coordinator for VET, Member of the Committee for the Study of Economics of Education
  - Dr. Maria Nika, Coordinator for Evaluation and Assessment
  - Dr. Evi Trouki, Coordinator of Multicultural and Refugee Education and Schools in Juvenile Prisons
  - Ms. Eleni Papadopoulou, Coordinator of Humanities in Education and of the Observatory for Student Dropout

Closing meeting at the MofERRA

Minister of Education, Prof. Kostas Gavroglu
Professor Georgios Aggelopoulos, Acting Secretary-General
Steering Committee:

- Prof. Spyros Georgatos, President of National Council for Education and Development of Human Resources
- Prof. Gerasimos Kouzelis, President of the Institute of Education Policy
- Dr. Nikos Paizis, Deputy President of the Ministry Committee for Economics of Education

REVIEW VISIT: 25-29 SEPTEMBER 2017

Kick-off meeting with the MofERRA National Co-ordinator and the Greek Review Steering Committee

- Greek Review Steering Committee:
  - Prof. Georgios Aggelopoulos, Secretary-General of the Ministry of Education
  - Prof. Errikos Ventouras, Ministry of Education
  - Dr. Nikos Paizis, Deputy President of the Ministry Committee for Economics of Education
- European Commission DG EAC: Ms. Ulrike Pisiotis
- European Commission SRSS Unit: Ms. Theodora Giouroukou
- Director of the Minister's Office: Ms. Niki Mountzouroglou
- Scientific Support Team:
  - Prof. Pantelis Kyprianos, University of Patras
  - Dr. Yiannis Roussakis, Institute of Education Policy
  - Dr. Dimitra Makatsori, Ministry of Education
  - Mr. Panagos Georgopoulos, Ministry of Education

Visit to the Foundation for Economic and Industrial Research (IOBE)

- Greek Review Steering Committee: Dr. Nikos Paizis, Deputy President of the Ministry Committee for Economics of Education
- IOBE:
  - Dr. Nikos Vettas, Director General of IOBE, Professor of Economics, Department of Economics, Athens University of Economics and Business
  - Dr. Svetoslav Danchev, Head of Microeconomic Analysis and Policy Unit

School evaluation implementation seminar

- European Commission DG EAC: Ms. Ulrike Pisiotis
- European Commission SRSS Unit: Ms. Theodora Giouroukou
- Scientific Support Team:
  - Prof. Georgios Aggelopoulos, Secretary General of the Ministry of Education Dr. Dimitra Makatsori
- Minister's Advisors:
  - Dr. Katerina Trimi
  - Mr. Christos Milionis
  - Ms. Alexandra Miliaresi
  - Mr. Themis Dimitrakopoulos
- MOfERRA Education Directors:
  - Dr. Spyros Konstantatos, Director for Secondary Education
- Institute of Education Policy (IEP): SSE and "Descriptive Evaluation" Groups:
  - Dr. Georgia Fermeli
  - Dr. Eleftherios Vekris
  - Dr. Maria Nika
  - Ms. Anastasia Kotsira
  - Dr. Athanasios Strantzalos
  - Ms. Georgia Papastvrinidou
  - Dr. Yiannis Roussakis

Visit to the National Technical University of Athens (NTUA)

- Scientific Support Team:
  Prof. Errikos Ventouras, Minister's Advisor
  - Dr. Nikos Paizis
- NTUA:
  - Prof. John Golias, Rector, Professor, School of Civil Engineering
  - Prof. Dimitrios Papantonis, Vice-Rector for Academic Affairs and Administration, Professor, School of Mechanical Engineering
  - Prof. Ioannis Paspaliaris, Vice-Rector for Financial Planning and Development, Professor, School of Mining and Metallurgical Engineering
  - Prof. Evangelos J. Sapountzakis, Vice-Rector for Infrastructure, Professor, School of Civil Engineering

Visit to a primary school in Athens

- Director
- Teachers
- Regional school advisor

Visit to the Athens University of Economics and Business (Including Student Union representatives)

- Prof. Emmanouil Giakoumakis, Rector
- Prof. Dimitris A. Gritzalis, Associate Rector for Research
- Prof. Dimitris Bourantonis, Deputy Rector for Academic Affairs
- Prof. Panos Constantopoulos, Dean, School of Information Sciences and Technology, Department of Informatics
- Dr. Klas-Eric Soderquist, Head of Academic Affairs, MBA International Programme, School of Business, Department of Management Science and Technology
- Prof. George J. Siomkos, Dean, School of Business
- Prof. George D. Stamoulis, School of Information Sciences and Technology, Department of Informatics
- Dr. Costas Caramanis, Associate Professor of Accounting

Visit to the University of Peloponnese

- Prof. Konstantinos Masselos, Rector
- Associate Professor Aggeliki Spyropoulou

Visit to a secondary school – 6th Gymnasium in Athens

- Director
- Ms. Ioanna Psina M. Ed., EFL Teacher, Historian, Director of Secondary Education of Central Region of Athens
- Teachers and students
- Regional school advisors
- Director of Secondary Education of the MofERRA

Visit to the University of Athens,

- Prof. Κοστα Bourazelis, Vice Rector
- Prof. Nikolaos Milonas, Finance at the Department of Economics

- Yiannis Vafiadakis, General Director, Mathematician MS University of Athens
- Prof. Mariza Fountopoulou, Chairperson, Department of Philosophy, Pedagogy, Psychology
- Prof. Christos Lyrintzis, Dean, School of Economics and Political Scinece
- Modern Support Education Group "Vafiadakis"
- Deans and chairpersons of various department
- Members of the Quality Assurance Unit of the University
- Students

Visit to the University of Athens School of Education

- Prof. Thaleia Dragona, Dean of the Faculty of Education
- Prof. Evangelia Kourti, Department of Early Childhood Education
- Prof. Alexandra Androusou, Department of Early Childhood Education
- Prof. Kostas Skordoulis, Deparment of Primary Education
- Prof. Eugenia Magoula, Department of Primary Education
- Prof. Apostolia Galani, Department of Primary Education
- Undergraduate and Post-Graduate Students

Visit to the Frontistirio "Diadrasi"

- Panagiotis Kandris and Meropi Manopoulou, Owners

Visit to the American College of Greece

- Ms. Iliana Lazana, Vice President, Human Resources and Campus Services
- Ms. Claudia Carydis-Benopoulou, Vice President, Public Affairs
- Mr. Thymios Zaharopoulos, Provost
- Members of the academic staff and students

Visit to the Institute of Education Policy (IEP)

- Prof. Gerasimos Kouzelis, President of IEP
- Members of scientific staff:
  - Dr. Georgia Fermeli
  - Dr. Maria Nika
  - Dr Yiannis Roussakis

Visit to the Hellenic Foundation for Research and Innovation (ELIDEK)

- Dr. Giorgos Chourdakis, Director of the Office of Deputy Minister of Education for Research and Innovation

Visit to the National Council for Research and Innovation (NCRI)

- Dr. Nektarios K. Nasikas, Advisor to the Deputy Minister of Education for Research and Innovation

Visit to the National Federation of Greek Frontistiria Owners (OEFE)

- Members of the Governing Council:
  - Mr. George Linardatos, President (S. Avgoulea Linardatou Private School)
  - Mr. Charalabos Th. Kyrailidis, Chairman (Hellenic Association Independent Schools (HAIS))
  - Dr. Alkis Panagiotopoulos, Secretary General of the Board of Directors of the Founders Association of Greek Private School (I.M. Panagiotopoulos School)

Visit to the Federation of Private School Teachers (OIELE)

- Members of the Governing Council

Visit to the Centre of Development of Education Policy / Confederation of Greek Workers (KANEP – GSEE)

- Mr. Christos Goulas, Director of KANEP
- Dr. Nikos Paizis

Visit to the National Council for Education and Development of Human Resources

- Prof. Spyros Georgatos, President of the Council

Visit to the primary school (*Eparchiaki Odos Amarynthou*)

Visit to the TEI of Piraeus

- Prof. Lazaros Vryzidis, PUAS, Rector
- Dr. Dimitrios Tseles, PUAS, Deputy Rector
- Prof. Savvas G. Vassiliadis, Faculty of Engineering, Dept. of Electronics Engineering, PUAS
- Dr. Adonis Bogris, Associate Professor, Dept. of Informatics, PUAS

Visit to secondary school

Meeting with the Federation of Educational Staff of TEIs (OSEP)

- Prof. Apostolos Kokkosis, Chairman of IET (Institution of Engineering and Technology) Hellas Network, President of OSEP / TEI
- Dr. Adonis Bogris, Associate Professor, Technological Educational Institute (TEI) of Athens, Dep. of Informatics
- Babis Nikolaou, President, Association of Support Educators of Attica (S.E.F.A)
- Members of the Council

Refugee camp visit: Malakassa, in camp reception school

MEETING WITH THE MINISTRY OF EDUCATION, RESEARCH AND RELIGIOUS AFFAIRS: 11 DECEMBER 2017

Meeting of OECD team with:

- Prof. Kostas Gavroglu, Minister of Education
- Prof. Georgios Aggelopoulos, Secretary-General of the Ministry of Education
- Prof. Pantelis Kyprianos, University of Patras, National Coordinator
- Prof. Errikos Ventouras, Professor, TEI of Athens, Minister's Advisor
- Prof. Gerasimos Kouzelis, President of Institute of Education Policy
- Dr. Yiannis Roussakis, Institute of Education Policy
- Dr. Theocharoula Magoula, MofERRA Office of Scientific Advisers of Minister, Department of Economics, National and Kapodistrian University of Athens
- Ms. Katerina Trimi, Minister's Advisor
- Dr. Spyros Konstantatos, MofERRA Director of Secondary Education
- Mr. Giorgos Athanasopoulos, Minster' Advisor
- Mr Pavlos Haramis, Vice Prosident of Institute of Education Policy

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