

## Executive Summary

In April 2009, the OECD and the World Bank published a comprehensive review of national tertiary education policy in Chile. That publication – *Reviews of National Policies for Education: Tertiary Education in Chile* – provides an overview and recommendations for the medium and longer term development of tertiary education in Chile. As a follow on, the government of Chile requested the joint review team to conduct a specific analysis of the Becas Chile Programme (BCP) which provides scholarships for study abroad. The purpose of the analysis was to help the government take stock of the experience to date, identify strengths and weaknesses of the policy process and consider options for taking the initiative forward in the future. This report is the result.

### Main findings

The BCP is a big and bold initiative. It is planned to finance it through the interest earned on a USD 6 billion fund maintained abroad and sourced with revenues generated by copper exports. The BCP seeks to catalyse a significant leap forward for the quantity and quality of human capital in Chile through an out-of-country investment in technical, professional and graduate education. When the programme reaches a steady state of 3 300 students approved per year, projected participation will represent around 20% of Chile's overall graduate degree enrolments. The programme also offers an extensive range of professional and technician development opportunities. Significantly, the BCP involves a doubling of Chile's PhD enrolments, as a step to strengthening the tertiary education workforce and the research capacity of the Chilean economy.

As a complement to in-country measures the BCP offers value by:

- drawing on resources of other countries to fill gaps in local capacity for human capital formation;
- injecting a demand-side stimulus to reform of an insular system of higher education supply; and
- stimulating productivity improvement by further opening up Chilean thinking to international best practices, internationalising the Chilean workforce and connecting the next generation of Chilean leaders to international networks.

The BCP is innovative in several ways. It offers a much wider coverage (eleven scholarship types) than previous programmes (five scholarship types). For the first time, technicians and educators are included and there is parity of treatment of employees in the private and public sectors. Deliberate efforts have been made to expand the participation of people from less advantaged backgrounds, including women, indigenous Chileans, people with a disability, people from regions other than the Metropolitan Region and people who have not had the opportunity to learn a foreign language. Steps have been taken to provide an integrated framework for participants, including through a one-stop-shop approach. A concerted communications campaign alerted and informed potential participants to the new range of opportunities, including through regional information fairs and promotional visits, a single Becas Chile website and a call centre. Finally, several international agreements with governments or tertiary institutions have been struck to reduce the cost of the programme (through tuition reduction) and to increase the access of students to foreign institutions (through free language courses abroad, covered by the recipient foreign institutions).

The review team commends the Chilean authorities for the BCP initiative. It is impressive in concept, design and scope. It provides a sound foundation for advanced human capital formation and innovation in Chile. Well implemented, it will help to accelerate Chile's move up towards internationally competitive levels of knowledge capability.

Nevertheless, as indicated below, there are several areas in which the positive impact of the BCP could be increased by modifications to the programme design and improvements to operational processes. Many of the current deficiencies in the BCP reflect rushed implementation. It is the intent of the review team to suggest ways by which the positive features of the BCP may be built upon so that it can produce optimal outcomes for Chile in the future.

This executive summary is organised as follows: first, the size and scope of the BCP is compared to similar initiatives in other countries. Four areas for improvement are then highlighted, and the review team's recommendations for each are laid out. These areas, discussed thoroughly in Chapters 3 and 4, are: the strategic integration to national priorities; the attraction and reinsertion of BCP graduates to Chile; the operational integrity and efficiency of the programme as a whole; and the policy changes and institutional restructurings that best further the development of advanced human capital in Chile.

## International comparisons

Countries across the world have undertaken similar efforts for decades, and their experience provides useful points of comparison. Chile has drawn upon these lessons in designing the range and provisions of BCP scholarships. The review team draws further upon those experiences in suggesting improvements to the implementation of the programme.

In 1996, China established the China Scholarship Council to manage the State Sponsored Study Abroad Programmes (SSSAP) and to develop China's exchanges with other countries in the field of education, science and technology. It also established the Chinese Service Centre for Scholarly Exchange to provide information and services for those Chinese students and scholars going abroad and for those returning to China. Over a million students and researchers left the country to study abroad between 1978 and 2006. In 2008, 179 800 students left, 12 957 of which were state sponsored.

The internationalisation of Korea's student body has also been a prevalent theme for decades. Despite the difference in population size between China and Korea, more Koreans left for study abroad in 2007 (218 000 students) than did Chinese in 2008 (179 800 students). Two decades prior, in 1987, there were already 20 520 Korean students studying in the United States and that year alone, 450 of them had graduated with PhDs in science and engineering.

Although much more modest in scope and size than Korea or China, Colombia has had a long history of state-facilitated study abroad. Between ICETEX, the Colombian Institute for Education Loans and Technical Studies Abroad, COLCIENCIAS, the Colombian Institute for the Development of Science and Technology, and COLFUTURO, the Foundation for the Future of Colombia, the number of Colombian students who studied abroad between 1992 and 2006 increased to approximately 24 400. Although this is roughly equivalent to 1 750 students per year, today the number is likely at or above the BCP's steady state target of 3 300 students per year.

Regardless of the above comparisons, the BCP is a large programme in absolute terms by any measure. As shown in the table, Chile will be providing three to seven times more scholarships per enrolled tertiary student than a group of comparator countries. Although the programme's size is not disproportionate relative to Chile's need to expand its advanced human capital base, its scale presents a number of management challenges.

	Programme or institution		Students sponsored	As a % of total student enrolment at the tertiary level
Chile before Becas Programme	MIDEPLAN, MECESUP, CONICYT, ACGI, CNCA	Year 2007	200	0.03
Chile after Becas Programme	Becas Chile	Year 2010	3 300	0.36
Mexico	CONACYT	Year 2005	2 645	0.11
Brazil	CAPES	Year 2007	4 043	0.08
China	SSSAP	Year 2007	12 402	0.05

Source: Review team compilation, via the website of each programme.

## Areas for improvement in BCP design

The BCP will undoubtedly have a significant impact in Chile, and it is important to prepare for it accordingly. As the BCP is a recent initiative, it is necessary to continue developing its design and articulation with the national tertiary system, and improving its initial implementation to ensure a coherent and positive long run impact.

### *Strategic integration to national priorities*

For the BCP to be as effective as possible in growing Chile's productive capacity and in furthering the country's economic and social development, it needs to sharpen its focus on national priorities in the selection of applicants. These priorities were suggested to the government by the National Innovation Council for Competitiveness of Chile (CNIC), and currently about half of the BCP scholarships awarded – represented by technician, teacher education and medical sub-specialisation programmes – are tightly linked to them. In the remaining half of the scholarships, this link could be strengthened.

In the case of graduate studies such as post doctorate, doctoral studies and sandwich programmes, the BCP guidelines require applicants to identify the relevance of their proposed studies to national priorities. Extra points are assigned accordingly. Although the policy intention is to discriminate positively in favour of applicants addressing national priorities, the connections are loose, the priorities broad and the additional points marginal. Without sufficient alignment, Chile may fail to gain the human capital it needs in important economic sectors and a larger than acceptable number of BCP graduates may have difficulty finding gainful employment in Chile.

In the case of graduate studies such as Master's degrees, scholarships are deliberately not closely linked with national priorities. This is a defensible approach in that some Master's programmes, such as project management and engineering, cut across various priority areas and it could be limiting in scope to confine them unduly.

### ***Attraction and reinsertion of BCP graduates***

With the introduction of the BCP, an important step in the human capital development strategy of Chile has been taken. However, it is only one step in what is necessarily a cycle of human capital building: students need to be trained, but they also have to be attracted to return to their country, bringing their skills with them. Once returned, they should be reinserted into the labour market in positions that are relevant and challenging. Although these steps are seemingly self-evident, the risks are significant; without such a strategy, the money spent on scholarships could very well be lost as the top talent is snapped up by other countries with more attractive offers. In the global knowledge economy, there is intense international competition for intellectual talent.

The review team believes more purposeful efforts will be needed to maximise the re-integration of BCP graduates, especially in several fields where the country has limited scale and scope. At the very least, Chile should ensure there are adequate facilities, research funds and start-up grants for graduates to continue advanced work in the areas in which they have developed specialised skills. In this regard, while beyond the scope of the BCP, it is important that the national innovation system continues to grow in a way that complements the enlargement of advanced human capital supply.

### ***Operational integrity and efficiency of the programme as a whole***

In seeking to understand the impact of the BCP and its operational features, it is important to recognise that its administrative arrangements are quite new and that policies and procedures are still being developed. There are also concerns about the implementation of the BCP. The main operational concerns are that the assessment processes related to student selection for scholarships are insufficiently clear and/or permit unwarranted variability. Insufficient information, particularly about the capacities of foreign institutions in particular fields, may have led to less than adequately informed decision making by applicants and evaluators.

Efforts have been made in the programme design to balance the exercise of personal discretion and objective criteria in the evaluation of outcomes. Nevertheless, in some cases there appear to be wide discrepancies in the exercise of evaluator judgement and some of the available “objective” measures are less than adequate. The resulting outcomes can be not only sub-optimal for some participants but also contribute to low levels of community confidence in the programme. This report makes specific recommendations to improve this aspect of the BCP.

### ***Institutional arrangement for advanced human capital***

Although the BCP has integrated a number of separately run scholarship schemes for study abroad, contention about the roles and responsibilities of different arms of government in the early stages of BCP implementation caused confusion. Additionally, insufficient inclusion of the academic community and enterprises in BCP design and development, particularly in the formative stages when broader “ownership” was needed, has resulted in low levels of commitment from people whose input is critical to the success of the programme. These problems seem to result from the rush to make the BCP operational as quickly as possible.

Operational problems have resulted not only from deficiencies in organisational capacities and procedures, however, but also from insufficient integration of the BCP with other incentives for human capital development and innovation, such as those supported by the Higher Education Division of the Ministry of Education (DIVESUP), the Programme for Improvement of Quality and Equity in Higher Education (MECESUP) and the National Commission for Scientific and Technological Research (CONICYT). The latter highlights the need to better articulate Chile’s national advanced human capital strategy, co-ordinating efforts both at home and abroad.

## **Recommendations**

The review team is confident that the BCP offers great potential advantages for Chile’s future development, and that the impressive progress to date can be built on to even greater effect. Accordingly the report makes recommendations on a number of key areas outlined below.

### ***Institutional arrangement for advanced human capital***

To optimise the effectiveness of the BCP, the government of Chile could give consideration to integrating the programme more purposefully with its national human capital development strategy. Particular consideration could

be given to balancing the BCP with Chile's other initiatives, within a five-pronged long-term approach:

- Training people inside Chile. Although local sources have confirmed that the quality of the local Master's and PhD applicant pool has not declined despite the introduction of the BCP, it should be closely monitored to maintain quality and avoid cannibalisation of the domestic system.
- Sending people for training outside Chile.
- Bringing foreigners into Chile to supplement local capacity and enlarge options for Chilean students to access new fields of learning.
- Repatriating highly qualified Chileans abroad.
- Utilising Chileans staying abroad.

Achieving the integration of the five elements outlined above will require co-ordination of Chile's overall efforts to develop human capital by a capable and effective policy agency. Chile should consider creating a Vice Minister for Higher Education and Research within the Ministry of Education. An administrative corollary of this approach is that all domestic and international scholarships be administered by a new Human Capital Development Agency, with semi-autonomous status. There may be further advantage in a single, high-level national advisory board across this new agency, the Chilean Economic Development Agency (CORFO) and CONICYT with a view to integrating the national productivity and innovation agendas. In the interim, the Division of Higher Education within the Ministry of Education needs to be strengthened urgently.

### ***Strategic integration to national priorities***

Chile's national priorities include clusters (mining, aquaculture, food industry, tourism and global services), cross-cutting platforms (energy, environment, ICT and biotechnology) and social areas (education, health, housing, public safety and public policy). To increase the BCP's emphasis on these, greater weights could be assigned in the assessment of applications. In addition, the BCP could be leveraged to build domestic capacity in specific areas through three targeted programmes.

- A special component for funding institutional scholarships at Chilean tertiary education institutions could help develop and upgrade the professional skills and qualifications of teaching and research staff. A proportion of BCP post-graduate studies scholarships, perhaps 25%, might be so dedicated.

- A special component for funding an increase in the number of international staff in domestic tertiary education institutions, whether on a permanent or temporary basis, as well as the number of foreign students in Chile, could strengthen ties between local and foreign institutions.
- A specific component for funding enterprise fellowships in private firms, public sector enterprises and research centres, for employees to study abroad, could raise skills levels in industry and research. The government might discuss suitable cost-sharing arrangements with corporations and employer organisations.

### ***Attraction and reinsertion of BCP graduates***

Today, BCP scholarships are conditional upon the recipients' commitment to return to Chile. Recipients may stay abroad after graduation for half the number of years for which they were given a scholarship, but must repay the scholarship if they choose to remain beyond that. Upon their return, recipients must stay in Chile for twice the number of years for which they were given a scholarship. The number of years decreases for work outside the capital. To attract BCP participants back to Chile and re-insert them into the Chilean labour market, explicit strategies could be adopted. Such specific measures could include:

- Incentives for encouraging recipients to return in preference to coercive or punitive measures.
- A more systematic approach to the monitoring of graduate supply and demand, through tracking of graduate employment destinations and incomes, as a guide to discussions about thresholds for BCP participant return and reinsertion to the Chilean labour market.
- Targeted actions to improve retention, return and re-insertion:
  - *Before participants leave:* orientation and training in cohorts to establish groups of scholars and build a support network for them;
  - *While participants are away:* provide support, assistance and relevant information for recipients abroad such that they are aware of career opportunities, and feel connected and welcome to return;
  - *After participants return:* linking these cohorts to non-BCP scholarship recipients (*e.g.* through seminars, or bringing them back to speak to their communities) to help disseminate the knowledge and skills gained while abroad, as well as reach a broader audience to publicise the BCP itself.

- Special attention to “young researchers” whose career progress depends not only on professional employment but also on guidance of senior researchers and on access to research infrastructure, such as laboratories and scientific and technological equipment.

Consideration might be given to investing a proportion of funds in the provision or upgrading of scientific infrastructure to support R&D. Whether the funding is provided by the BCP, CONICYT, MECESUP or some other source is not the main concern; what is important is that complementary infrastructure be made available to allow a return on Chile’s investments in specialised human capital for research. Close attention needs to be paid to the growth of Chile’s overall investment in R&D as a key condition for successful use of the human capital being trained abroad.

### ***Operational integrity and efficiency of the programme as a whole***

Consideration should be given to a set of reforms to BCP implementation, specifically with a view to underpinning process integrity and efficiency.

With respect to the organisation of the system for evaluation proposals, it is recommended that:

- Individual, discipline-based “panel committees” be established according to a structure that reflects the needs of the BCP. One subset of panel committees might handle technician scholarships and other education scholarships. For Master’s, PHD, sandwich, co-advised theses and post doctorates, the panel committees might reflect broad disciplinary divisions such as life sciences, mathematics & engineering sciences, social sciences, etc.
- The panel committees be given the *ex-ante* responsibilities to rank the institutions and programmes for their applicant pool prior to specific feedback from reviewers on specific applications. This will ensure a single, collective judgment on institution and programme quality.
- A revitalised Oversight Committee<sup>1</sup> give guidance to panel committees and evaluators. This Committee would be responsible for:
  - Ensuring that evaluation procedures were clearly defined for each type of scholarship;
  - Providing guidance to panel committees on rating programme and institutional quality;
  - Ensuring the point system adequately and uniformly addresses national priorities;

- Providing guidance on whether and how to undertake a first “cull” of applications;
- Providing guidance on the number of reviewers per scholarship type and monitoring the number of applicants assessed by each reviewer;
- Overseeing the collection of feedback and identifying areas for further improvement.

With respect to the specifics of the evaluation process itself, it is recommended that:

- All applications be assessed by at least two evaluators independently, with the ranking of applications based on the average of their assessments.
- The number of evaluators for PhDs be expanded, including through the involvement of international evaluators, as a means of improving the quality of assessments.
- Evaluators be provided with structured training and guidance on the relative quality of international programmes and institutions, and illustrations of applications that are outstanding, adequate and inadequate.
- Information about the education and training systems of study abroad countries be made available for applicants and evaluators, including indications of qualifications equivalences.
- Students be allowed to attach supporting information, in more depth than they can currently, about the institutions to which they intend to apply.

Finally, it would be important for the government to develop an explicit framework and capacity to evaluate the effectiveness of its advanced human capital formation strategies. Evaluative exercises undertaken within this framework should be conducted professionally, involve multiple stakeholders and explicitly address the broad objectives of the BCP and its integration with Chile’s strategies for advanced human capital development and innovation.

### *Note*

1. The report describes a role of an active, dynamic and engaged Oversight Committee. The latter would receive general policy guidance on major issues from the Inter-Ministerial Committee and, subsequently, work with the BCP Executive Secretariat to develop detailed policies and guidelines as described here. If this more active role for the Oversight Committee is accepted, it may be necessary to review both the terms of reference and the composition of the Committee to ensure compatibility with this expanded role.