

PART 3: BUILDING THE SKILLS THAT CHILE NEEDS: VOCATIONAL, TECHNICAL AND HIGHER EDUCATION

Chapter 4

Improving higher education and research in Chile

Positioned at the nexus of knowledge creation, education, innovation and economic growth, universities and other higher education institutions must play a key role in the transformation of Chile's economy. This chapter reviews the evolution of higher education in Chile from 2004 to present, as well as the proposals in recent reform packages. The OECD recommends in this chapter that Chile: 1) identify a system-level vision and strategy for higher education; 2) establish an effective infrastructure to steer the higher education system; 3) strengthen equity in access to high-quality higher education, and; 4) strengthen the quality and relevance of higher education.

Introduction

Higher education has a crucial role to play in Chile's national development. Universities and other higher education institutions are positioned at the nexus of knowledge creation, education, innovation and economic growth. These institutions are therefore essential to building and maintaining the human and cultural capital that Chile needs to transform its economy by moving away from dependence on primary goods towards a diversified system that fosters social inclusion (Boulton and Lucas, 2008).

The government of Chile must provide the legislative framework that will enable the country's higher education system to develop. In July 2016, the government presented a wide-ranging higher education reform package to Congress, interrupting a period of relative immobility in higher education legislation and strategy since the last significant changes in 2005. The reform proposal has five core objectives: 1) consolidate the higher education system; 2) guarantee quality of education and uphold public confidence; 3) advance equity and inclusion; 4) specifically strengthen state higher education; and 5) improve technical and vocational education. Reactions from legislators and other stakeholders to the initial proposal were mixed. Lawmakers have brought forward amendments, so it is not possible to be sure what form the final legislation will take at the moment of the drafting this report.

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

1. Is there a coherent system-wide vision for higher education in Chile, and how it can better meet the needs of the country?
2. How should Chile's higher education system be steered to deliver on social, economic and cultural goals?
3. Is Chile's higher education system equitable and accessible?
4. Does Chile's higher education system deliver instruction that is relevant and of high quality?

The OECD finds that Chile benefits from a rich pool of talented instructors, researchers, administrators and students in higher education who are dedicated to the country's academic, social, economic and cultural development. Nevertheless, higher education in Chile has not succeeded in developing or actualising a coherent vision of the system's role in society and its appropriate structure. Previous reforms have not succeeded in achieving this either. Atomised and isolated actors, ideological conflicts and an imperfect market (in terms of providers) have continued to drive the system's evolution. The result has been insufficient quality and entrenched inequities, with great consequences for many students and for Chilean society as a whole.

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

Strengths and challenges

Strengths

Many of the necessary elements for a strong higher education system exist in Chile.

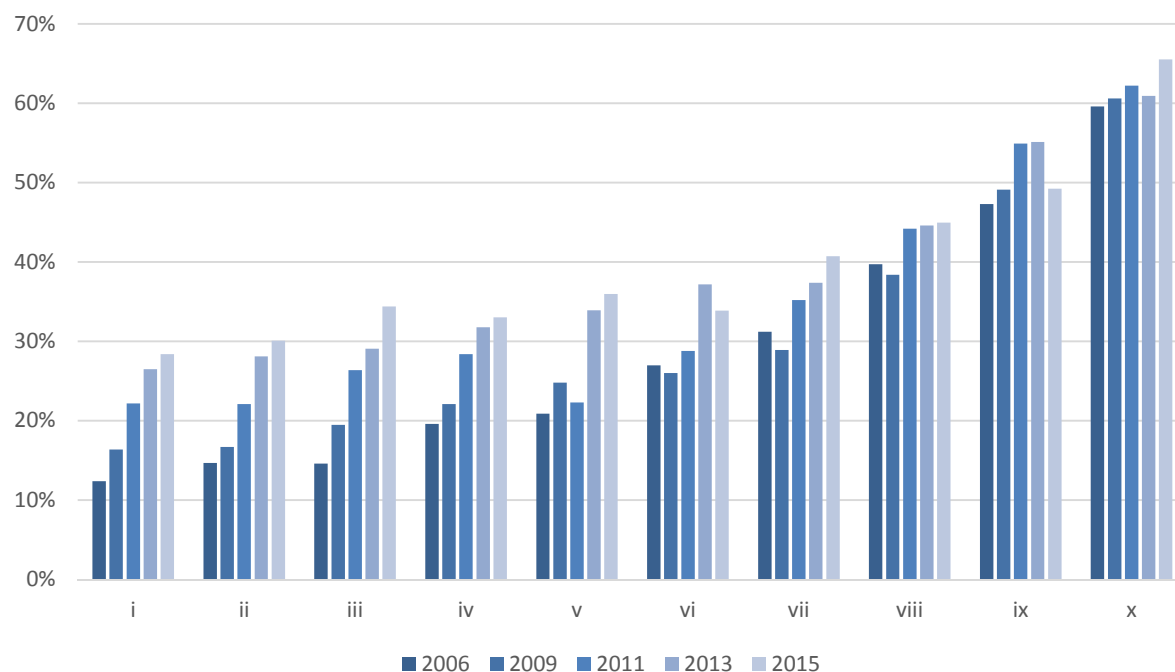
Higher education is highly regarded among the Chilean people.

There is little question that higher education is a priority for Chileans. The sector's evolution, and its role as an agent of social mobility, are the subject of open and passionate public debates, including widespread student protests – most notably in 2011. Chile's government has been motivated to introduce sweeping proposals for new investments and other policy changes. Meanwhile, very high levels of private spending on higher education also demonstrate that Chilean students and families believe higher education is a good investment. International studies indicate that private funds can help to build a higher education system's infrastructure and thereby increase participation; this has clearly been the case in Chile (OECD/The World Bank, 2009).

Considerable increases in participation, including among disadvantaged sectors of society.

Access to higher education in Chile has improved substantially in absolute terms. Between 2005 and 2013, the number of tertiary education students in Chile rose by 78.6%, the highest increase among all OECD countries (OECD, 2016a). In addition, the tertiary gross enrolment ratio almost doubled from 44.8% to 86.6% between 2004 and 2014 (UIS-UNESCO, 2016).

As shown in Figure 4.1, the highest growth in participation since 2006 has been among students from lower socio-economic backgrounds. Further evidence indicates that the increase in enrolment has been highest among graduates from government-dependent private schools. Enrolment in higher education by these students jumped 168.7% between 2007 and 2016. In 2016, 28.1% of students enrolled in higher education came from public municipal schools, 49.4% came from government-dependent private schools and 10.6% came from government-independent private schools (MINEDUC, 2017a). The proportion of Chilean higher education students between the ages of 18 and 24 who identify as having indigenous backgrounds also increased from 16.6% in 2006 to 31.3% in 2015 (MINEDUC, 2017a).

Figure 4.1. Tertiary education participation among 18-24 year-olds by income decile (2006-2015)

Source: Data provided by MINEDUC, from Ministry of Social Development (2015a), “Encuesta de Caracterización Socioeconómica Nacional (CASEN)” [National Socio-economic Characterization Survey], Social Observatory, Santiago, http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/casen_2015.php (accessed 17 September 2017).

A system that is relatively inclusive of women.

Chile’s higher education system has come to include relatively large numbers of women in studies and research. This is especially noteworthy in light of the country’s persistently high levels of gender inequity, as described in Chapter 1.

The number of women enrolled in undergraduate programmes grew by 132% from 2004-2016, which is more than 7.2% per year. Men’s enrolment grew by 96% during that same period, or 5.7% per year. In 2016, women even represented a majority of higher education students in technical training centres and universities (CFTs), while they reached parity (49.8% of enrolment) at professional institutes (IPs) (CNED, 2017). In 2016, for the first time, women also represented a majority of graduate students in Chile, up from 48.6% of enrolment as recently as 2004 (MINEDUC, 2017a).

Women also play a stronger role in Chile’s university research than in many other areas. The OECD estimates that 22.4% of Chilean research publications are produced by women. That figure is considerably lower than parity, but it is a higher rate than prominent research leaders like the Netherlands, the United Kingdom, Canada and Germany have (OECD, 2015). Chile also has a higher share of women (39.3%) among doctoral graduates in science and engineering than the OECD average of 34.4% (OECD, 2015).

Nevertheless, trends in programme enrolment also indicate growing programme segregation in Chile by gender, with men highly concentrated in technology programmes and women disproportionately concentrated in health and, to a lesser extent, education. Chile had some of the lowest shares of women among tertiary graduates in the sciences and in engineering, manufacturing and construction among OECD countries. These graduates included individuals with short-cycle tertiary, bachelor's or equivalent, master's or equivalent and doctorate degrees (Table 4.1) (OECD, 2016a).

Table 4.1. Ratios of female to male graduates in sciences, engineering, manufacturing and construction (2013)

Programme	Chile	OECD Average
Sciences	0.3	0.7
Engineering, manufacturing and construction	0.2	0.3

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

Another challenging area has been empowering female leadership within institutions. CFTs have performed significantly better than other institutions, whereas universities have an especially long way to go (see Table 4.2).

Table 4.2. Women as a percentage of higher education institution leaders (2013)

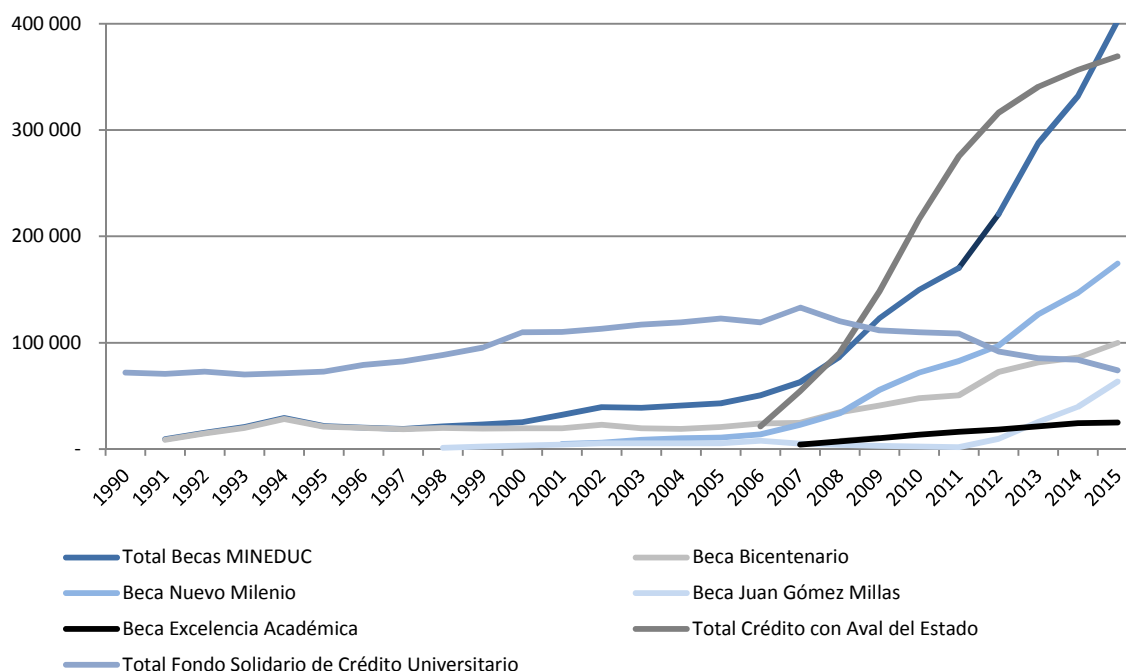
Institution	Rector (%)	Heads of study programmes (%)
University	5.1	22.6
IP	25.6	32.7
CFT	28.6	47.4

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

Greatly expanded, need-based student financial aid.

As noted in Chapter 1, relative to gross national income per capita, Chile’s tuition fees are more than double those of any other OECD member country. Moreover, this observation arguably understates the significance of these fees, given that Chile is the most unequal society in the OECD. Therefore, many Chileans earn considerably less than the national average. The Chilean government has identified the removal of financial barriers to higher education as a policy priority, and has invested heavily in a range of grants, scholarships and loans to support students in need.

MINEDUC’s total inflation-adjusted spending on financial aid in the form of loans and scholarships increased by 865% from 2004-2015 (MINEDUC, 2017a). Scholarship spending (not including JUNAEB scholarships) specifically rose 1 351%. The number of recipients of MINEDUC student financial aid increased by 429% from 2004-2015, equal to 16.6% per year (see Figure 4.2).

Figure 4.2. Evolution in the provision of student financial aid mechanisms in Chile

Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Building upon this growth, the Chilean government launched its highest profile initiative, the free tuition *Gratuidad* programme, in 2016. *Gratuidad* first permitted students from the bottom five deciles of family income to study without paying tuition fees at 30 participating universities. The government expanded the programme in 2017 to include six not-for-profit CFTs and six not-for-profit IPs, along with the two new state universities. In the first year, 139 000 students benefitted from *Gratuidad*. This figure was projected to rise to approximately 250 000 in 2017, including 95 000 students at CFTs and IPs. So far, beneficiaries have been concentrated in the third and fourth deciles, followed by the fifth decile, according to internal MINEDUC statistics. Students participating in *Gratuidad* in 2016 came from families with average incomes equal to USD 3 042 per year (MINEDUC, 2017b).

The largest growth in financial aid was initially in the State Guaranteed Loan System (*Crédito con Aval del Estado*, CAE). This meant that many more students received loans than non-repayable grants. Scholarship growth came somewhat later, followed by *Gratuidad*. MINEDUC projects that the share of aid in the form of loans fell from 53% to 40% between 2015 and 2017, with scholarships now making up 35% of financial aid, and *Gratuidad* 25% (MINEDUC, 2017b).

The immediate effect of these changes is that many lower-income Chileans can more easily cover the costs of attending higher education. The shift in emphasis from repayable to non-repayable assistance should also help to address the debt challenges of disadvantaged students.

Importantly, however, these financial aid programmes and especially Gratuidad represent a policy decision on how to allocate available resources across the education spectrum. They could also have mixed long-term consequences. How to ensure that further financial aid developments in fact strengthen equity and quality as intended is a key area of focus later in this chapter.

Top-ranked universities by regional standards.

Chilean universities perform very well in international rankings by regional standards. In the 2016 QS Latin America rankings, Chilean universities occupy 15 of the top 100 spots, four of the top 20 spots, and the Pontificia Universidad Católica de Chile is third overall (QS University Rankings, 2016). In global rankings, Chile has the strongest presence relative to its population (measuring presence by the number of institutions that qualify for the rankings) of any Latin American country (see Table 4.3).

Table 4.3. Latin American institutions in global rankings per 10 million population

Country	Academic Ranking of World Universities	QS Global	Times Higher Education World University Rankings
Year	2017	2018	2018
Institutions ranked	800	1000	1000
Argentina	0.68	3.65	0.23
Brazil	0.63	1.06	1.01
Chile	2.23	6.14	7.26
Colombia	0.21	2.06	1.03
Costa Rica	-	4.12	2.06
Cuba	-	0.87	-
Ecuador	-	1.22	-
Mexico	0.16	1.10	0.24
Peru	-	0.94	0.31
Puerto Rico	2.93	2.93	-
Uruguay	-	5.81	-
Venezuela	-	1.58	0.63

Sources: World Bank (2016), “World Development Indicators”, *Databank World Bank*, <http://databank.worldbank.org/data/reports.aspx?source=2&series=VC.IHR.PSRC.P5&country> (accessed 22 September 2017); THEWUR (2017), “Times Higher Education World University Rankings 2018”, *Times Higher Education* (database), www.timeshighereducation.com/world-university-rankings/2018/world-ranking#!/page/2/length/10/sort_by/rank/sort_order/asc/cols/stats (accessed on 22 September 2017); ARWU (2017); Academic Ranking of World Universities 2017 (database), www.shanghairanking.com/ARWU2017.html (accessed 22 September 2017); QS World University Rankings (2016), “Latin America”, *Top Universities* (database), www.topuniversities.com/university-rankings/latin-american-university-rankings/2016 (accessed 22 September 2017).

This positioning reflects in part strong working relationships between research centres and research-intensive universities, as noted in recent OECD work on science, technology

and innovation in Chile (OECD, 2016b). Many of these research centres consistently perform above the world average. This is true in particular of centres supported by the National Commission of Scientific and Technological Research (CONICYT), which funds two programmes: The Fund for the Financing of Research Centres in Areas of Priority (Fondo de Financiamiento de Centros de Investigación en Áreas Prioritarias, FONDAP) and, since 2010, the Programme of Associative Research (Programa de Investigación Asociativa, PIA).

Challenges

Notwithstanding these strengths, the Chilean higher education system has significant weaknesses.

Skills among tertiary graduates remain low by international standards.

Chilean tertiary education graduates have some of the lowest skill levels among OECD countries that participate in the Survey of Adult Skills (a product of the OECD Programme for the International Assessment of Adult Competencies, or PIAAC), as noted in Chapter 1 (OECD, 2016c). Chile had the lowest literacy results among the participants of the Survey of Adult Skills, with the vast majority of tertiary-educated Chileans who were assessed unable to read dense or lengthy texts. Chile also had the third lowest share of tertiary-educated adults with higher-level (Levels 2 or 3) problem solving skills in technology-rich environments. There is little indication of improvement in skills since the 1990s. Chilean non-tertiary graduates obtain similarly low results in the Survey of Adult Skills, as do 15-year-olds in PISA (see also Chapter 5).

Inequities in access to higher education and study success persist.

Providing access to any form of higher education still remains a significant challenge in Chile, especially among Chileans from lower socio-economic backgrounds. As shown in Figure 4.3, Chileans from the bottom six deciles were roughly half as likely to participate in tertiary education in 2015 as Chileans from the highest decile. Tertiary education participation rates for Chileans from the bottom six deciles ranged between 28% and 36% in 2015, while participation for Chileans in the highest decile was 66%.

There is also considerable regional diversity in the proportion of the 18-24 year-old population enrolled in tertiary education. Coverage is below 20% in the administrative regions of O'Higgins and Aysén, but in excess of 40% in Arica and Parinacota, Bío Bío, the Santiago Metropolitan Area, and Valparaíso (MINEDUC, 2016b). The higher education participation rate of indigenous Chileans also remains less than 80% that of non-indigenous Chileans (MINEDUC, 2017a). Many students have received help to overcome barriers to tertiary education access through loans, but this has resulted in high levels of student debt. In Chile, loan debt is also often concentrated among students who pursue low-quality programmes that provide limited return on investment.

These financial barriers are the overwhelming focus of public discourse, but students from disadvantaged backgrounds face numerous other non-pecuniary barriers as well. In the National Socio-economic Characterisation (CASEN) household survey, only 17% of young people from families in the bottom income decile indicated that financial reasons explained why they were not participating in higher education (De Gayardon and Bernasconi, 2016). Failure to complete high school or pass qualifying examinations was the most common reason cited. The challenges that students face in earlier levels of

education, which we discuss in other chapters of this report, also have critical impacts on their access to higher education.

Student attrition remains high.

First-year retention rates improved across all types of higher education institutions from 2011-2015 in Chile, but entrance into higher education does not guarantee that students will complete a study programme successfully. Chile's first-time graduation rate for bachelor's degrees or equivalent was 33% in 2014, below the OECD average of 36%. That said, the first-time graduation rate for short-cycle tertiary education was 22%, above the OECD average of 11% (OECD, 2016a).

Students face particular difficulties moving from upper secondary school to higher education. University teachers expressed to the OECD review team that the greatest challenge students face is at entry. First-year retention rates vary considerably by institution, but are systematically lower for CFTs, IPs and non-CRUCH private universities (Table 4.4). Retention of first-year students in technical programmes averaged 65.1% in 2014 (MINEDUC, 2017a).

Table 4.4. First-year undergraduate student retention rates by institution type (2015)

Institution type	Average (%)	Change 2011-2015 (%)
CFT	65.7	+4
IP	67.6	+3.5
Universities	77.2	+2.2
State universities	77.9	+1.7
G9 universities	82.1	+2.1
Other universities	74.7	+1.6

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education] (database), www.mifuturo.cl/index.php/estudios/estructura-compendio.

As in many other higher education systems, it is widely suspected that Chilean students from less socio-economically advantaged families drop out more often (OECD/The World Bank, 2009). IPs and universities have generally higher retention rates among students from government-independent private schools. The retention rate at IPs was 67.7% and 82.1% at universities for students from government-independent private schools in 2014. The lowest retention rates were among students from public municipal schools (66% at IPs and 74.5% at universities). Retention is higher among HS graduates (72.8%) than TP graduates (68.8%). In technical tertiary programmes, however, TP graduates have slightly outperformed HS graduates since 2010. In terms of gender, men have lower retention rates (67.4%) than women (73.1%), and men take longer to complete their degrees across all institution types, which is also common across most OECD countries (OECD, 2016a).

A 2008 MINEDUC study identified three main causes of attrition: lack of vocation, economic factors and low academic performance (OECD/The World Bank, 2009). In addition, attrition levels partly reflect institutions' difficulties in accommodating student populations that are increasingly diverse in terms of socio-economic status, educational and cultural backgrounds, and special needs. Growing numbers of national and foreign students at Chilean universities also have maternal languages other than Spanish.

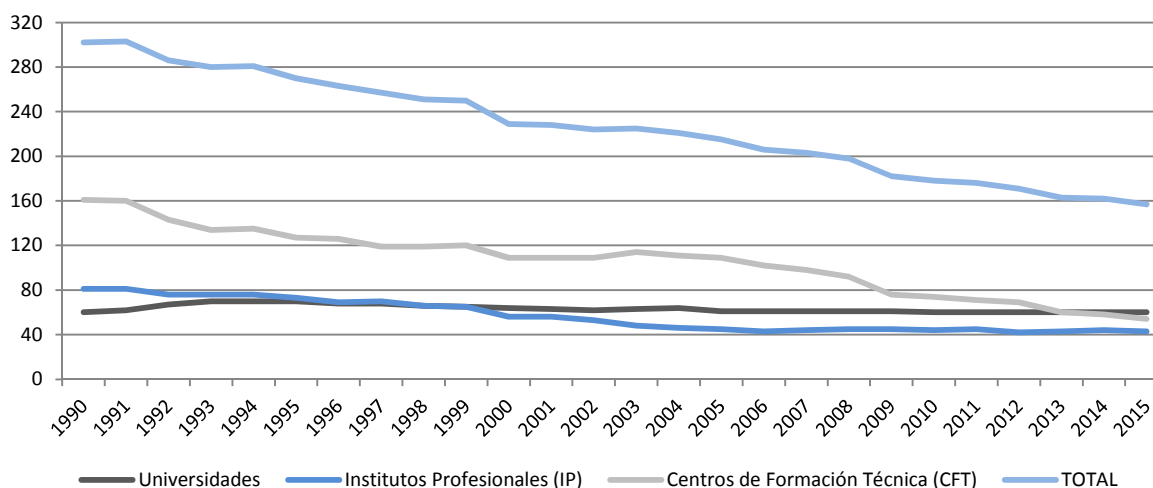
Chile has experienced a proliferation of higher education offerings without strategic co-ordination.

Historically, the Chilean government has played a very limited role in the governance of the higher education system. Instead, Chile has pursued an extreme market ideology that has resulted in limited co-ordination and standards.

Chile's higher education system became atomised under the military dictatorship of 1973-1990, and especially in the 1980s. In 1981, the government broke up Chile's two state universities (the Universidad de Chile and the Universidad Técnica del Estado), which had enrolled 65% of all higher education students. The government also shifted from direct public financing of institutions to deregulated tuition fees supported through scholarships and loans. It also allowed for the creation of new, private higher education institutions with little or no regulation. This led 40 universities, 78 IPs and 161 CFTs to open on a private basis between 1980 and 1990 (OECD, 2004).

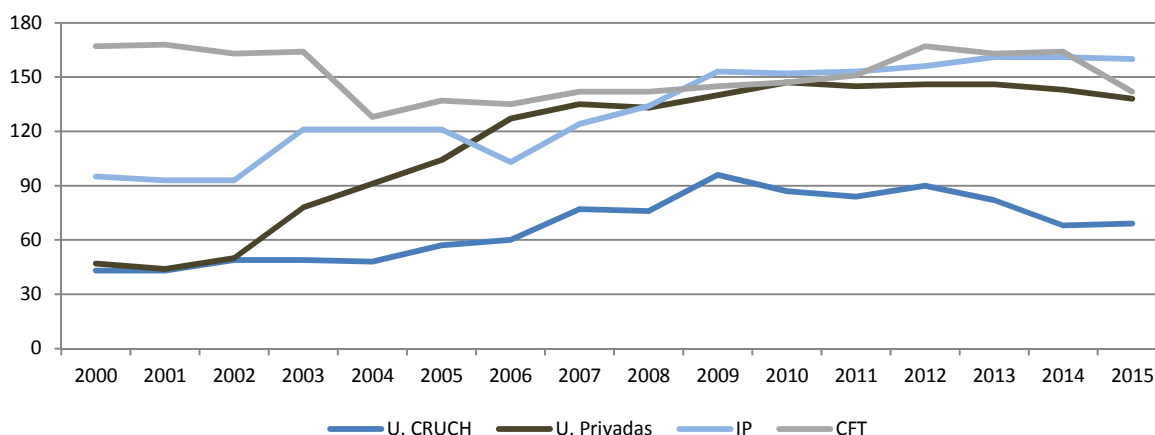
After the dictatorship's end, the government introduced the National Education Council or CNED (then known as Higher Council of Education, CSE) licensing process in 1990 to regulate the entry of new higher education institutions into the system (OECD, 2013). The number of higher education institutions has steadily fallen since (see Figure 4.3). Consolidations have occurred overwhelmingly among CFTs and, to a lesser extent, IPs, while the number of universities in 2015 was the same as in 1990 (MINEDUC, 2017a).

Figure 4.3. Number of higher education institutions in operation (1990-2015)



Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education] (database), www.mifuturo.cl/index.php/estudios/estructura-compendio.

Yet, licensed institutions retained full autonomy to grow, and so system growth shifted from the introduction of new institutions to the proliferation of campuses under single institutional umbrellas (OECD, 2013). The number of higher education campuses reached 398 in 2013, with a greater concentration in key urban areas, such as the Santiago Metropolitan Area, the Valparaíso region and the Bío Bío region (MINEDUC, 2017a). Non-CRUCH private universities and IPs have been especially active in introducing new campuses (see Figure 4.4).

Figure 4.4. Number of higher education campuses in operation (2000-2015)

Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education] (database), www.mifuturo.cl/index.php/estudios/estructura-compendio.

The case of the Universidad del Mar (see Box 4.1) illustrates how this growth in campuses could lead to serious problems in a context of weak institutional governance and inadequate external oversight. Recognising the recent nature of these events, Chile still faces an uphill battle to develop a higher education system that fully deserves the confidence of the public and can deliver on its promise to promote economic, social and cultural development.

Box 4.1. The Universidad del Mar Closure

The Universidad del Mar incorporated as a private, not-for-profit university in 1989, and began operations in 1990. It obtained full institutional autonomy in 2002, including the authorization to grant all types of academic degrees independently. It was also tasked with the obligation to make an appropriate and responsible use of faculty, and to overcome various institutional weaknesses identified during the authorisation process. The university grew rapidly in the subsequent years. Between 2002 and 2007 it opened 13 additional campuses and increased its enrolment from 2 900 to 22 388 to become the fifth largest university in Chile, despite being unaccredited.

Complaints of low-quality education and financial mismanagement began to draw attention in 2007, and culminated in the university’s rector denouncing mismanagement and resigning in 2012. The Ministry of Education decided to conduct a formal investigation of the University del Mar, and determined that the institution had violated its statutory objectives and committed several infractions. The University del Mar’s system of administrative, financial and academic institutional management was not coherent or consistent with the internal structure of the university. The institution did not conduct evaluations of any type to ensure students received a minimum quality of education. Also, it did not comply with the contractual obligations it had towards instructors, paying them late or otherwise owing remuneration, health or social security contributions. This had direct consequences on the quality of education, as protesting instructors refused to wrap up classes or deliver grades. In 2012, the Ministry of Education therefore ordered the cancellation of the institution’s legal status and the revocation of its official recognition by 28 February 2018. Subsequently, the institution went into bankruptcy. In 2016, the university, its former president and the National Accreditation Commission’s (CNA) former president were found guilty of bribery and associated crimes. In particular, the CNA president accepted favours in exchange for supporting the Universidad del Mar’s successful accreditation in 2010 after failed attempts in 2005, 2007 and 2008.

Box 4.1. The Universidad del Mar Closure (*continued*)

Students in the midst of their degrees were left in very difficult circumstances. The Ministry of Education has had to mobilise resources to ensure continuity of education for those students affected. It has managed the reorientation of Universidad del Mar students towards other institutions. It has also sought to ensure that these institutions adequately recognise the students' credits, and has provided resources for receiving institutions to develop remedial plans when necessary. The Universidad del Mar was asked to collaborate with the Ministry of Education in the closing process of the institution and to supervise the normal development of teaching activities and examinations in the interim. Court procedures relating to the collapse of the university continue, including efforts on the part of the university's creditors to reclaim students' debts.

Sources: OECD/The World Bank (2010), *Higher Education in Regional and City Development: Bio Bío Region*, Chile, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264088931-en>; MINEDUC (2017a), "Revisión de las políticas educativas en Chile desde 2004 a 2016" [Review of Educational Policies in Chile from 2004 to 2016: Chile National Report], Research Centre, Ministry of Education of Chile, Santiago; Library of the National Congress of Chile (2013), "Decreto que cancela la personalidad jurídica y revoca el reconocimiento oficial a la Universidad del Mar" [Decree that cancels the legal personality and revokes the official recognition to the Universidad del Mar], Ministry of Education of Chile, Santiago, www.leychile.cl/Navegar?idNorma=1048624 (accessed 16 September 2017); CNED (2017), "Proceso de Examinación Egresados Universidad del Mar (UdM)" [Examination Process of the Graduates of the University of the Sea], National Council of Education (CNED), www.cned.cl/ProcesExamin.aspx/index.html (accessed 16 September 2017).

Quality is very uneven across institutions and study programmes.

In any context, the considerable increases in tertiary education participation that Chile has experienced would create quality challenges. Compounding this, however, most growth in Chile has taken place at non-CRUCH private institutions, which are generally considered lower quality (MINEDUC, 2017a; 2016b). Whereas enrolment increased 40.3% at CRUCH universities between 2004 and 2016, it rose by 120% at other private universities, 266.4% at IPs and 125.7% at CFTs.

While all CRUCH institutions were accredited under Chile's quality assurance system in 2016, this was true of just over half (20 out of 35, or 57%) of Chile's other private universities, and less than half of IPs (17 out of 43, or 40%) and CFTs (18 out of 54, or 33%) (MINEDUC, 2017a, 2016b; internal government information, 2017). A majority of students at CFTs and IPs attend institutions with weaker or no accreditation, and almost one in ten higher education students attend non-accredited institutions overall (Table 4.5). Retention of first-year students in 2014 was 72.2% at accredited institutions as opposed to just 53.7% at unaccredited institutions, meaning that basically half of all first-year students at unaccredited institutions dropped out. Institutional accreditation has expanded rapidly in Chile. The proportion of accredited higher education institutions rose from 11.5% in 2005 to 54% in 2014 (MINEDUC, 2017a). However, programme-level accreditation has remained very limited. Only 28% of programmes and courses that enrolled students were accredited in 2014 (MINEDUC, 2017a).

**Table 4.5. Enrolment at universities, CFTs and IPs
by level of institutional accreditation (2016)**

Level of accreditation	Universities (%)	CFTs and IPs (%)
Accredited for four years or more	40	21
Accredited for less than four years	12	18
Without accreditation	4	5
Total	56	44

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

Historically, disadvantaged Chileans who enter higher education have been concentrated in lower-quality institutions (OECD/The World Bank, 2009). Over 90% of students in many of the Universidad del Mar’s programmes came from public municipal schools and government-dependent private schools (UDM, 2016). In addition, students from the lowest quintile are more likely to attend CFTs and IPs, according to information from MINEDUC. This ends up reproducing social inequities.

More limited financial resources, as shown in figures from Chapter 1, are almost certainly a key factor in the lower performance of IPs and CFTs. Fees at these institutions are less than half those at universities, but these fees financed more than 90% of IP and CFT expenditures in 2013-14. This is because their relative share of direct public funding was limited.

Chilean universities’ research performance is modest by international standards.

Despite their strong performance compared to other Latin American countries, Chilean universities have a limited presence in the higher levels of global rankings. Chile obtains its strongest results in the QS World University Rankings, with 11 institutions qualifying and two universities in the top 250 (Pontificia Universidad Católica de Chile at 170th and the Universidad de Chile at 209th). Chile performs less well in the Times Higher Education World University Rankings and especially the Academic Ranking of World Universities. Chile has six universities in the Times Higher Education World University Rankings that rank no better than 400th, and only two universities in the Academic Ranking of World Universities ranking between 301st and 500th. In addition, Chile’s percentage of publications among the 10% most cited was the seventh lowest in the OECD from 2003-2012, at 9.4% (OECD, 2015).

Chile’s higher education institutions could strengthen their ties to the development of the regions in which they are located, as well as national development, especially in terms of research and service. In research, for example, only 2.9% Chilean small and medium enterprises (SMEs) and 8.4% of large firms reported collaborating on innovation with higher education or research institutions in a 2010-12 OECD survey (OECD, 2015). This survey included 25 OECD member countries and Brazil. On average, 14.6% of SMEs and 36.8% of large firms reported collaborating on innovation with higher education or research institutions in this survey.

Nevertheless, Chile has some cases of strong ties between higher education institutions and regional development activities. The OECD study in Bío Bío noted a number of such activities, while the PIA has also helped to promote valuable partnerships (OECD/The World Bank, 2010).

Recommendation 4.1

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

Summary

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

Context

Since the end of the military dictatorship, Chile’s democratic governments have sought to provide greater leadership to the higher education system, but without challenging the dominance of the market approach of providers. In 1997, the Chilean government identified major policy directions for higher education for the first time, establishing an explicit prioritisation of quality and equity objectives, as well as regional relevance and internationalisation. Nevertheless, insufficient convergence between the development of Chilean higher education and the country’s broader economic, social and cultural objectives has persisted.

Higher education in Chile has largely remained without systemic goals and co-ordination, despite the presence of overarching bodies like DIVESUP, the CNED and the CNID, as well as the broader quality assurance system. The market has been compartmentalised, with high levels of formal control mechanisms, but asymmetric legal and economic framework conditions and uneven levels of capacity. Transparency has been lacking as information provided to stakeholders is often incomplete and obsolete. There have been pronounced time lags and important distortions in how government and other actors endeavour to address these challenges. Lawmakers have made many proposals for regulatory and policy changes, but these proposals have often been driven by relatively short-term political imperatives or ideological divisions. Such efforts have also been made without sufficient real consultation with business and industry on priorities for programmes and research at the national or local levels. This incoherence across various dimensions has led to market failures.

These challenges seem to stem from the absence of a shared vision for the higher education system. As observed during the review visit, actors have not clearly understood where they should fit within the system, or what the system is ultimately striving to achieve in the medium to long term. Chile’s 2016 higher education reform bill (under discussion in the Chilean Congress during the preparation of this report) proposed a number of steps to address these issues.

The first article of the Reform Law identified the following goal for the higher education system:

The generation and development of knowledge, as well as its application and communication according to current societal challenges; cultivation of science, technology, innovation, arts and humanities; linking to the community and the promotion of culture in diverse manifestations, all in order to contribute to

social, cultural, scientific, technological, economic, and sustainable progress in regions and the country as a whole, within the framework of a democratic State of Law. (MINEDUC, 2016c)

In the same way, it pursues a holistic preparation of individuals by providing them with equitable learning opportunities and conditions for lifelong learning that is relevant and of high quality, so as to permit them to participate actively in the various dimensions of social life and contribute to meeting the needs of the country at the local, regional and national level (MINEDUC, 2016c).

This goal reflects a strong emphasis on higher education institutions' contributions to regional and national development. This emphasis is further magnified through the identification of several system principles: 1) institutional autonomy; 2) quality; 3) diversity in institutional educational missions; 4) inclusion; 5) academic freedom; 6) participation in governance; 7) relevance; 8) respect and promotion of human rights; 9) transparency; and 10) training pathways and connections.¹

The reform bill defines the higher education system as the aggregate of public organisations and services with responsibilities relating to higher education, as well as higher education institutions. It is structured as a system of mixed provision, including institutions created by law and those recognised officially by the state. These can be divided into two subsystems: the university system and the technical-professional system (principally comprised of IPs and CFTs). The reform also identified guiding principles and a specific mission for state higher education institutions: to fulfil the state's responsibility to promote the development of education at all levels; to stimulate scientific research, technology, and artistic creation; and to protect and grow the country's patrimony. It also provided a definition of technical-professional training, and plans to create the Technical-Professional Training Advisory Council (Consejo Asesor de Formación Técnico Profesional). This advisory council would be responsible for preparing a national strategy for technical-professional training every five years, with clear guiding objectives. The committee has already convened and begun its work. The Minister of Education is the chairperson. The council must include ministers of state with relevant responsibilities, representatives from employers, worker organisations and higher education institutions, and experts in the field.

The Reform Law initially also distinguished between the roles of universities, IPs and CFTs to reinforce differentiation between institutions, underscore the importance of institutional relevance to society and facilitate connections (particularly among IPs and CFTs).

International evidence

Higher education is currently undergoing a period of significant change around the world. The traditional (Humboldtian) model of higher education governance viewed the university as a “learned republic” owned and governed by its community of teachers and elite students (Kristensen and Kjærgaard, 2003). This paradigm served elite higher education systems very well, but is ill-adapted to the strategic co-ordination of a mass higher education system and the needs of contemporary societies. Today, mass higher education systems have much wider societal responsibilities as most people in developed countries attend tertiary-level study programmes at some point in their lives (Liburd, 2013). Moreover, society invests more publicly and privately in the higher education system than the individuals of the “learned republic” (that is, students and professors). Society therefore claims accountability from universities, and even some control.

At the same time, institutional autonomy is increasingly regarded as a prerequisite to good performance (Easterman and Nokkala, 2009; Easterman, Nokkala and Steinel, 2011). As has been previously observed (Boulton and Lucas, 2008), “there has been widespread recognition of the value of university autonomy in permitting institutions to act decisively and flexibly in response to need or opportunity, and where state control is recognised as having been a barrier to development”. This autonomy cannot mean freedom from accountability, though.

The challenge is to ensure autonomy and accountability are not trade-offs but go hand in hand. This has been especially important with respect to public funds, and often the introduction of conditional funding has accompanied the transfer of authority to institutional leaders (De Boer et al., 2015). There is no single model of system governance that can be labelled as ideal. Effective governance must strike a creative balance between the regulation of the state, the drivers of the market and the interests of the academic community. The “triangle of co-ordination” exemplifies this ideal within the specific context (Clark, 1983).

These challenges provide the backdrop for much of our analysis in this chapter. The higher education systems that best tackle these challenges will also do the best job of fostering advanced human capital, knowledge and innovation.

Many jurisdictions around the globe have initiated important long-term system-planning exercises in recent years to help determine the best approach to navigating this new environment. These processes involve engagement with stakeholders from across the system as an essential step towards developing an overall vision that parties can not only support, but use as guiding frameworks for their decision-making. In many cases, how each institution is situated within the higher education landscape, as well as their internal and external efficiency, have been key areas of focus. This has resulted in a host of measures promoting greater strategic collaborations or institutional mergers.

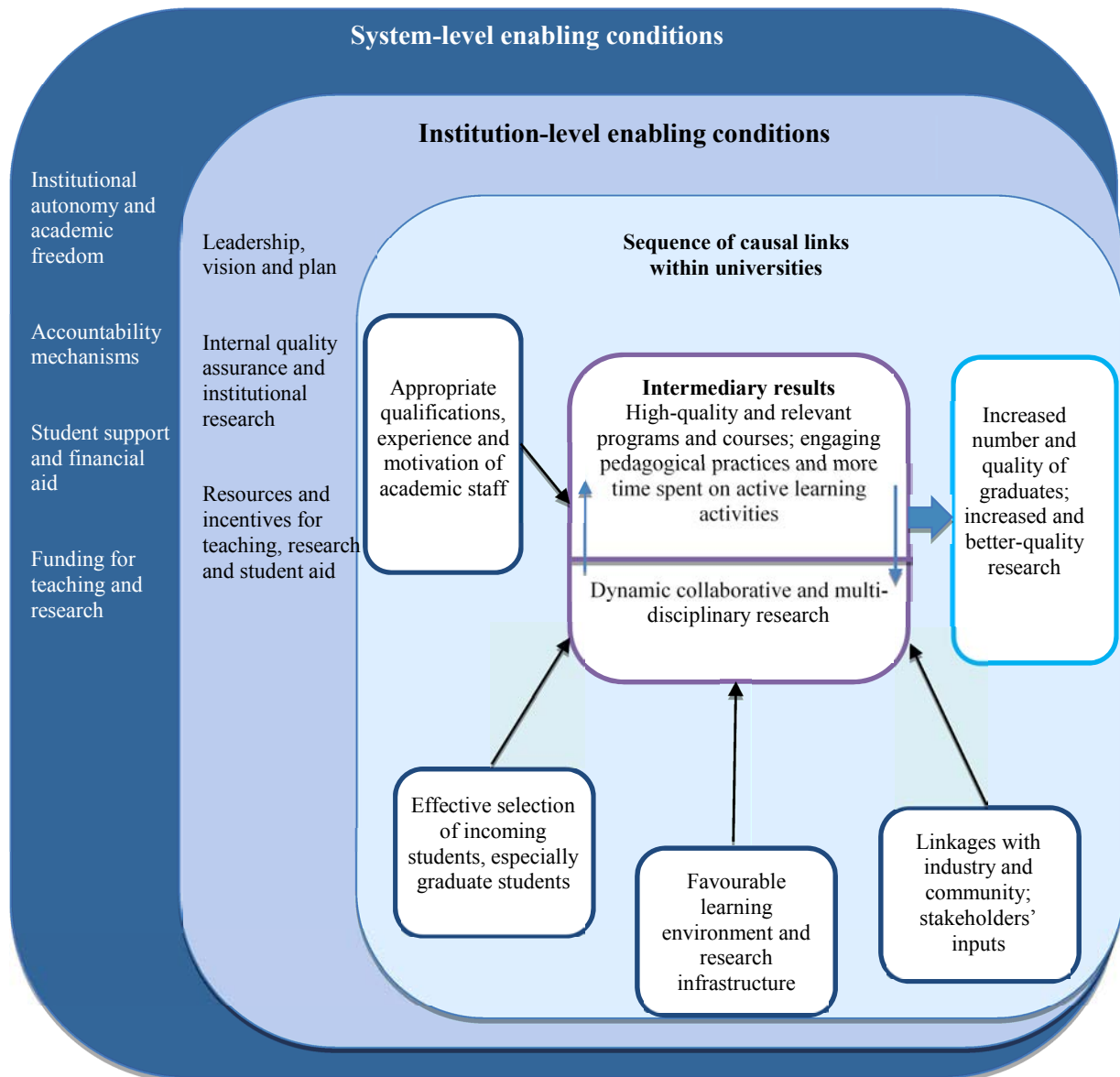
Since 2011, the development of **Ireland**’s higher education system has been guided by the National Strategy for Higher Education to 2030. The strategy identifies ambitious objectives relating to teaching and learning, research and engagement. It then proposes structural reforms to ensure these objectives are achieved, including in areas of system governance and financing. The strategy was developed by a Strategy Group with representatives from higher education institutions, student organisations, industry and government from Ireland but also from overseas. The Strategy Group received over 100 submissions from stakeholders. Ireland’s National Strategy for Higher Education to 2030 also involves regular dialogues with higher education institutions and monitoring of the system’s performance. Performance assessment is based on the targets institutions set themselves according to their: distinctive missions, national priorities and agreements with the Higher Education Authority (HEA).

Similarly, in 2005 **Denmark** established a Globalisation Council to advise on a strategy for Denmark in the global economy (Warming and Holm-Nielsen, 2009). The council includes 26 representatives from all sectors of society including the prime minister and four other ministers. It participated in 14 retreats to meet with stakeholders and hear from international and Danish experts before releasing a strategy that identified 350 measures to reform education and research programmes, and improve framework conditions for growth and innovation. Specific initiatives in the field of education and research included: bringing together elite science and consolidating a smaller number of

stronger research-intensive universities; doubling the number of PhD students; ensuring 50% of each year's graduating high school cohort completes higher education; and increasing co-operation between research scientists and industry.

A higher education strategy helps to develop a theory of change. Figure 4.5 provides an example of a theory of change that according to the literature and international experience would lead to better graduates and research, provided that the system-level enabling conditions are favourable (Salmi and Holm-Nielsen, 2014). Box 4.2 describes the elements of a tertiary education ecosystem that can generate the kinds of enabling conditions needed for this theory of change to be successful (Salmi and Holm-Nielsen, 2014).

Figure 4.5. Theory of change for producing more and better-qualified graduates, and more and higher-quality research



Source: Salmi, J. and L. Holm-Nielsen (2014), "Theory of Change and Methods for Evaluating NORHED", in *Evaluation Series of NORHED Higher Education and Research for Development*, No. 4/14, Norad, Oslo.

Box 4.2. Tertiary education ecosystems

Higher education institutions do not operate in a vacuum. To understand the determinants of their performance, it is essential to take into account key forces at play at the level of the tertiary education ecosystem within which universities and other institutions evolve.

The tertiary education ecosystem includes the following key elements: 1) the overall political and economic macro-environment; 2) the national higher education vision and strategy; 3) the governance and regulatory framework that shapes institutional autonomy; 4) the quality assurance framework; 5) financial resources and incentives; 6) collaboration between high schools and tertiary education, and among the various types of tertiary education institutions; 7) the economic, social and cultural characteristics of the geographical location, which determines institutions' ability to attract scholars and students; and 8) the available digital and telecommunications infrastructure. These forces can have facilitating or constraining effects.

The dimensions of the tertiary education ecosystem that most systematically influence the situation of individual higher education institutions are 1) governance, particularly with respect to the degree of institutional autonomy and academic freedom enjoyed by higher education institutions; 2) the accountability measures in place that are linked in one way or another to performance measures of higher education institutions (based on quality assurance and accreditation, assessment of learning outcomes, labour market results and research assessment); and 3) the funding available for research and teaching, especially for public universities that are heavily dependent on state resources.

Source: Salmi, J. (2011), “The Road to Academic Excellence: Lessons of Experience”, in *The Road to Academic Excellence: The Making of World-Class Research Universities*, World Bank, Washington, DC.

Body of the recommendation

Chile is seeking to move from an unplanned higher education system driven by a combination of tradition and market forces to a mixed system with many autonomous actors and a strong guiding role for government. This transition must emerge from a common vision that encompasses various goals, and a broad strategy forged to achieve those goals. Such a vision would ideally guide the development of laws, regulations, funding streams and other policy measures, gearing them towards medium- to long-term success.

The development of such a vision has been recommended in numerous past reports. The OECD/The World Bank 2009 review of Chile's higher education system (OECD/The World Bank, 2009) recommended that Chile's central government commission pursue periodic strategic planning exercises. The review recommended that such exercises closely involve institutions to assess whether the system as a whole is producing the needed technical and professional competencies, paying proper attention to access and equity, conducting enough high-quality research relevant to society and the economy, and providing value for public resources overall. The OECD report on Bío Bío (OECD/The World Bank, 2010) recommended that the Chilean government develop a regional human capital development system to define region-wide goals, policies and priorities extending from primary to tertiary education. Finally, a 2008 World Bank report had a very similar message about the need for national consensus in Chile on innovation strategy.

A strategic vision for higher education in Chile should be developed in organised, evidence-based and transparent consultation with stakeholders across the higher education sector and society more broadly. Stakeholder engagement is critical to ensuring that the plan meets current and future needs, and fosters shared ownership.

This process of reflection and consultation must define the priorities of Chile's higher education strategy. Certain broad elements are essential: improved quality (acquisition of knowledge and competences) and relevance (which would allow the acquisition of skills needed to modernise the economy); greater equity and access; adaptation to demographic trends and regional differences; internationalisation; and flexibility to respond to shifting demands.

The vision should consider in particular what mix of institutions will best serve Chile's needs. There is no single correct way of organising a mass higher education system, however diversification is widely considered a prerequisite for efficiency. Individual institutions must play distinct roles. Massification will continue to introduce students with more diverse needs into institutions, so the system must offer programmes for academically elite students as well as students seeking more rapid transitions into the workforce. Societal demands also vary geographically, as does the capacity of communities to support different institutional activities.

At the university level, no country of Chile's size can realistically support more than half a dozen research-intensive institutions that have the basic level of research capacity needed for this type of institutions. These research-intensive institutions could reach this critical mass of research capacity by dedicating half or more of their financial resources (and a similar share of staff time) to research in order to produce world-leading research in a few areas, and world-class research across a wide range of disciplines. A larger number of other universities could complement the research-intensive institutions and produce world-class research in a few areas. The system could also include a number of primarily teaching institutions, some narrowly specialised and others focused on broader ranges of disciplines (technical, professional, business and management, teaching) (see Chapter 1). All universities should pursue research in collaboration where appropriate. That said, Chilean educational authorities could put greater emphasis on delivering high-quality relevant instruction at universities that are not research intensive.

Across all types of higher education, continuously strengthening a culture of quality, as well as upholding a threshold for quality, administrative capacity and efficiency is essential. As quality assurance mechanisms become more developed and integral to daily operations in Chile, they will require the primary attention of a critical mass of professional staff. Unfortunately, only a few institutions at best have this staff in place. Thus, this will present a special challenge to smaller institutions. Staffing issues will likely lead to further consolidation of Chile's private higher education institutions over time.

Chile's strategic vision for higher education must also consider how institutions should relate with one another. All institutions should be required to take on system responsibilities, especially the few research-intensive universities. Creating pathways to connect further upper secondary, technical, professional and university education is critical.

Finally, in developing such a vision for the system it is important to learn from other countries, and to take global trends into account. While Chile has imported external models of private higher education, the public policy debate on higher education seems to pay relatively little attention to what is happening beyond the country's borders. As noted by the earlier OECD Quality Assurance Review (OECD, 2013), "the world outside Chile

is changing fast and Chile needs to reflect on its place in the international higher education landscape too – one where global providers will seek business; where Chile’s services can be offered to other countries, and where online education may rapidly become pervasive”.

Recommendation 4.2.

Establish an effective steering infrastructure.

Summary

Once a clear national vision has been established to define the societal purposes of Chile’s higher education system, the financing, governance and management practices required to accomplish this vision need to be put in place. This steering infrastructure in Chile’s mixed system should seek to guide the operations of the market, but resist the temptation to over-regulate. Successful higher education reforms will require a mix of market-based and state-driven incentives, as well as regulations (Canton et al., 2001). Institutional leadership must be appropriately accountable externally (to society, funders and others), as well as internally (to faculty, staff and students).

Context

An effective higher education system requires strong institutions. The challenge in strategic governance of a higher education system is to balance system strategy and institutional accountability with institutional autonomy.

The proposed higher education reform defines the principle of autonomy as follows:

The system recognises and guarantees the autonomy of higher education institutions, understood as the power to determine and pursue institutional goals and projects within the framework established by the law. Institutions must exercise their autonomy responsibly, and towards the goals and principles of the higher education system, the public good and the development of the country and its regions. (MINEDUC, 2016c)

In other words, institutions can determine their own activities autonomously, but must do so in ways that are consistent with the overall system’s goals. The Chilean government has proposed, put in place and plans to evolve a number of mechanisms to achieve this.

System-level steering agents

The system actors in Chilean higher education, including within the quality assurance system, are described in Chapter 1. To date, DIVESUP has been the primary agent in higher education strategy, while the CNA has exercised strategic leadership intermittently using its power over accreditation. In general, the CNED has not played a strategic role in the sector. The 2016 proposed higher education reform would introduce a number of mechanisms to facilitate system steering.

A new Sub-Secretariat for Higher Education would replace DIVESUP with greater statutory authority. The sub-secretariat would be the principal guarantor of the system, responsible for introducing higher education policies, co-ordinating implicated state organisations and administering state policies and programmes where appropriate. The sub-secretariat would include separate university and professional-technical education divisions.

Based on the Reform Law, four different bodies would make up the Higher Education Quality Assurance System, modelled on the compulsory education system (see Chapter 1):

- The sub-secretariat would be responsible for co-ordinating the public organisations in the system through the development of an institutional co-ordination plan outlining commitments, objectives and measures to achieve these, in addition to areas requiring “special co-ordination”.
- The CNED would maintain its current responsibilities relative to appeal procedures.
- Initially the CNA was to be replaced with a new Council on Higher Education Quality, but this change was later withdrawn. The latest proposal at the moment of drafting this review was to reform the composition of the CNA to reduce conflicts of interest (MINEDUC, 2017b). The government is in the process of prohibiting private accrediting agencies.
- The new Higher Education Superintendency (Superintendencia de Educación Superior) will follow the model of the Education Superintendency (again functionally decentralised with an independent legal status), and be responsible for: auditing higher education institutions and their affiliates in terms of respect for basic norms; compliance with conditions of official recognition of higher education institutions (MINEDUC will still oversee the initial granting of official recognition); legitimate use of resources; academic commitments and student enrolments; monitoring the institutions’ financial viability; and ensuring that institutions are fulfilling other responsibilities.

On the research and innovation side, prior to 2017, the government made limited strides in terms of steering higher education research and innovation. This year, however, the government introduced legislation to create a Ministry for Science and Technology and a National Research and Development Agency (Agencia Nacional de Investigación y Desarrollo, ANID) (President of the Republic, 22 February 2017). The new ministry would aim to overcome the “incapacity of the country to take on strategic initiatives”, as described in a 2015 report by the Presidential Advisory Commission on Science for the Development of Chile. The ministry would take on strategic initiatives by providing policy leadership and co-ordination to the various agents within the higher education system. The ANID would be responsible for executing policies set by the ministry, and for replacing CONICYT. In developing a national science, technology and innovation strategy that adopts a long-term outlook to guide policy-making, the legislation also envisions the creation of a National Council of Science Technology and Innovation for Development, which would displace the CNID. A 2008 World Bank report welcomed the formation of the CNID, as well as the Inter-Ministerial Committee on Innovation, as important steps towards creating a more cohesive and better-governed national innovation system. In practice however, the CNID’s mission and composition has changed several times since its creation. Finally, the new legislation envisions an Inter-Ministerial Committee that would be responsible for developing a national policy on science, technology and innovation. While these changes will influence the research and innovation environment in which higher education institutions operate, MINEDUC will retain primary responsibility for the system.

Higher education institutions themselves can perform steering functions, with state institutions holding a particularly important position in this respect given their closer ties

to higher-level authorities. In this respect, the creation of fifteen state CFTs, and two new state universities in particular, will significantly reshape the system across Chile's administrative regions.

In terms of institutional representation, the Chilean government has no single interlocutor that represents higher education institutions collectively. CRUCH has been the primary negotiating counterpart, but represents only a subset of institutions. CRUCH's exclusion of many private universities has become less and less justifiable over time. In addition, many decisions discussed by the government with CRUCH also have important implications for CFTs and IPs (OECD/The World Bank, 2009). Non-CRUCH private institutions have engaged in discussions with the government through other channels. Private universities were heavily involved in negotiations shaping Gratuidad, while CFTs and IPs confer with the government through their own associations, as well as via some as members on the Advisory Council on Technical-Professional Training. Nevertheless, this overall structure remains inequitable, and is not conducive to effective co-ordination across the whole system.

The 2016 reform package proposed the creation of a network of state higher education institutions (Red de Instituciones de Educación Superior Estatales). This network would focus on aligning institutions with national and regional policies, promoting the exchange of best practices and stimulating the creation of joint programmes and research teams. The Sub-Secretariat for Higher Education would provide technical support. This network may facilitate engaging with state universities on issues of specific relevance.

Institutional governance and management

The current reform acknowledges the importance of senior administrative bodies of higher education institutions. The administrative leaders within Chile's institutions and agencies are crucial to the steering of the higher education system. They face increasing challenges in terms of the sheer size of budgets, campuses, staff complements and enrolments. In addition, these administrative leaders also face greater complexity in all aspects of their operations such as making line management more efficient, transparency and communication requirements, and diversity in languages and cultures. Considering these challenges, traditional academic leadership and elected or politically appointed management are not enough anymore. Administrations need to become professional organisations led by highly qualified and specialised leaders who can also provide continuity across election cycles.

The performance of institutions depends a great deal on the abilities of their personnel to perform, but the OECD review team observed various ways in which leaders and other administrators could be better prepared. Career pathways are not clear for many administrative roles, and there appear to be few structures to support professional development of administrators in Chile. Many positions are occupied by political appointees without regards to their professional insight and knowledge.

Officials also often serve for shorter terms, depending on political cycles. They therefore face challenges in accumulating experience and developing expertise that can be used in these roles. Many institutional leaders also have inadequate infrastructure supports in terms of policy guidelines, and information and communications technology (ICT). State institutions are also restricted by cumbersome civil service controls and regulations.

Chile's reform identifies participation in governance as a key principle for the higher education system. This indicates that higher education institutions should promote and respect the responsible participation in institutional governance of all "estates" (e.g. faculty, students and other staff). In 2015, Law 20.843 removed the prohibition of students and staff of higher education institutions from participating in institutional governance.

A proposal that was initially part of the larger reform, but has since been separated out, would further specify the composition of boards of directors (*consejos directivos*) of state universities. Previously, external parties have had little role in institutional governance. This new proposal changes that. Boards would have nine members, including the rector as board chair, two representatives of academics elected in the same fashion as the rector, two representatives of the collegiate body and four appointees of the President of the Republic. Terms of board members would be for four years, except the collegiate body representatives' terms would be for just two years and subject to renewal only once, while rectors would also be given two consecutive term limits. The universities would also be required to establish a collegiate body – apart from the board of directors – focused on advancing the university's development plan, particularly in terms of academic study. This collegiate body would be elected and comprised of two-thirds academics, though it would also include representatives from all the estates at the university. Boards of directors have been responsible for approving programmes of study, study plans and academic certifications in Chile. This has been identified as a problem because it has placed these bodies in conflict with their institutions in terms of issues like autonomy, collegiality and academic freedom (Rock and Rojas, 2012).

Institutional licensing and accreditation

One of the key instruments for steering higher education in Chile is institutional licencing and accreditation. Unfortunately, the quality assurance system has been hampered by weaknesses introduced when the original implementing bill was passed by Congress in 2006 (OECD, 2013). The principal message from the OECD 2013 Quality Assurance Review was that SINAC-ES needed a thorough overhaul.

The Universidad del Mar case has been emblematic of insufficient transparency and conflicts of interest in institutional accreditation (Unidad de Coordinación de Cierre y Reubicación UDM, January 2016) (see Box 4.1). Other private universities or their staff are also currently involved in criminal investigations associated with accreditation processes. Another challenge is that standards for accreditation have been insufficiently adapted to Chile's diversity of institutions and programmes. The need to address the particularities of vocational training at IPs and CFTs is discussed in greater length in Chapter 5.

In December 2014, Chile passed Law 20.800 to establish processes for the closure of higher education institutions. This law responded to the government's experience with the withdrawal of Universidad del Mar's license. According to Law 20.800, the provisional administrator's objective is "to safeguard the right to education of students, ensuring the continuity of their studies and the proper use of all resources of the institution of higher education" (Article 1). According to this law, the Ministry of Education will be entitled to investigate those institutions of higher education that could be in danger of "a) failure to fulfil its financial, administrative or labour commitments; b) failure to comply with the academic commitments made with its students; c) serious infraction of its statutes or social deed, as appropriate" (Article 3, Paragraph 2).

The 2016 higher education reform package and its subsequent revisions propose multiple steps to strengthen Chile's quality assurance system pursuant to its goal of guaranteeing education quality and upholding public confidence. Many elements of the reform align with the recommendations of the 2013 OECD Quality Assurance Review.

Accreditation would become mandatory for all higher education institutions, including IPs and CFTs. Institutions unaccredited for over 16 months would have their licenses revoked, forcing them to close. In addition, before the 16-month mark these institutions would not be permitted to enrol new students or receive public funds, including indirect funds received in the form of financial aid for their students. According to the reform, certain degree programmes (*carreras*) at accredited universities would also require accreditation and initial authorisation from the CNA to be introduced. These degree programmes include doctoral programmes and professional degrees of medical surgeons, as well as teaching degrees in compulsory and pre-school education (including special and TP education).

Institutions could be accredited at three different levels, depending on their performance. They could also obtain provisional accreditation if they only meet three-quarters of the requirements corresponding to the lowest level of accreditation. Full accreditations will last for seven year terms, while provisional accreditations will have a duration of three years. Institutions will not be eligible for consecutive provisional accreditation or three provisional accreditations in a period of 24 years. Institutions with lower levels of accreditation would face new restrictions on their activities. Whereas institutions with the highest accreditation would need only to inform the government of new programmes or campuses, those with lower levels of accreditation would require government permission to expand programmes. Institutions with provisional accreditation would not be permitted to introduce new programmes, open new campuses or increase the numbers of seats in their programmes.

Finally, Chile's higher education reform envisions the development of stricter standards and criteria for accreditation through collaboration with the different quality assurance bodies in consultation with higher education institutions. These standards and criteria should include elements relating to service as of 2025, and the production of knowledge, creative works and innovation as of 2035-2040 (MINEDUC, 2017b).

System financing

Adequate and sustainable funding is the essential complement to effective system steering.

Conditional public higher education funding to 2015

Going back to 1990 and particularly since 2008, there has been an ongoing trend to make direct public funding of higher education institutions in Chile conditional by making funds either competitive or tied to specific activities. In 2015, conditional funds represented 41.6% of all direct government funding to higher education institutions, compared to 30% in 2004. The MECESUP programme in particular includes performance agreements, which require institutional improvement plans and enhance accountability and transparency (OECD/ World Bank 2010).

Yet, the fact that Chile's higher education system is largely financed through private sources has limited the capacity of the government and its associated actors to use conditional financing to steer the system. Conditional funds comprise a modest

proportion of total revenues for CRUCH universities once tuition and the AFD (Aporte Fiscal Directo) are considered. Conditional funds are even less significant for other private institutions, even though practically all the direct public funds they receive are conditional. Of course, much of the public funding these institutions receive is indirect through student scholarships and loans, but institutional accreditation institutions place few conditions on these funding streams. (Students of course have conditions around income and academic performance, but this only shapes institutional behaviour to a limited extent.) The Chilean government has imposed no policies to tie student graduation rates to institutional financial obligations under the CAE (OECD/World Bank, 2010).

Steering mechanisms that are not carefully designed can introduce perverse incentives. The AFI, for example, appears to have established an incentive against recruiting disadvantaged students through its support for students based on performance only in the PSU (OECD, 2013).

The Universidad del Mar case highlights the challenge of enforcing conditions that can imply significant financial and academic impacts on institutions and their students. Institutions can risk becoming “too big to fail” when checks and balances are not implemented early on.

Reforms in funding for instruction since 2015

Significant changes to system financing were introduced by the 2016 Reform Law, revolving in large part around the free tuition (Gratuidad) programme. These changes would considerably expand conditional public funding for Chilean higher education institutions.

Gratuidad was launched in advance of the larger reform package. Under its original terms and proposed reforms, a host of requirements make Gratuidad a conditional institutional funding stream that is relevant to steering. Under the Higher Education Reform Law, institutions would have to pursue the following access-related policies to be eligible for the programme:

- Participate in the recently created Common System of Access to Higher Education Institutions (Sistema Común de Acceso a las Instituciones de Educación Superior, SCAIES), which will have two governance committees – one for universities and one for IPs and CFTs.
- Apply equitable access policies approved by the Sub-Secretariat for Higher Education.
- Create programmes to support persistence among vulnerable students, and thus move towards having at least 20% of total higher education enrolment be comprised of students from the country’s four lowest income deciles.
- Achieve institutional quality assurance accreditation for at least four years.

The programme established a 2.7% limit on first-year admissions growth for funded seats at participating institutions. However, the 2016 higher education reform also proposed to adjust this limit based on level of institutional accreditation, the type of institution and regional higher education coverage.² Subsequent measures allow growth beyond 2.7% tied to the PACE programme or other strategic and regional development arrangements between MINEDUC and institutions (MINEDUC, 2017c, 2017b).

Funding through Gratuidad is delivered to institutions based first on newly regulated tuition fees set nationally by MINEDUC. MINEDUC sets these fees in response to the advice of an expert commission. These fees should account for institutions' full material and human resources costs, as well as indirect costs like annualised infrastructure investments. Cost calculations are to be updated annually based on the consumer price index (CPI), and every five years based on a more fundamental review (MINEDUC, 2017b). Under current rules institutions are permitted to charge non-subsidised students 120% of the regulated tuition to those in the seven lower-income deciles, and 160% of the regulated tuition to those from deciles eight and nine. Fees are not regulated for students from the top decile or for international students. In case these ceilings are not effective (that is, if they exceed the actual tuition), institutions will not be able to increase their tuition by more than the variation of the CPI plus 2%. These ceilings had an immediate effect on certain prestigious private institutions that charged higher tuition before entering the Gratuidad programme (De Gayardon and Bernusconi, 2016). Ultimately, enrolment is the key dynamic determinant of financial resources made available to institutions participating in Gratuidad. Other forms of government funding could introduce dynamic conditionality based on different performance measures such as degrees granted or graduate employment outcomes.

Chile is proposing to finance Gratuidad partly through a reallocation of previous funding streams. The AFI is being eliminated. The reform initially would have also reduced the AFD, but this decision was later reversed. The current proposal would maintain the AFD (MINEDUC, 2017b). The original reform would also have introduced new funds for state institutions to help them fulfil the role outlined for them in the Reform Law (with conditions placed on implementing the reform's institutional governance measures). Further details on revisions to these measures are pending.

The government aims to maintain its other financial assistance programmes in addition to Gratuidad, with various conditions relevant to institutions. Students from the seventh income decile and below would be eligible for scholarships if their institutions fulfil the following requirements: quality assurance accreditation, participation in the Common Access System and non-profit status. Students would remain eligible for loans to attend all higher education institutions up to the ninth decile, including at institutions that do not fulfil the requirements for their students to receive scholarships.

Reforms implemented or proposed since 2015 would also make funding conditional on an institution's non-profit status. This requirement is based on the idea that profit-driven behaviour distorts an institution's academic mission. Yet some private universities clearly continue to derive financial benefits from their activities, even though it is illegal for them to make profits. In 2009, the OECD argued that restrictions on profit making may be leading institutions to behave less transparently, with significant potential consequences (OECD/The World Bank, 2009).

Research funding

A recent OECD report (OECD, 2016b) highlights various challenges posed by Chile's system for research funding. The system is overly complex in its operation, and it has a large number of different funding programmes despite the fact that there is very little evaluation of research impact.

The concentration of research funding and performance within a narrow set of research centres has likely contributed to Chile's strong research performance relative to regional peers. It is a rational strategy, given Chile's relatively low investment in research

as indicated in Chapter 1. The regional CONICYT programme that seeks to better distribute research activities by supporting programmes outside the major metropolitan centres is consistently low performing. This is probably due to the fact that regional centres are not positioned alongside strong research universities (OECD, 2016a).

CONICYT research centre funding uses five-year funding terms. Research centres can renew this funding for an additional five years, but must apply to a different programme after these ten years elapse. While in line with international practice, for Chile, this ten-year drop-dead date makes it difficult to recruit and retain good research personnel at regional centres.

Chile's reform programme also initially proposed new research funding for institutions tied to participation in Gratuidad and performance measurement. This research funding was financed through a reallocation of funds from the AFD. MINEDUC subsequently backtracked from this idea, however, vowing to maintain the AFD, and abandoning its proposed new research funding stream. Under the latest proposal, research costs are to be included in calculations for determining the base tuition values, at least on a temporary basis. This will in turn help to determine the amount of public funds needed to support Gratuidad. Details remain unclear; however, it appears this measure would not directly connect this research funding to institutional performance.

Transparency

Information is crucial to informing the government's decision-making process and other system steering agents, as well as the decisions of other institutions, students, parents and employers. Students in secondary school especially lack reliable information about the quality and relevance of courses. These students are also targeted by considerable advertising that may in many cases be misleading. The 2016 higher education reform would establish new requirements for transparent reporting in quality assurance, admissions processes and other elements of the system. Three initiatives especially aim to strengthen the system's transparency, each falling under the sub-secretariat.

The first initiative would aim to strengthen the National Higher Education Information System (Sistema Nacional de Información de la Educación Superior, SIES). The reform focuses especially on strengthening the collection, validation, updating and regular dissemination of information provided by institutions and other actors to inform public policy, institutional management and the public. This includes information on enrolment, staffing, resources and infrastructure. It also includes information on institutions' legal statuses, partners and leadership, and details of institutional property and financing, including audited financial statements.

The SCAIES is the second transparency initiative. It aims to provide more detailed information to students on programmes and admissions processes, guided by principles respecting student choice, institutional autonomy and the diversity of programme offerings. Participation would be mandatory for institutions that receive public funds, and voluntary for additional institutions. SCAIES is accompanied by greater expectations for transparent and objective admissions processes at all institutions.

The last initiative is the National Qualifications Framework (Marco Nacional de Cualificaciones, MNC), which has been under discussion for a long time. The MNC would seek to create a common system of degrees, diplomas and other certifications. The

goal would be to grant graduate profiles greater transparency and coherence so they can be understood by employers and other education institutions. As currently proposed, the MNC would fall under the supervision of the Sub-Secretariat of Higher Education.

International evidence

In recent years, many educational jurisdictions around the globe have adopted new legal frameworks and other significant governance reforms. According to the OECD (2008a), “the trend has been for a reduction of direct state control of tertiary education in most OECD countries, less involvement in the running of tertiary education institutions on a day-to-day basis, and the introduction of new forms of supervision and influence through accountability mechanisms”. Many European countries have granted independent legal statuses to their higher education institutions, especially universities. Consistent with these changes, countries have adopted important policies to improve institutional governance and management, institutional licensing and accreditation, system financing, and transparency.

Institutional governance and management

A further effect of the massification of higher education is that institutions have become much larger. They have many thousands of students, staff and faculty, expansive and expensive facilities, and vast budgets from highly diversified funding sources. Such complex organisations require professional management by highly qualified individuals operating within effective organisational structures.

The OECD (2008a) observes the following main effects stemming from both this greater institutional complexity and increased autonomy across higher education systems:

1. A strengthening of the power of executive authorities within institutions, increasingly being appointed for their leadership and management qualities in addition to the traditional academic leadership skills.
2. A concomitant loss of power and influence by existing collegial bodies.
3. An increase in participation on governing bodies by individuals external to the institution, which has strengthened the leadership of tertiary education institutions.

European countries have made special efforts to resolve the trade-off between collegiality and managerialism at the university level without sacrificing the former. In a report on the issue presented to the Swedish government (Bremer, 2015), it is argued that collegiality is a “fundamental component of the management of universities”. This report also recommended that Sweden strengthen and clarify the roles of both academic collegial management and line management (rector, deans, heads of department and more), and avoid sacrificing one to the other. In less developed higher education systems, such as Chile’s, the further serious challenge is that administrations are often not professional and empowered.

Notwithstanding their often similar challenges, higher education systems around the world have many different governance and management structures. Of greater interest, however, are the mechanisms that they use to establish, maintain or enhance the effectiveness of those structures.

Strengthening governance structures

One tool governments can use to shape institutional governance is governance codes. In **Scotland** (UK), the Scottish Code of Higher Education Governance offers a set of main principles supported by guidelines and examples of good practices to guide institutions. Scottish institutions must either “comply or explain” their adherence or non-adherence to this code. The principles include: institutional autonomy, financial accountability and efficiency, active stakeholder participation, guarding against potential conflicts of interest, maintaining and observing clear statements of authority and responsibility throughout the institution, and matching such authority and responsibility with accountability to key internal and external stakeholders. The Scottish governing body in a higher education institution determines its overall strategic direction and sets institutional values, whereas the senior team of administrators is responsible for the operational management of the institution (OECD, 2016d). The avoidance of a prescriptive set of rules is one way in which the code has tried to reflect the diversity of higher education institutions in Scotland (UK) in terms of governing instruments, traditions and strategic missions.

Ireland has developed a similar governance code through a partnership between the national government and higher education institutions. The code outlines appropriate procedures and controls in the form of principles and best practices that are periodically updated. These again are intended not to be prescriptive but to serve as a reference point for each institution to interpret according to its unique circumstances and structure (OECD, 2016d).

The Netherlands provides another interesting case study for approaching institutional governance. The country has a binary higher education system that includes Universities of Applied Sciences (Hoger Beroeps Onderwijs, HBOs) roughly equivalent to Chile’s IPs and CFTs, as well as research universities (OECD, 2008a). Both types of institutions are autonomous, public and rely primarily on government funding, though they also charge tuition. Institutional governance is shaped by legal requirements and a governance code (VSNU, 2013). Each institution must have an executive board and a board of trustees. The executive board is responsible for management, and has three members including the rector. The board of trustees supervises and advises the executive board, by: appointing members of the executive board; approving governance and management regulations; approving the budget, annual and financial reports, and the institutional plan; and more. The board of trustees may include between three and five members who must have no direct interest in the university. They may not receive personal financial remuneration from the university or an associated corporate entity other than that as a trustee, although one member is appointed on the nomination of the university council or staff council. Appointments are made by the Minister of Education, who must take into account the gender balance “as much [...] as possible” (VSNU, 2013). This model could be particularly relevant to Chile’s IPs and CFTs, as it makes institutions particularly responsive to external guidance and stakeholder involvement (De Boer and File, 2008).

Finland has granted its universities much more autonomy in recent years, and has adjusted institutional governance to a more managerial model, while still maintaining more elements of collegial governance than in many English-speaking countries (Ahola et al., 2014). The government has separated universities from the state, and let them become autonomous legal entities or foundations. At the same time, these universities remain publicly funded. Finland is currently replicating this process with its polytechnic

institutions. The board of governors is the supreme decision-making body that now selects and can dismiss the rector, replacing collegiate elections. Boards are required to have 40% of their members from outside the institution. Collegiate representatives still comprise a majority of most governing boards, however, as much as 60% of the members may be elected as representatives of teaching and research staff, other staff, and students (representatives from any one of these three groups may represent no more than half their total number at the board). Institutions also have collegiate bodies (collegium), which determine the number of board members and their terms of office. Collegium also elect the outside board members, appoint the university's auditors and confirm financial statements and the annual report.

Developing leadership

Many countries are also pursuing initiatives to strengthen institutional leadership.

In the **United Kingdom**, funders have provided support for the establishment and operation of the Leadership Foundation for Higher Education, which has a mission “to serve, drive and catalyse the best possible leadership, governance and management in higher education”. This foundation operates a host of different programmes to support executive leaders and managers, as well as members of governing bodies (LFHE, 2016).

Ireland's Department of Education and Skills has created a National Forum for the Enhancement of Teaching and Learning. Its mandate is to engage with leaders, managers, teachers and students to mobilise expertise and inputs from across the entire higher education sector to extend and shape best practices in all of the country's institutes of higher education. One of the forum's priorities has been to develop a roadmap for building digital capacity, to provide support in this important area to leaders across the higher education system. This roadmap is also meant to enhance the higher education system's effectiveness, especially in terms of teaching and learning (T&L, 2016).

Institutional licensing and accreditation

The Netherlands provides an example of effective institutional licensing and accreditation. The Accreditation Organisation of the Netherlands and Flanders (NVAO) licenses new Dutch private institutions to allow them to provide accredited programmes of more than one year's duration, and make their students eligible for student financial assistance (NVAO, 2016). To become accredited, institutions must apply for an extensive initial accreditation by the NVAO based on the quality of their programmes. Institutions must also apply to the Dutch Inspectorate for Education for a recommendation based on quality and continuity (including compliance with legal requirements). Finally, these institutions receive a positive decision by the Minister for Education, Culture and Science, if approved. Initial and subsequent accreditation terms may be up to six years, though the NVAO may issue a positive decision “with conditions” of up to two years, and applied in the same way to public and private providers. Applicants must pay for accreditation applications and complete them within six months. The NVAO institutional review process is described in greater detail later in this chapter.

System financing

Conditional funding tied to specific purposes or based on certain outcomes is now a key higher education steering mechanism for governments. It is a natural consequence of today's mass systems that funders request specific objectives and outcome targets to ensure value for money.

The tension between equitable distribution of funds among institutions and demands for focusing on excellence is inherent to funding higher education. It has become especially significant, however, in terms of research (both for fundamental research grants as well as research contracts with industry and public-sector entities). The days in which most research was financed through core funding are long gone; in fact they only existed in much narrower higher education and research systems that were mostly dedicated to instruction. Incentive structures increasingly reward research output and impact.

Higher education financing in **Denmark** is largely based on performance. Approximately 60% of funding to universities and 89% of funding to university colleges (which offer professionally oriented first-cycle degree programmes) are provided based on performance. This includes all funds allocated specifically for teaching and learning, and most funds for research. On the teaching and learning side, the “taximeter system” aims to improve completion, and ties funding to academic activity outputs. One key way Denmark’s measures academic activity is exams passed by students. It also gives institutions a bonus if students complete their programmes on time. To date, the bonus has been provided as a fixed pool, from which institutions can collect funds in competition, but in 2020 institutions will begin to lose money if students do not complete their studies on time. Denmark has addressed the risk of perverse incentives through quality assurance mechanisms that maintain internal accountability and focus leadership on students’ performance in their study programmes and graduates’ performance in the labour market. In terms of basic funding for research, the government provides it overwhelmingly to universities. 30% of this funding is tied to performance measures, including: research activity relevant to educational activities, external research financing, bibliometric research indicators and the share of doctoral degrees granted. Denmark also funds research through competitive grants. The instruments for performance measurement have been refined over time to improve suitability (De Boer et al., 2015). **Ireland** is similarly working towards introducing performance funding connected with the performance monitoring under its National Strategy for Higher Education to 2030 (Department for Education and Skills, 2011).

Many educational jurisdictions around the world are now using performance agreements between the government and individual higher education institutions to identify goals. **Austria**, the **Netherlands** and **Scotland** (UK) use such agreements. These agreements can have various aims, such as encouraging institutions to strategically position themselves; improving the strategic dialogue and alignment between government and institutions; improving institutions’ core activities; increasing institutions’ efficiency; and informing policy makers and the public about the institution or system’s performance. The agreements are often connected with broader strategies for the higher education system as a whole, and backed by conditional funding instruments. They have the added benefit, in many cases, of adapting steering to the particular circumstances of each institution. Funding formulas may struggle with this (De Boer et al., 2015).

In tracking performance, most accountability systems rely on measuring second-order indicators, which dominate the thinking within New Public Management (Boulton and Lucas, 2008). A key challenge is that real outcomes are often only realised in the long term, and are influenced by many factors beyond the control of the institution or the individual grant holder. Performance measures used by jurisdictions other than Denmark have included the number of degrees awarded, the proportion of students from underrepresented groups, duration of study, research productivity, internationalisation, results of student surveys and employability indicators (De Boer et al., 2015).

Conditional funding can also be oriented towards strategic system restructuring. The Scottish Funding Council (SFC) is a body that provides overall system leadership and accountability in alignment with the Strategic Objectives for **Scotland** (UK) and Scotland's National Performance Framework (Scottish Government, 2011). The SFC has been directed to support mergers and other institutional collaborations that may lead to mergers where evidence indicates these may achieve cost efficiencies and improved outcomes in education and research (Joint Future Thinking Taskforce on Universities, 2008). **Finland** also offered considerable funding to incentivise and support the mergers of its higher education institutions (Valimaa, Aittola and Ursin, 2014).

Comparative study of systems around the world further indicates that unless policy and practice explicitly encourages it, institutions are unlikely to invest effort in the “third mission” of service and regional engagement. In 2007, the OECD completed work reviewing regional engagement of higher education institutions in a number of jurisdictions. The OECD study highlighted the importance of specifically funding regional engagement. The OECD also emphasised strong regional governance instruments to support partnerships, the inclusion of higher education institutions in regional strategies and effective monitoring of institutional impact on regional development (OECD, 2007).

Transparency

Transparency is a vast subject. It includes academic, financial, and administrative dimensions, which have been addressed in very different ways in different jurisdictions.

The Bologna Process in **Europe** generated a system of easily readable and comparable degrees across 48 countries (EHEA, 2017). Under the common standard, bachelor's degrees typically last three years (four at maximum), master's degrees last two years (one at minimum) and doctoral degrees last three years. The majority of countries in Europe now comply with these standards. Degrees are now recognised, and credits are transferable across participating countries.

In 2008, the **European Union** led the development of the European Qualifications Framework (EQF), a reference framework for the translation of qualifications across countries and systems. While the Bologna process covered higher education only, the EQF applies to all levels of education, with eight reference levels that are defined in terms of learning outcomes. However, there is a direct connection between the Bologna Framework and EQF at higher education levels. Countries must create their own national qualifications frameworks (NQFs) to align with the EQF, and the number of NQFs has increased rapidly in recent years. As of 2016, 39 countries were co-operating in the development of the EQF and 43 NQFs were established. Fully 32 NQFs were linked to the EQF as of April 2017, and the remaining countries are expected to complete referencing in 2017-18. In 2015, 17 countries had reached a fully operational stage (compared to only seven in 2014), whereas six countries were already operational, but at an earlier stage (CEDEFOP, 2016a).

Different agencies have overseen the NQFs in European countries. This can be seen in Ireland and Sweden, which are two examples of countries with fully operational NQFs (CEDEFOP, 2016a). **Ireland** established an agency (The National Qualifications Authority of Ireland, NQAI) in 2001 with the specific task of developing and implementing a new NQF. Following broad consultation exercises covering all education sectors, the labour market, trade unions and social partners, Ireland implemented its NQF in 2003, with individual institutions adopting the new framework soon thereafter. In

2006, Ireland participated as a pilot country in the process of compatibility certification of the NQF with the Bologna Framework. Following the introduction of the EQF in 2008, Ireland also completed the mapping of its NQF to the EQF in 2009. According to a study (Elken, 2016), it appears this international (European) approach increased acceptance of the NQF implementation by Irish institutions, and increased the status of the framework on the national level. To further strengthen governance of the NQF, Ireland unified its quality assurance agencies across different education sectors, as well as the NQAI into a new agency called Quality and Qualifications Ireland in 2012. This approach aimed to entrench the systematic use of the qualifications framework and promote stronger co-ordination with quality assurance (Coles, 2013).

In **Sweden**, the Swedish national qualifications framework (SeQF) is at an early operational stage, as it was formally adopted in 2015. The Ministry of Education and Research has overall responsibility for the SeQF and referencing it to the EQF. The National Agency for Higher Vocational Education supports SeQF in implementing higher vocational education at the higher education level. Furthermore, an advisory council of 14 stakeholder representatives supports the national agency to include or make non-formal qualifications equal to formal ones. The particularity of the SeQF regarding other European frameworks is its focus from the start (in 2009) on including all types of qualifications awarded beyond public education, particularly those in the adult and popular education sector, as well as the labour market. A wide array of stakeholders has also been involved in the development of the SeQF, such as actors from education and training, as well as the labour market (CEDEFOP, 2017a).

European NQFs have helped identify where there are gaps in available qualifications. They have also provided “a reference for review and renewal of qualifications and curricula” (CEDEFOP, 2017b). Three challenges face the European EQF as it continues to be implemented. They are: 1) better integrating arrangements to validate non-formal and informal learning (which is critical to adding value to career progression, as well as to lifelong learning); 2) promoting the use of learning outcomes for the development and review of qualification standards, curricula and assessment; 3) becoming more visible to the general public and broadening stakeholder involvement (i.e. education and training, as well as the labour market) (CEDEFOP, 2016a).

In terms of financial transparency, in **Finland** general public accounting legislation requires that higher education institutions publish their annual financial statements. Finnish legislation also mandates that higher education institutes publish information requested by the Ministry of Education and Culture for the purposes of evaluation, development and statistics, monitoring, and steering. Information on performance and finances must be adequate for evaluation against established goals.

Body of the recommendation

Chile must develop the steering infrastructure to successfully pursue a vision for the higher education system. Such a steering infrastructure must achieve institutional accountability and autonomy, and be flexible enough to manage Chile’s diverse higher education institutions.

Strengthen Chile’s steering agents.

Recent and proposed changes to Chile’s steering agents are steps in the right direction. The OECD endorses the creation of a superintendency for higher education to better monitor institutional compliance with conditions of licensing, as well as financial,

legal, information and reporting requirements. This endorsement aligns with the recommendations of a previous OECD review (OECD, 2013). The creation of the new sub-secretariat with greater statutory authority also promises to support improvements in the system. In the same way, the sub-secretariat could better benefit the system if it improves the professional skills of government policy makers, or generates political clout within government. The new state CFTs also have considerable potential to help steer improvements in technical education.

The new Ministry for Science and Technology and the ANID should help to strengthen Chilean research and innovation, providing they collaborate well with the system's other actors in support of a well-conceived National Science, Technology and Innovation Strategy. Establishing a clear distinction between the responsibilities of each entity is critical, with the new ministry dedicating its improved capacity to strategic planning and policy development, and ANID focusing on the effective delivery of competitive research funding. Once the ministry is established, the Chilean government should undertake a review of research funding and policies that affect higher education institutions under the new ministry and MINEDUC to ensure alignment and improve transparency.

Accreditation agencies remain an area of concern. The OECD 2013 Quality Assurance Review (OECD, 2013) recommended steps to address conflicts of interest and insufficient monitoring and evaluation of Chile's independent accreditation agencies (as well as to improve accreditation instruments for CFTs and IPs). The current reform proposal would eliminate these independent accreditation agencies. The Chilean government will need to ensure it finds a clear replacement to strengthen programme review and accreditation, be this the CNA or another agency.

Crucially, however, the challenge with Chile's steering agencies is less about which institutions are in place with which responsibilities than about whether they effectively fulfil their mandates. Past agencies could have generated a considerably better-performing system through improved implementation.

The Chilean government should better co-ordinate and harmonise the policies and activities of the different parts of its higher education system. It is critically important that the various institutions not operate purely in silos but pursue complementary and collaborative activities where appropriate. Two important processes that will need to be harmonised are the licensing and accreditation of institutions by the CNED and the CNA. This issue was a key focus of the OECD 2013 review (OECD, 2013).

Chile can also create a representative body for all higher education institutions, including not just current CRUCH members but other private universities, IPs and CFTs. This would permit governance discussions to involve the whole system effectively, following the model of the German Rectors' Conference. Smaller groups of institutions can be organised within the larger representative body as they choose, or they can be organised according to shared mandates, as with the state higher education institutions network.

Strengthen institutional governance and management.

Many of the proposed changes to the governance of state universities would represent positive steps towards strengthening institutional governance of higher education in Chile. The creation of new academic bodies separate from institutions' board of directors would also improve institutional governance. In terms of non-CRUCH private

institutions, the Chilean government should consider developing governance codes such as those in use in Scotland (UK) and Ireland to help create a guiding framework and develop norms.

Across all types of institutions, the inclusion of external members on boards of directors is crucial, based on the key guiding principle that governance bodies incorporate and respect the context within which they are working. For top research universities, this could imply including an international expert on the universities' board. In the context of IP and CFTs, this could mean including people from local businesses or other community stakeholders on the board. The Chilean government would do well to permit institutions to implement different strategies for identifying and selecting external board members consistent with this principle of inclusion. The government should also make sure to consider different institutions' specific traditions and other characteristics during this process. Such steps were recommended in the OECD/The World Bank 2009 review to help better ensure institutions pursue public goals.

The Chilean government should also prioritise the development of professional administration throughout its higher education system, bringing recruitment, hiring and incentives in line with steering objectives to ensure the positive reforms being pursued are implemented effectively. This requires in part that the government begin to create career streams that are detached from the political process to place a greater emphasis on expertise and experience, which can be put to the system's use regardless of which political group is in power at a given time. While within higher education institutions, academic leaders like rectors can continue to be elected with limited terms, but they should be supported by professional staff. In addition, institutions should be able to recruit from outside their ranks (OECD/The World Bank, 2009). The creation of a leadership institute like the UK Leadership Foundation for Higher Education to help deliver professional development, or research groups in universities that can study administration and governance challenges in the sector, could help with professionalization. Finally, the Chilean government should prioritise the development of professional management, human resources, ICT and financial management systems not only in institutions, but across the sector's agencies as well (OECD/The World Bank, 2010).

Improve licencing and accreditation of institutions and programmes.

The OECD 2013 Quality Assurance Review provided important recommendations regarding institutional licencing and accreditation (OECD, 2013). The institutional accreditation proposals from the 2016 higher education reform package reflect an approach considerably closer to this vision.

The introduction of mandatory accreditation and its integration with institutional licencing strengthens controls on institutions in very positive ways. In addition, the OECD advises that the Chilean government grant institutional licenses based on an institutional business plan that defines the institution's scope and scale of operation moving forward. The government could require that these business plans align with the overall system vision once it is developed.

The use of multiple levels of accreditation with associated constraints on institutional development is appropriate for Chile given how administrative and academic maturity varies across institutions. The strict limits on institutional autonomy for those with weak accreditation should help prevent uncoordinated proliferation of low-quality programmes.

We will discuss further applications of a multi-tiered accreditation system in the discussion on quality later in this chapter.

In terms of licensing based on not-for-profit status, the OECD continues to believe that for-profit provision can be reconciled with public goals – provided that clear accountability rules are in place and are transparent within the quality assurance system and at the institutional level (OECD/The World Bank, 2009). Ensuring that institutions fulfil their academic missions, respect fundamental financial and academic requirements for licensing and accreditation, and operate transparently, should be more important than whether they operate on a for-profit or not-for-profit basis.

Steering through accreditation should extend beyond the area of institutional and campus-level accreditation. Expansion of programme accreditation was not proposed under the 2016 reform, though further amendments have advanced compulsory accreditation for teaching programmes and doctoral degrees. These amendments have also reinforced consequences for non-accreditation in medicine. Still, as the capacity of Chile's quality assurance system develops, the Chilean government should expand mandatory programme accreditation to additional fields, prioritising those considered critical to Chile's social and economic outcomes (e.g. engineering). Chile's approach to the medical and teaching professions could provide a home-grown model for this kind of accreditation, though Chile can also learn from other systems around the world.

Align system financing with strategic objectives.

As the OECD previously argued in 2009, the ultimate purpose of system governance in tertiary education is to ensure that public resources are efficiently spent on societal purposes. The Chilean government's increasing use of public financing tools to steer the higher education system is a positive development. The government should continue to strategically expand the conditions it places on funding provided to the higher education system. This can be achieved by adding new funding streams and performance conditions for the AFD (OECD/The World Bank, 2009).

Conditional funding policies need careful design. It is important to avoid introducing perverse incentives into the system. On this account, current reform proposals appear on track with their intention to eliminate the AFI. These efforts are consistent with the recommendations of the OECD/The World Bank 2009 review. It is also important to protect a reasonable measure of predictability in institutional funding to support strategic planning. Finally, the Chilean government needs ensure that conditions placed on funding do not unduly suppress the diversity of higher education offerings available to Chilean students.

In the absence of a more coherent vision for the system at this time, it is difficult to assess the strategic impact of the resources invested in Gratuidad. Moving forward, however, the Chilean government should make sure to align Gratuidad with its strategic goals for the system by periodically reviewing the programme's approach to determine where adjustments might better support system improvement. Eventually, the Chilean government may do well to adjust the mechanism for delivering public funding through the Gratuidad programme. Beyond incentivising enrolment, adjusting this mechanism would help make sure the programme further rewards equitable learning processes, study success, labour market outcomes and other contributions to emerging regional or national development priorities.

It is essential that the Chilean government provide adequate financing for research, science and technology in order to fulfil its higher education goals. The Chilean government should focus on strengthening existing research universities and institutes, instead of developing further parallel research capacity. It should also ensure a large share of funding – as much as 50% – is delivered to research universities on a competitive basis, in particular through the ANID, if it is approved. The OECD further endorses the suite of recommendations to strengthen research innovation in Chile from the recent OECD review of Chile’s public research centres (OECD, 2016b). These recommendations include rationalising or differentiating funding schemes, diversifying funding streams’ strategic objectives, extending the funding period for centres that satisfy excellence criteria, and adopting a broader vision of the links between research centres and businesses. The recent OECD review also highlighted various proposals to improve performance assessment, and the need for agencies to act on assessment findings.

Recent reform proposals envision a stronger contribution of higher education institutions to regional economies, and greater synergies between them. During this process, incentives should be created through funding for higher education institutions to engage in local and regional development. Chile should also consider introducing funding streams to support strategic collaborations and consolidations among higher education institutions, as in Scotland (UK).

By providing direct funding streams to some higher education institutions, the Chilean government should continue to steer their activities and performance, as well as also those of other, competing providers that are not receiving direct funding. For example, Gratuidad will hopefully place greater pressure on institutions that have historically enrolled many lower-income students and have failed to provide a high-quality education, as these students will now have a real choice. Similarly, the development of new state CFTs could play a significant, positive role specifically within the technical higher education subsystem.

The Chilean government should consider building upon its MECESUP experience and those of many other systems by developing performance agreements with individual higher education institutions that are receiving public funds (OECD/ The World Bank, 2010). These performance agreements can foster strategic alignment and collaboration between the government and institutions. They can also allow for steering instruments and conditions for funding to be targeted towards institutions’ unique circumstances, mandates and roles.

Enhance transparency.

The collection and diffusion of information is fundamental to the successful operation of Chile’s higher education system. The SCAIES, MNC and the National System of Information on Tertiary Education (Sistema Nacional de Información de Educación Superior, SNIES) would represent positive steps towards greater transparency in the higher education system. They would also help policymakers, institutional leaders, students and their families make more informed decisions. The MNC in particular would provide students and employers with a greater understanding of what different programmes entail. The OECD fully endorses this project, as it did in 2009 and 2013.

As these mechanisms are developed, the Sub-Secretariat for Higher Education will have to think carefully about how to communicate the information effectively to the public. Promotion will be essential, especially with regards to outreach to students and their families. Effective communication is vital, given how much effort higher education

institutions dedicate towards shaping student and family understanding through advertising.

In terms of accounting and transparency requirements for institutions, all institutions receiving any form of public support or subsidy should be subject to the same requirements governing the use of these resources (OECD/The World Bank, 2009). For state-owned universities, their public nature should be founded upon their commitment to public goals, not on specific accounting and personnel administration regulations of the civil service.

Recommendation 4.3

Strengthen equity in access to higher education of the best quality

Summary

Chile should pursue reforms to expand equity in access to higher education of the highest quality, prioritising initiatives most likely to be effective in expanding participation among the most vulnerable qualified Chileans. These reforms should include efforts to address financial barriers, as well as the considerable academic and social challenges that disadvantaged Chileans face in early childhood, during compulsory education (as explained in Chapters 1 and 2), while transitioning into higher education, in completing degrees and in entering the labour market successfully.

Context

The Chilean government has undertaken important efforts to improve access to higher education. A key principle of the 2016 higher education reform proposal was that the higher education system should promote the inclusion of students in higher education institutions by eliminating all forms of arbitrary discrimination. The reform proposal also mandated that higher education institutions protect and promote a diversity of talents, cultures, socio-economic backgrounds, ability, gender identities and sexual orientations coexisting within institutions and the system. Gratuidad is the government's flagship initiative to support lower-income students. Chile has pursued other measures that are also significant, however, including opening new state CFTs and state universities that aim to address regional inequities. This section examines two areas of focus in terms of access: admissions and support for student transitions, and student financial assistance.

Admissions and support for student transitions

As noted in Chapter 2, students from more disadvantaged socio-economic backgrounds face more significant challenges in accessing high-quality learning opportunities compared to their peers in other OECD countries. Addressing the resulting gaps in academic and social preparation is essential to ensuring that these students can achieve equitable access and study success in higher education.

Admissions processes

Admissions processes vary considerably between different types of higher education institutions in Chile. Most private institutions (which enrol 63% of all higher education students) operate their own independent admissions processes (MINEDUC, 2017a).

According to internal exchanges with MINEDUC, CFT and IP admissions are non-competitive. The only standard requirement for admission at these institutions is a secondary school-leaving certificate. This may also be the case at lower-quality non-CRUCH private universities as well. One concern with admissions processes at these institutions is that they often lack transparency. Non-competitive admissions may also lead many students to enter higher education when they are not adequately prepared, or when their profile may be better suited to other educational programmes.

All CRUCH universities and nine other private universities (representing two-thirds of enrolment in the university subsystem) participate in the Unified Admissions System (Sistema Único de Admisión, SUA). The SUA requires that candidates complete the university selection exam (Prueba de Selección Universitaria, PSU).

The OECD has previously noted that “equity gaps appear to widen during the admissions process [...] fewer students from lower-income groups are getting into tertiary education than would be predicted from their secondary graduation rates” (OECD/The World Bank, 2009). This appears to be a particular problem for SUA universities. Evidence has long shown that some groups from the student population systematically do better on the PSU than others. For example, male test takers outperform female test takers, as do urban students relative to rural students (MINEDUC, 2017a).

The Chilean government adopted the Score Ranking programme (Puntaje Ranking) in 2016 to respond to these concerns (DEMRE, 2017). This system adjusts students’ PSU scores to more accurately evaluate performance given the educational context (i.e. the environment of the student’s educational experience in terms of their particular school and type of education). Students’ average notes of the four years of upper secondary education (educación media) are compared to those of peers from the same educational context who have graduated from upper secondary education over the previous three years. Students with an average score that is inferior or equal to the average score of students with the same historical educational context receive a grade equal to their NEM (score for upper secondary education or *notas de educación media*). Students with an average above the average score of students with the same historical educational context obtain a higher score, calculated linearly. The maximum score (*puntaje*) on the Score Ranking system is 850, where the average grade equals the maximum historical average of the educational context.

In 2014, MINEDUC also introduced the Programme for Support and Effective Access (Programa de Acompañamiento y Acceso a la Educación Superior, PACE) to support admissions into higher education for disadvantaged students who have been academically successful. Students who perform in the top 15% of their class at graduation from high school can receive admission to tertiary education institutions partnering with the PACE that have a guaranteed admissions quota. Fully 29 higher education institutions participated in PACE in 2016. Institutions themselves have also introduced priority admissions schemes. A programme of the University of Chile (Universidad de Chile) admits selected public municipal school graduates from more difficult socio-economic circumstances who otherwise do not have sufficiently strong PSU scores.

Under current higher education reform proposals, the SCAIES is the key element that aims specifically at improving admissions processes. In addition to providing better information for students, it would also establish expectations for transparency and objectivity in admissions decision-making, and permit in some cases that students receive priority in admissions for equity reasons.

Support for student transitions into higher education

As noted earlier, in Chile higher education dropout rates are especially high in the first year. The Chilean government and higher education institutions have pursued a number of initiatives to try to address this problem, often as a complement to priority admissions.

The PACE provides upper secondary students with academic support and vocational guidance (among its other activities in upper secondary schools), and also accompanies them in the initial stage of higher education with a transitional support programme. As of 2016, 456 schools in 306 municipalities were engaged with the programme. Yet, exchanges with the Ministry of Education suggest that the PACE may not be raising these students' often low rates of progression and completion as much as expected. Its emphasis on preparing students for an academic test while following a differentiated curriculum may hinder PACE's effectiveness. In addition, the absence of mechanisms to ensure institutional support beyond a formal commitment to develop a retention policy may be impeding PACE's success.

MINEDUC has been a proponent of three programmes to support the betterment of academic skills through funding competitions specifically at IPs and CFTs (MINEDUC, 2017c). The Beca de Nivelación Académica was the antecedent to PACE and supports institutions in providing better skills to students with weaker academic preparation from the bottom seven deciles. Primarily, activities include tutoring, mentoring and individual classes according to students' needs. Secondary activities include psychological support and workshops in time management, communication skills and working autonomously. Seven CFTs and four IPs have participated in the programme since 2011. The other two programmes are the Planes de Mejoramiento de Programas (PM) and the Planes de Mejoramiento Institucionales (PMI), which are focused on technical-professional training. The PM supported an IP and a CFT from 2012-2013, with programmes focused only on academic upgrades (in language and communication, mathematics, and science), practical skill-building (in innovation, teamwork, entrepreneurship and self-management), and foreign language skills. The PMI supported two IPs and four CFTs over three years (2012, 2013 and 2015), as well as five other institutions delivering technical-professional training.

Other programmes in place at the institutional level often resemble the PACE and receive financial support from the Chilean government. Five universities are participating in the UNESCO Preparatory Programmes Network (Red de Propedéuticos UNESCO), which seeks to integrate talented students from vulnerable contexts into universities. The Universidad de Valparaíso's bridging programme includes student mentors across different study programmes, linked with a double objective of social and academic alignment. The Pontificia Universidad Católica de Chile's Talent and Inclusion programme (Programa Talento e Inclusión) combines financing, remedial programming and academic accompaniment, as well as special admissions. Universities in Bío Bío (e.g. the Universidad de Concepción and the Universidad Católica de la Santísima Concepción) are operating school outreach projects with MINEDUC support to raise students' aspirations and academic performance. These projects with MINEDUC also aim to improve teacher and principal performance, and to offer participating students priority admissions (OECD/The World Bank, 2010; Educación 2020, 2017). Many Bío Bío institutions also offer remedial courses.

Financial assistance

We have already detailed the growth in Chile's student financial aid programmes. It is important to consider how these programmes determine eligibility, as well as what amount of support they give.

Chile's need-based financial aid programmes rely on a socio-economic assessment of the student's household (Ministry of Social Development, 2015b). Although the key input is the family's income over the past year, the government also seeks to account for the family's overall living costs, taking into account household characteristics like work situations, health concerns, health expenditures, other education costs, vehicle costs and more. Despite these efforts to assess student contexts and needs, these programmes still fall short in many ways of targeting financial aid to students who most need support to succeed in higher education.

A key point of caution in the targeting of financial aid is the current plan to integrate additional deciles into Gratuidad, beginning with the sixth decile in 2018, and extending to the top decile over the longer term. This could actually hinder improvement in access and quality, if not managed carefully.

By definition, expanding Gratuidad would dedicate increasing fiscal resources to higher-income students. As highlighted earlier, higher education participation rates by decile indicate that increasing shares of these higher-income students will attend higher education regardless of whether they receive financial support or not. Meanwhile, Chile's average expenditure per student from the ages of 6 to the age of 15 is among the lowest in the OECD. At the same time, access to high-quality education opportunities in early childhood and compulsory education in Chile is highly stratified (see Chapters 1 and 2). Inadequate preparation and other social barriers mean that regardless of whether tuition is covered or not, many lower-income Chileans cannot envision higher education as a possibility – and never apply.

The fiscal effort to support the Gratuidad programme is already significant for the government. It will only increase as eligibility expands to students from higher-income deciles, and as more institutions become eligible. The government's plan is to make further expansion of Gratuidad subject to the achievement of benchmarks for government revenues as a proportion of GDP (Chile Atiende, 2015). Nevertheless, controlling costs will always remain a concern in the presence of scarcity. Thus, the programme's funding will depend on the priorities of future governments.

One approach could be to simply reduce the amount of funds provided to institutions per student, but this would leave institutions with fewer resources to deliver high-quality instruction and other objectives. Another approach is to restrict the number of seats in institutions that are funded through Gratuidad, as preventing enrolment in Gratuidad by some prospective students could be more politically expedient than underfunding institutions, or allowing fees to rise for all students. Again, the budget law that initiated the Gratuidad programme in 2016 introduced a flexible limit on enrolment growth at participating institutions. Future governments could make these restrictions much tighter. Additionally, the OECD review team identified two concerns with the current emphasis on students' academic performance for eligibility to MINEDUC scholarship programmes, as well as many support programmes like the PACE. First, as already indicated, the PSU suffers from built-in inequities because wealthier students often have other advantages that assist them in improving their education performance before completing secondary education. These advantages include better-educated parents, access to enrichment

programming outside of school and more. The Score Ranking programme (Puntaje Ranking) represents an adaptation to the fundamental problem of skills differences, and is an important step. That said, Chile can only resolve this challenge by mitigating quality gaps in earlier education (see Chapter 2) and wider inequities in society. Second, supporting students with higher academic performance favours those who are already more likely to attend higher education than peers of the same income. These students are also more likely to be economically successful after graduation. Thus, supporting them still leaves lower-skilled students behind.

This pattern of favouring stronger students has been most apparent in the consistent emphasis in Chilean financial aid policy on CRUCH university students over those at IPs and CFTs. Four years after graduation, CRUCH university graduates' earnings are already 40% higher than those of graduates from IPs, which are 26% higher than those who graduate from CFTs. This suggests that focusing support on students at CRUCH universities is regressive, notwithstanding the high proportion of lower-income students attending many of these institutions (MINEDUC, 2017a). Yet, CRUCH university students have had access to targeted scholarships and a separate loan programme with more advantageous repayment conditions, whereas MINEDUC statistics indicate that IP and CFT students have been most reliant on the least generous form of financial aid: the CAE. CRUCH university students were also the first to become eligible for Gratuidad.

The Chilean government has made important changes to support more academically marginalised students, however. Specifically, the expansion of Gratuidad to IPs and CFTs will provide access to many students who have not completed the PSU and typically have more limited skills. Moreover, it is critical to acknowledge that targeting financial transfers to stronger institutions can make sense, as it encourages the highest quality education and motivates system improvement. It is also logical that the Chilean government does not want to channel funds via student financial aid to poor-quality institutions. The challenge is to strike an appropriate balance.

Each of Chile's current financial aid mechanisms also face challenges in terms of adequately accounting for the resources of all students and families. These challenges relate to the use of step-functions, how financial aid accounts for student costs and the accommodation of students with exceptional circumstances.

Most of the Chile's financial aid programmes are designed around income-based eligibility in the form of a step-function. At present, eligibility for Gratuidad also works with a step-function, as eligibility is based on a family's income falling in the bottom five deciles. With step-functions, however, whether a student's family earns one dollar more or less than the fifth decile income (called the "turning point") has little effect on their personal capacity to finance higher education. Put another way, families with very similar incomes may receive very different financial aid offerings based on where their income falls based on the fifth decile "turning point." Such circumstances can translate into differences in eligibility for financial assistance worth thousands of dollars.

Chile's financial aid mechanisms often do not take into consideration the full scope of costs associated with attending higher education. At best, these mechanisms approach them in a segmented fashion. Some programmes may not even fully cover fees, leaving students and their families to finance the balance, as well as living costs.

Finally, financial aid programmes face necessary challenges in adapting to the diverse circumstances of families or specific disadvantages of some students. For example, eligibility criteria relating to study progression are necessary so as to not fund

unsuccessful recipients indefinitely. That said, eligibility criteria related to study progression may not reasonably accommodate students' diverse capacities, including disabilities, which cause them to take longer to complete their studies. Under Gratuidad, students are not charged fees for the nominal length of their study programmes, but can be charged half the regulated fees for an additional year of study, and full fees for all subsequent years. Charging students who take longer as a result of disabilities can unfairly compound the disadvantages they already face.

International evidence

Without improvements in early childhood education and compulsory education, significantly increasing access to higher education necessitates recruiting more students with lower academic skills. Such marginal students may be less prepared to successfully complete their programmes and pursue higher-skilled occupations in the workforce. Historically, this concern has partly inspired the targeting of government financial aid and other supports towards students with higher academic performance.

Empirical research from the United States using regression discontinuity approaches has found substantial returns from admission and attendance at better-quality higher education institutions for marginal students. The SAT test is the most common university admissions test in the United States. Studies found students who had narrowly made SAT-based admissions cut-offs for four-year institutions obtained significantly better outcomes than students who narrowly did not, despite being otherwise identical based on a battery of tested characteristics (Goodman et al., 2017; Zimmerman, 2014). Many of these institutions lacked prestige relative to other four-year institutions, so their SAT cut-offs were quite low. Another similar study also found high returns from persistence in higher education for students just above grade point average (GPA) cut-offs for academic dismissal (Ost, Weixiang and Webber, 2016). We cannot say with certainty that these results would apply specifically in the Chilean context, but they strongly suggest that expanding access to high-quality institutions is beneficial even for the marginally skilled.

Supporting students from disadvantaged backgrounds to be successful

Australia has pursued many initiatives to expand higher education access and retention among disadvantaged students (OECD, 2016d). The Higher Education Participation and Partnerships Programme (HEPPP) offers universities a financial incentive to enrol and retain students from lower-income backgrounds, which institutions can use to finance outreach activities. HEPPP has also supported collaborations between universities. One HEPPP-supported project is Bridges to Higher Education (BHE) in New South Wales, which has received positive reviews in external evaluations. BHE includes initiatives to promote awareness, such as student campus visits, community events and focus groups for parents. These awareness initiatives encourage engagement with schools through partnerships, including professional development for teachers and community events. The organisation aims to support higher education students through academic skills sessions, mentoring and tutoring. It also aims to engage with Aboriginal and Torres Islander peoples through programming addressed to these students' cultures and unique circumstances.

Australia has also introduced alternative admissions methods. Students may be assigned greater standing in admissions decisions based on their postal codes. Places can be set aside in competitive programmes for certain students, and secondary schools can identify students for special entry who have academic potential have also faced adversity.

Australia makes scholarships available to some students as well, depending on the families' income level. Aboriginal and Torres Strait Islander students may sit a specially-designed alternative admissions test. A central university admissions centre operates many of these programmes. Institutions offer additional academic and social supports to students admitted through these schemes.

Colombia's Access to Higher Education with Quality (ACCESS) student support programme has ambitious goals to expand access and efficiency in the higher education system. A key priority of the programme is developing student loan assistance. Colombia almost tripled the number of student loans on offer between 2002 and 2011, to achieve perhaps the highest proportion of loan-supported students in Latin America. Dropout rates also fell. The programme dedicated most of its resources towards university education, but effectively targeted lower-income students. Colombia has also taken ongoing steps to ease repayment, recognising that the programme serves a vulnerable population (OECD, 2012a).

England (UK) requires that all publicly funded universities and colleges complete an access agreement with the independent public Office for Fair Access (OFFA). These agreements identify tuition fees and institutional plans to improve or sustain access for students from lower-income backgrounds and other underrepresented groups. The OFFA monitors institutional performance relative to access agreement commitments annually, and has the power to sanction institutions that violate agreements through fines or fee limits. The OFFA also supports research and dialogue concerning access challenges and best practices. The OFFA works within the context of a broader National Strategy for Access and Student Success, developed in partnership with the Higher Education Funding Council for England (HEFCE) (OFFA, 2016).

Student financial aid programmes

Four main groups typically share the costs of higher education:

1. taxpayers and their agent, the government
2. parents and families who may contribute to tuition fees, or cover some student living costs (e.g. by keeping students at home)
3. students who may finance part of their tuition and living costs through part-time employment earnings, past savings or borrowing
4. individual donors who may contribute to institutional budgets (reducing the amount that must be passed on to the government, parents or students) or who may financially assist students through grants (OECD, 2008a).

Ensuring both equity and quality should be the overarching criteria informing cost sharing and defining funding allocations in higher education. This means that “the equity objective [should not be] free tertiary education [for students and families per se] but a system in which no [qualified student] is denied a place because he or she comes from a disadvantaged background” (OECD, 2008a).

Evidence indicates that low-income youth respond more to grants than loans when they are deciding whether to pursue higher education, making targeted grants a more effective measure to encourage their participation (Usher, 2006; OECD, 2008b). There appears to be little difference in debt aversion between lower-income and higher-income students. Possible reasons for the fact that low-income students respond more to grants than loans include rationally lower expectations for returns to education, systematic

overestimation of the costs of higher education or underestimation of the benefits by these students and “systematically higher personal discount rates than youth from wealthier backgrounds” (with a personal discount rate understood as “the rate at which one values money in the present more than one values money in the future”) (Usher, 2006).

Grant programmes must be designed strategically. For example, a study (Cohodes and Goodman, 2014) used a regression discontinuity approach to find that a merit scholarship programme in Massachusetts actually reduced completion among recipients. The programme provided financial aid only for students attending state institutions.

Ontario, Canada introduced a significant reform to its student financial assistance programme in 2017 to provide grants that fully offset tuition to students from lower-income families. Higher education institutions in Canada receive considerable public funding. At the same time, these institutions charged the third highest undergraduate tuition fees in the OECD in 2014-2015. Historically, to help students and their families cover these fees and other expenses incurred while studying, Canada’s federal and provincial governments have provided students with a combination of tax credits, loans and grants. Loans and grants are provided based on a calculation of the full costs of attending higher education, minus reasonable financial contributions from students and their parents. Educational authorities do not consider students’ academic performances when determining eligibility. Ontario’s new programme consolidates the province’s tax credits and grants to fully offset tuition for lower-income students, with these benefits reduced with higher income. Under the new programme, loans will still be available to cover costs in addition to maximum grants. Once the reform is fully implemented, students’ financial aid eligibility will be processed when they apply for higher education. Applicants will then receive a notification of their financial aid awards in their acceptance letters (Usher, 2017).

To accommodate diverse student circumstances that may not be adequately accounted for by general programme criteria, the Student Assistance Programme (SAP) in **Nova Scotia, Canada** allows students to appeal when they are denied financial aid or believe that the aid they are receiving is inadequate. The lower appeal board is comprised of SAP staff and is consulted first. The higher appeal board, comprised of external ministerial appointees, considers cases rejected by the lower appeal board upon the appellant’s request. Elements that may be appealed include basic eligibility criteria and parental contributions. Exceptional circumstances that are sometimes considered include personal illness and unexpected family expenses that limit a student’s ability to pay the costs of higher education (e.g. as a result of funeral and other expenses associated with death of a family member) (Students Nova Scotia, 2013). To accommodate students with disabilities, the SAP also allows them to receive support for the nominal length of their study programme plus two years. In contrast, all other eligible students receive support for the nominal length of their study programme plus one year.

Points of caution for quality and equity in free tuition regimes

Gratuidad has attracted considerable investment and attention in recent years. Many in Chile envision an eventual abolition of tuition fees for all students across the higher education system. In this context, it is important to be aware of some of the pitfalls other countries and jurisdictions have encountered in seeking to finance their higher education systems entirely without tuition. The core difficulty has been to ensure institutions receive adequate funding to sustain access and quality even for the most disadvantaged students.

In jurisdictions where free tuition has been less successful in promoting quality and equity, limited fiscal capacity has caused governments to adopt one of two approaches to manage higher education costs. Under the first approach, the higher education system does not restrict admissions, but becomes crowded with relatively lower-quality instruction. In the second approach, the higher education system restricts admissions and funding to those institutions with free tuition such that the selection of students for free tuition spaces becomes focused on merit. This focus on merit then becomes, typically, a proxy for a student's socio-economic status. This is because, typically, socio-economically privileged students attend more-advantaged schools and do better on entrance exams. Thus, by focusing on merit, institutions may end up catering to wealthier students. These systems often include additional private higher education institutions, but these institutions typically either offer lesser prestige and lower-quality instruction, or charge fees that put them out of reach to students from lower socio-economic backgrounds (OECD, 2008a). More affluent students also retain the option to study abroad. Argentina and Greece are examples of countries that take the first approach, while Brazil and Poland take the second (World Bank and The European Investment Bank, 2004).

The free tuition higher education systems that have achieved high quality and equity are concentrated in northern Europe (OECD, 2012b). These systems are backed by economies that are among the best performing in the world. These systems also benefit from some of the highest tax rates in the world. Their strong revenue bases allow for sustained and elevated public investment that not only keeps higher education fees low, but often also supports strong, targeted student financial assistance. Crucially, these countries' accessible higher education systems rest upon a bedrock of equity and quality in early childhood and compulsory education.

Body of the recommendation

Disadvantaged Chileans begin encountering barriers to access long before they are of age to enrol at a university, IP or CFT. The recommendations addressing compulsory and pre-primary education in the other chapters of this report could likely improve equity in higher education more than direct changes to the higher education system itself. Nevertheless, important changes at the higher education level would also expand equity and access for disadvantaged Chileans. In our view, these changes represent moral, economic and social imperatives.

Support disadvantaged students in admissions and throughout their studies.

To improve access to higher education, Chile must support students to overcome non-financial barriers. Facilitating admissions and supporting study success are essential.

In terms of admissions, many of the recommendations from the OECD/The World Bank 2009 review remain pertinent. The current reform proposals to integrate other private universities into a common application system with the CRUCH universities would answer one recommendation. The OECD review endorses the development of the SCAIES to ease and harmonise the application processes at higher education institutions. The Scores System (Puntaje System) also represents a clear advance relative to reliance on unadjusted student PSU scores. That said, the Chilean government should still go further to deemphasise the PSU, at least in its current form. The government would do well to eventually replace the PSU with a national school-leaving test that sets the

minimum standard for university entrance. Chilean educational authorities could also redesign the PSU to improve measurement of reasoning ability and learning potential. In addition, universities should continue moving towards multidimensional admissions criteria and away from the practice of allocating places based on total PSU scores. The new Sub-Secretariat for Higher Education could use the SCAIES as a key tool to advance these kinds of reforms.

MINEDUC and higher education institutions should continue to develop initiatives like the PACE programme to provide targeted support to students from disadvantaged backgrounds. These could include: support to prepare for the PSU or any future equivalent; the delivery of no-fee or low-fee “access” courses enabling young people who have university potential but left school without passing the PSU to qualify for admissions; and post-admission knowledge-boosting programmes to improve completion. MINEDUC should also take steps to support appropriate career counselling in compulsory and higher education, and encourage higher education institutions to pursue outreach activities in public municipal schools. These activities would inform students about pathways that might be available and suitable for them (Torgerson, et al., 2014).

The Chilean government should consider introducing further funding conditionality to encourage higher education institutions to pursue initiatives in line with the country’s access goals. The Chilean government could back such conditions on funding with an agency like the United Kingdom’s OFFA. Furthermore, the 2009 OECD review recommended that MINEDUC pursue agreements with institutions identifying new objectives for study success, such as completion and persistence. The review also recommended that MINEDUC set up a system to collect relevant statistics that could be used to impose conditions on funding, as well as inform accreditation decisions. Further measures specific to technical-professional training are proposed in Chapter 5. Of course, improving pedagogy and relevance would help to improve study success. It is addressed in the next recommendation.

Accessibility and financial aid

The Chilean government should ensure its higher education financial aid system prioritises fairness, equity, increased access (i.e. targeting students who otherwise would not attend higher education), and simplicity for users. The financial aid infrastructure should also align with Chile’s broader vision for the higher education system, including its efforts to strengthen the quality of education – especially for disadvantaged students.

Gratuidad represents an important effort to promote equity and access to higher education. At present, the programme is targeting students with very limited financial resources and helping them to access higher-quality institutions and programmes, while limiting debt burdens. This is to be commended. In implementing Gratuidad moving forward, however, the OECD recommends that the Chilean government keep the following concerns in mind:

- **Opportunity costs:** It is not possible to resolve the equity challenges in Chile’s higher education system through spending on student financial aid alone. Gratuidad will be most effective if investments in strengthening earlier levels of education can be prioritised (OECD, 2012c). Gratuidad will be least effective if it diverts resources from such investments. Expansion of Gratuidad to top deciles

will only be consistent with a commitment to equity if Chile first ensures universal access to high-quality early childhood education and care, as well as primary and secondary education. In the long run, investing to expand good-quality early childhood education and care and to provide better teaching and learning opportunities in schools would likely improve access and completion of tertiary education much more than expanding Gratuidad grants to more-advantaged students. Students from higher-income deciles have higher tertiary education participation rates than other students. This indicates that many of these students are already attending higher education institutions without receiving grant support.

- **Sustainability:** The Chilean government must ensure that Gratuidad and its expansion are sustainable. If the programme leads to underfunding and overcrowding in participating higher education institutions, this will undermine access and quality. If the Chilean government seeks to control costs by strictly limiting the number of students receiving free higher education, then Gratuidad may in fact reduce the accessibility of Chilean higher education institutions. Another possible outcome is that Gratuidad may segregate students into institutions of different quality and other characteristics, as happened at the school-level through the universal voucher system. The government has been attentive to these risks, but they will require sustained attention on a permanent basis.
- Finally, while private investment in higher education can introduce important equity challenges, cost sharing has also contributed to expanding institutional resources, coverage and impact in Chile, as has been the case in many other countries (OECD, 2008b). Moving forward, the Chilean government should therefore continue exploring ways to align private higher education funding with public goals where this does not harm equity of access. The government should also only pursue measures that reduce private funding for sound strategic reasons.

The Chilean government should continue to explore steps to simplify its student financial assistance system to improve ease of understanding for students and their families, as well as administrative efficiency. The OECD/The World Bank 2009 review recommended that MINEDUC merge its scholarships into a single programme with a limited number of scholarship streams, and also merge its student loan programmes. We support these recommendations. Furthermore, allowing needy students to obtain financing through all the government's different programmes using a single application will reduce complexity for students and improve co-ordination and targeting. It is good that the Chilean government is well on its way to implementing these steps either in practice or in the context of reforms currently under consideration (MINEDUC, 2017b).

Outside of graduate studies, it would be beneficial for the government to phase-out eligibility for financial aid and other supports based on students' academic results. The Chilean government should continue to limit eligibility for financial aid only to institutions that meet quality standards. That said, streaming highly qualified candidates into particular institutions (e.g. CRUCH universities) need not be the responsibility of MINEDUC. Instead, institutions can choose whether to compete through their overall educational offerings and targeted benefits, like institutional scholarships or research positions.

To better account for the resources of students and their families, the Chilean government should begin shifting towards phased eligibility for its financial aid programmes, and away from step-functions. In other words, a clawback of a proportion of marginal income above a given threshold would be preferable to full eligibility cut-offs. Many aspects of financial aid in Ontario, Canada could provide a strong model for Chile, especially for the further improvement of Gratuidad. Chile should also explore options, potentially with higher education institutions, to accommodate exceptional circumstances of students and their families where overarching programme eligibility criteria are too rigid. An additional year of financial aid eligibility for students with disabilities is an example of a possible policy. The appeals process used in Nova Scotia, Canada is an example of a potential mechanism.

Finally, Chile should consider complementing its means-tested financial aid mechanisms with loans that are not delivered on a means-tested basis, up to a limit that equals the full cost of education (including not only tuition, but also living costs). Repayment of these funds could remain contingent on graduate incomes. This model can ensure that all students have access to sufficient funding up front, including those in exceptional circumstances or those from higher-income families. These funds should be made available at a relatively modest cost to government, and with little risk to students who do not subsequently occupy high-paying occupations.

Recommendation 4.4.

Strengthen quality and relevance of higher education.

Summary

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

Context

Chile's 2016 Reform Law defined quality as follows:

“The system must orient towards the pursuit of excellence, through assuring the quality of processes and results and promoting the development of lifelong learning trajectories. In the pursuit of excellence, higher education must be motivated by efforts to better transmit knowledge to students and promote their creativity and critical thinking. Higher education should be oriented towards expanding the limits of knowledge, constant innovation to achieve well-being and respect for the environment.” (MINEDUC, 2016c)

This definition indicates Chile's aspirations, which the higher education system faces a host of challenges to fulfil.

Programme length and flexibility

The average length of Chilean undergraduate programmes fell from 10.6 to 10.1 semesters from 2011 to 2015, as shown in Table 4.6. The percentage of students taking longer to complete their programmes than the formal expectation increased slightly during this time, driven largely by state universities and non-CRUCH private universities.

Programme length has changed little for graduate studies, however there have been increases almost across the board in the proportion of students who are taking longer than expected to complete their programmes (Table 4.7).

Table 4.6. Length of undergraduate programmes by institution type (2015)

Institution type	Number of semesters		Over-duration of programmes* (%)	
	Average	Change from 2011	Average	Change from 2011
CFTs	7	+0.1	41	+1
IPs	8.0	-0.3	31.2	-1.2
State universities	13.4	-0.1	39.9	+3.4
G9 universities	13.5	-0.4	37.7	+0.9
Other private universities	12.4	+0.2	31.5	+1.5
Total	10.1	-0.5	34.5	+0.3

* Percentage of students taking longer than the formal length of their programme to complete.

Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Table 4.7. Length of graduate programmes by university type (2015)

Institution type	Average number of semesters		Over-duration of programmes* (%)			
			Master		Doctoral	
	Master	Doctoral	Average	Change from 2011	Average	Change from 2011
State universities	6.9	12.6	70.2	-1.4	56.8	+0.4
G-9 universities	6.3	12.7	58.3	+5.8	49.2	+3.8
Other private universities	5.6	12.4	51.2	+0.6	60.8	+19.6
Total	6.0	12.6	57.6	+0.6	54	+4.1

* Percentage of students taking longer than the formal length of their programme to complete.

Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

The OECD/The World Bank 2009 review argued that Chilean degree programmes were too long. That review team visited one civil engineering programme where students took eight years to complete their degrees on average (OECD/The World Bank, 2009). The data above indicate little subsequent progress.

In 2009, academic workloads for undergraduate programmes were 30% heavier than in the United States, Canada or Australia (OECD/The World Bank, 2009). The 2009 review considered this excessive.

Higher education programmes in Chile are also consistently rigid. Students must select their programmes when they begin their studies. Students have few options if they discover later that their programmes are not a good fit (OECD/The World Bank, 2009). Chilean higher education programmes offer few general education courses, and overspecialisation has left few electives, which limits mobility between programmes and levels (OECD/The World Bank, 2009). Connecting further different institutions has also been very difficult, including between different types of institutions operating in the same area of studies (OECD/The World Bank, 2009).

Quality and relevance of programme content

In Chile, most higher education students seek to study disciplines which will allow them to work in traditionally white-collar jobs and liberal service sectors, not in technical and industrial sectors. That said, less-informed families seem to select higher education programmes based largely on accessibility, notably in terms of cost. This pattern is reflected in low enrolment in technical, engineering and science programmes. In 2012 Chile had the fourth lowest percentage of tertiary graduates in natural sciences and engineering in the OECD at just 16%. This was well below the OECD average of 22% (OECD, 2015). Moreover, in 2002 the proportion of tertiary graduates in natural sciences and engineering was 22% in Chile, barely below the OECD average of 23%. This suggests that the more recent expansion in higher education participation has taken place disproportionately in other programmes (OECD, 2015).

Across programmes, Chilean higher education institutions have long struggled to orient instruction towards student learning and relevance to the labour market (OECD/The World Bank, 2009). Professors generally have not seemed to adopt student-centred or competency-based learning approaches. In addition, incentives for them to do so have been absent or insignificant. Programmes have emphasised theoretical knowledge instead of developing capacity for independent study or competencies in teamwork, communications, intercultural awareness and entrepreneurship (OECD/The World Bank, 2009). Quality assurance has emphasised inputs and outputs, but not so much outcomes or the content of programmes. Although the 2009 OECD report mentioned some programmes adopting new teaching methods like instruction of teams of students, new interdisciplinary content and flexibility in terms of inclusion of electives (but not the transfer of credits from other study programmes), these examples were exceptions to the rule.

In terms of English skills, Education First's English Proficiency Index ranks Chile 36th in the world and fourth in Latin America, albeit well behind neighbouring Argentina. The OECD/The World Bank 2009 review found that reasons for low proficiency included a lack of suitable teachers, inadequate preparation in secondary schools and excessive core academic workloads (OECD/The World Bank, 2009).

Studies suggest that the degree to which Chilean institutions practically support transitions into high-quality jobs has been highly variable. In general, however, the higher education system in Chile has lacked adequate feedback mechanisms that could express labour market demands (Kis and Field, 2009). Often, faculty are not up to date regarding developments in the labour market, and employers are minimally engaged in identifying programme needs and the planning process of academic programmes. Where initiatives to improve labour market relevance have taken place, these have been mostly discipline-based and not institutionally driven (OECD/The World Bank, 2010). Additionally, programme accreditation is optional for many programmes. Many unaccredited programmes may fail to engage with employers or practitioners and establish high standards for professional practice, though their graduates gain automatic entry into the relevant profession. Employers in Chile frequently lament the gap between what students learn and the needs of the labour market.

The OECD 2013 Review of Chile's Quality Assurance System (OECD, 2013) noted that the Chilean government was overwhelmingly focused on institutional accountability in the form of inputs and outputs instead of internal issues and competencies. The review found that the government dedicated insufficient attention towards assessing institutions' internal quality assurance structures and how these promote continuous improvement in processes and outcomes. The review also noted frequent concerns about the competencies of individuals conducting reviews, as well as conflicts of interest.

System actors have made efforts to improve instruction and reorient it towards student learning and labour market relevance. The now-defunct CNAP (the precursor of the CNA) developed benchmarks for standard graduation profiles across a variety of academic programmes. The MECESUP programme also supported pilot projects to develop competency-based curricula (OECD/The World Bank, 2009). In addition, Chile participated in a Tuning project along with other Latin American countries modelled on the process associated with the Bologna Agreement in Europe, related to the development of the MNC.

In terms of quality assurance, beyond the changes mentioned earlier in the chapter, current reform proposals would require that the CNA develop a registry of peer evaluators based on clear criteria. The reform also mandates that the CNA provide training to peer evaluators, and develop general criteria and standards for assessment, as well as specific criteria based on institutions' particular characteristics, to be confirmed by MINEDUC and the CNED. Reform proposals would also require that external reviewers recommend steps for improvement, and that reviewed institutions develop improvement plans.

Faculty

Composition and working conditions of higher education faculty by level of training

Chile's supply of post-graduate degree holders who can engage in higher education and research is low by international standards. As noted in Chapter 1, the proportion of Chileans with master's or doctoral degrees is less than one-tenth the OECD average, notwithstanding 16% annual increases in graduate enrolment since 2004. Fully 86% of the 650 doctoral degrees awarded in Chile in 2014 were from CRUCH universities, whereas a narrow majority of the 12 305 master's degrees awarded were from other private universities.

This low supply of postgraduates is reflected in faculty composition, as shown in Tables 4.8 and 4.9 (MINEDUC, 2017d). At the university level, just 13.3% of faculty members have doctoral degrees, although corresponding figures are in excess of 23% at CRUCH universities and considerably lower at other private universities. Faculty at IPs and CFTs overwhelmingly have professional degrees, which are also the most common credential at universities. Overall, the number of faculty with doctoral, master's and professional degrees increased by 48%, 59%, and 27% from 2011 to 2016. The complements with bachelor or mid-level technical qualifications fell by 36% and 29% (MINEDUC, 2017d).

Table 4.8. Composition of university faculty by highest level of training (2016) (%)

Highest qualification	State universities	G9 universities	Other private universities	Total
Doctorate	23.2	28.5	7.1	13.3
Master's	28.5	28.6	33.1	29.0
Medical and dental specialisation	6.4	8.5	6.9	6.5
Professional degree	37.4	28.5	43.2	36.5
Other qualifications or no information	4.6	5.8	9.7	7.3

Source: MINEDUC (2016a), "Mifuturo: Compendio Histórico de Educación Superior" [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Table 4.9. Composition of IP and CFT faculty by highest level of training (2016) (%)

Highest qualification	CFTs	IPs
Master's	11.8	15.2
Professional degree	71.7	71.7
Bachelor	3.7	5.3
Higher-level technician	10.4	5.4
Other qualifications or no information	2.4	2.3

Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

In terms of workload, most Chilean faculty work 22 hours or less per week, as shown in Table 4.10. Faculty at CFTs and IPs work shorter hours, which aligns with these institutions' mandates to connect with the workplace. Similar shares of faculty at non-CRUCH private universities work part time however, whereas much higher shares of faculty at CRUCH universities work 39 hours or more. This relates partly to qualifications, as faculty with doctoral degrees overwhelmingly work 39 hours or more (76.5%). It also further demonstrates the gap between faculty at CRUCH universities and other private universities. In 2016, 17.9% of instructors in Chile also had contracts at more than one higher education institution. This was especially common among master's graduates at 23.8%.

Table 4.10. Weekly hours of work of faculty by institution type (2016) (%)

Institution type	11 hours or less	11-22 hours	23-38 hours	39 or more hours
CFTs	56.6	32.6	6.3	4.5
IPs	44.5	33.5	10.5	11.5
State universities	31.1	26.3	4.4	38.2
G9 universities	26.5	24	6.6	42.9
Other private universities	57.2	20.1	9.2	13.6

Source: MINEDUC (2016a), “Mifuturo: Compendio Histórico de Educación Superior” [Mifuturo: Historical Compendium of Higher Education], www.mifuturo.cl/index.php/estudios/estructura-compendio.

Key challenges include the absence of transparent career pathways for faculty, with most (if not all) universities in Chile lacking effective faculty development programmes. In addition, processes of recruitment, as well as for dismissals of underperforming staff, often lack transparency.

Research performance of academic faculty by field of study

Data from the OECD provide an indication of fields where Chile has research strength. According to this evidence, Chile's research excellence is clearly concentrated in areas of natural sciences.

In the earth sciences, Chile has the second highest relative activity index for a field of study in the OECD. It also has a relatively high proportion of doctoral graduates in the field, indicating a special concentration of Chilean research in this area (OECD, 2015) (see Table 4.11). Output is at the world average, but impact is high, and 13.5% of

documents produced by Chilean earth science scholars are among the 10% most cited in this field (Kamalski et al., 2015; OECD, 2015). Astronomy drives much of these results, related to the location of international astronomy instruments on Chilean soil. However, earth sciences is fundamentally an area of basic research (experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view). It is therefore difficult to connect with economic innovation.

Table 4.11. Concentration of doctorate-holders, output and performance by field of study (%)

Field	Proportion of doctoral graduates	
	Chile	OECD average
Natural sciences	43.5	25.1
Humanities (humanities, arts and education)	18	18.3
Engineering and technology (engineering, manufacturing and construction)	14.4	14.9
Services and agriculture	10.4	4.2
Social sciences, business and law	7.8	18
Health sciences (health and welfare)	5.9	19.5

Source: OECD, (2015), *OECD Science, Technology and Industry Scoreboard 2015: Innovation for Growth and Society*, OECD, Publishing, Paris, <http://dx.doi.org/10.1787/20725345>; Kamalski et al. (2015), *World of Research 2015: Revealing patterns and archetypes in scientific research*, Elsevier, Amsterdam.

Agriculture is the field where Chilean researchers achieve the highest impact. It also has a high concentration of doctoral graduates. The field with the second highest relative activity index in Chile is arts and humanities, and the impact of the field is high. Finally, the field with the highest share of documents in the top 10% most cited is dentistry (OECD, 2015).

Internationalisation

Internationalisation of Chilean faculty

In many ways, Chilean researchers and faculty are very internationally engaged. Only 30% of Chile's approximately 14 000 researchers do not show international mobility. This rate is on par with the rates of Canada, the Netherlands and Denmark, and is considerably stronger than Brazil's (53%) and Argentina's (46%) (Kamalski et al., 2015). A relatively high percentage (52.6%) of Chilean publications involve the co-authorship of individuals affiliated with institutions in other countries or economies. According to this measure, Chile is near the top in the world, and is on par with Denmark, Austria and Belgium (OECD, 2015). Chile's proportion of publications involving international collaboration was also consistently above the world average between 2003 and 2012 (OECD, 2016b). International engagement can vary considerably between fields however, and in certain areas may be quite limited.

A key challenge is that it appears easier for Chilean advanced human capital to move to other countries than for the country to recruit minds to Chile. International faculty delivered just 3.9% of all class hours in 2015, including 5.6% at CRUCH universities, 4% at other private universities, 1.7% at IPs and 1.1% at CFTs. Foreign instructors made up a relatively high proportion of those with doctorates at 11.9%, as compared to just 3.1% of

faculty overall. The small size of the Chilean market likely undermines its ability to track international faculty. Additionally, civil service’s human resource regulations limit institutions’ ability to hire foreign faculty on a permanent basis, among other obstacles for in-country academic careers (OECD/The World Bank, 2009).

Internationalisation of Chilean students

Chileans study abroad at relatively limited rates. Chile’s gross outbound enrolment ratio is 0.6, which is lower than in many other OECD countries. The most popular study destinations are the United States, Spain and the United Kingdom (UIS-UNESCO, 2016). CONICYT provides financial support for Chilean graduate students to go abroad, but only to attend institutions that perform sufficiently well in their discipline sub-area on certain rankings: the Thomson Reuters Web of Science measures (top 100), the ARWU (Academic Ranking of World Universities) and the THE (Times Higher Education) rankings (top 50). CONICYT also allows graduate students to study at international institutions that rank overall in the ARWU or THE rankings (top 150) (CONICYT, 2017). Chile’s programmes for international mobility of advanced students seek to promote brain circulation, but may not have achieved sufficient scale (Chile’s International Scholarship Programme, OECD/The World Bank, 2010).

At the same time, few international students study in Chile. In April 2014, foreign students represented just 1.1% of higher education students below the age of 30, and 4% of students aged 30 or over. These numbers have been on the rise since at least 2011. That said, most of these students (at least 55.3%) had prior residency in Chile, so they are likely immigrants, as opposed to students travelling to Chile specifically for studies. The overwhelming majority of foreign students come from Latin America and the Caribbean (82.6%), and in particular from Peru (28.4%), Colombia (19.7%) and Ecuador (9.7%). Only 3.5% come from Europe, 1.3% from Asia and 0.6% from North America. The students are concentrated in the Santiago Metropolitan region (where they represent 6.4% of total enrolment) and in universities (6.4%). Chile also received 7 401 exchange students in 2014, who came from a considerably larger number of countries and were concentrated mostly in CRUCH universities (Salamanca, Sago and Rolando, 2014).

International evidence

Focusing on student learning

Many authors have provided recommendations as to how to develop relevant curricula in higher education based on international experience (Olsson and Cooke, 2013; Van Deuren, 2013; Wang and Burton, 2012). In a recent OECD report (citing European Parliament, 2015, in OECD, 2017) a reference is made to the importance of making subject content and the way it is taught attractive during curriculum development. This is vital to achieving a good, attractive and responsive training. For example, science curricula adaptations in Europe have aimed to strengthen inquiry-based learning in the teaching of science subjects, as well as greater contextualisation of science education by embedding it within current social issues. Furthermore, an OECD literature review (Hoidn and Kärkkäinen, 2013) offers useful initial findings on the effect of innovative pedagogical practices. The review concludes that active learning approaches which offer opportunities for autonomous and group learning, such as problem-based learning (PBL), tend to be more effective than traditional teaching methods in preparing students to work and live in innovation-driven societies.

A key area of influence in many countries has been the establishment of learning outcomes, often working in partnership with professional associations. The Fellows of the Royal College of Physicians and Surgeons of **Canada**, the professional body for the country's physicians, first developed the CanMEDS Physician Competency Framework in the 1990s, but have since updated it on an ongoing basis. The framework articulates “a comprehensive definition of the abilities needed for all domains of medical practice” to provide a foundation for medical education. It focuses on seven roles for medical doctors: Medical Expert (the integrating role), Communicator, Collaborator, Leader, Health Advocate, Scholar and Professional. The Royal College has integrated the CanMEDS Framework into its standards for accreditation of programmes, specialty training documents, final in-training evaluations, exam blueprints and maintenance of certification of continual professional development programme. Many other jurisdictions around the world have used the CanMEDS Framework as a model (Royal College, 2015).

There is a basic view that qualifications frameworks require the support of systematic and transparent quality assurance (Murray, 2013). In higher education, the development of the EQF and NQFs in Europe has been connected with the ongoing Tuning project (see Tuning, 2017). This has meant that higher education institutions are jointly considering how to design, develop, implement, evaluate and enhance quality in their programmes, with an orientation towards the needs of society. The objective of these measures is not to reduce the diversity of programmes, or undermine institutional, local or national academic authority. The objective is to find mechanisms for “tuning” individual higher education programmes to ensure they are oriented towards student learning outcomes and the achievement of key minimum standards that are common across the region.

Specification of learning outcomes is now a core part of accreditation criteria for programmes and institutions. A CEDEFOP (2016b) review of the use of learning outcomes across Europe found that the creation of NQFs in line with the EQF has been a main driver of progress in the use of learning outcomes. Emphasis on learning outcomes within the standards and guidelines of quality assurance in the European higher education area) has helped guide the operation of national quality assurance agencies. It has also driven the use of learning outcomes in Europe in key ways (ENQA, 2015).

Quality assurance for continuous improvement

Effective quality assurance systems emphasise the development of cultures in which quality is paramount and continuous improvement is standard. These systems also have quick response times and strong structures for ensuring professionalism and avoiding conflicts of interest.

Denmark provides one example of a strong quality assurance system that emphasises institutional accreditation, introduced under the Accreditation Act in 2013. The model does not aim to provide strict oversight and rules down to the programme level. It also does not emphasise documentation that may only be used during the accreditation process. Instead, the Danish Accreditation Institution (DAI) assesses the quality of institutions' internal quality assurance systems with the goal of helping institutions continually improve these systems, and by extension their study programmes. The government evaluates institutions' quality assurance efforts using the Accreditation Act, criteria in the relevant ministerial order and the more detailed accreditation criteria. Procedures must fulfil five criteria for quality and relevance that are consistent with the European Standards and Guidelines for quality assurance of higher education programmes: quality assurance must be ongoing and systematic, structured around a clear division of responsibility and labour, firmly anchored at management level, built upon an

inclusive quality culture, and must consider programmes holistically – including in terms of teaching. It is insufficient for the system to simply fulfil criteria on paper, however. External reviewers consider whether an institution's quality assurance system is well-functioning in day-to-day practice, and whether it will continue to work well after accreditation is granted or renewed. This overall structure places responsibility for the quality of programmes squarely with institutions and their management. At the same time, the structure permits institutions greater flexibility to develop programmes of increasingly high quality and relevance that best fit their strengths and circumstances. The DAI's website transparently details its approach (DAI, 2017).

The NVAO in the **Netherlands** similarly conducts audits to determine whether institutions have effective systems of quality assurance with which to guarantee the quality of its programmes and support quality improvement (NVAO, 2016). These institutional audits are valid for up to six years, with conditional decisions valid for up to two years. The audits occur within six months of institutional applications. Audit panels must include at least four members, including one student and one individual with administrative experience as chair. Panel members must have authoritative expertise of domestic and international relevance, and the panels must be independent (pursuant to a developed code of conduct). There are also specific requirements for assessment panels for particular programmes, including trained chairpersons.

Connecting higher education institutions with the private sector

Many higher education systems have placed an emphasis on connecting institutions with industry. Such policies aim to support the relevance of study programmes, but also research, as well as the service mission of universities.

Since 1990, **Australia's** Business Higher Education Round Table (BHERT) has sought to strengthen the relationship between business and industry on the one hand, and the tertiary education sector on the other. Put simply, BHERT aims to advance the goals and improve the performance of both. BHERT promotes policy debates on key issues such as the country's training agenda and commercialisation. It pursues collaborations and knowledge exchanges, and it represents its members with government and other stakeholders. Specific activities have included annual awards for higher education institutions and collaborative initiatives, ministerial working lunches, publications and distinguished speaker series (BHERT, 2016).

In the **United Kingdom**, sector skills councils (SSCs) are industry-specific employer-led organisations licensed by the government through the UK Commission for Employment and Skills. They aim to: support employers in developing and managing apprenticeship standards; reduce skills gaps and shortages and improve productivity; boost the skills of their sector workforces; and improve learning supply. SSCs have contributed to the development of National Occupational Standards and the design and approval of the New Apprenticeship Standards and apprenticeship frameworks. They have also created Sector Qualification Strategies. The United Kingdom currently has 21 SSCs working with over 550 000 employers and covering approximately 90% of the UK workforce (OECD, 2016d).

Faculty

At the core of any university or research institute is its advanced human capital: the sum of minds in a system and the accumulated knowledge, insight and experience they possess. Whatever activity a higher education institution undertakes, the quality of that

activity is determined by the quality of the core faculty. The key challenge facing all higher education institutions is, therefore, to recruit excellent faculty and stimulate their development while maintaining academic freedom and holding them accountable and responsible to their individual fields of study.

Traditionally, academic recruitment has been guided by peer systems. Massified higher education institutions, however, have had to develop clear recruitment strategies that are more flexible so that they can change and build their academic profiles strategically. Institutions have also been faced with the imperative to diversify staff and faculty. Finally, it has become advantageous for leadership to hire internationally and pay attention to the staff age profile.

The integration of research and instruction is decisive in the development of a strong university. Institutions should not assume that good researchers also are good instructors. Instead, they should prioritise both skillsets, as well as excellent communication skills in general.

Faculty development should begin well before hiring. Many researchers have identified graduate student study performance to be the best predictor of an academic's success. This means that the quality of graduate students is a key determinant of the quality of future faculty (McKenzie and Schweitzer, 2001; Zeegers, 2004). Building a critical mass of strong scholars necessitates increasing and improving the supply of doctoral students in the pipeline (Olsson and Cooke, 2013). Institutions must develop selection processes and criteria that identify promising young scholars to train the new generation of researchers, and to prepare competent professionals with strong values.

On the research side, one of the best ways to develop university faculty is to provide opportunities for top talent to engage in independent, free and fundamental research. In the past, this was a simpler governance task because the enrolment of students was limited, and full professors were relatively few – traditionally only one per academic field. The development of the mass university and increased diversification of funding sources for research has added complexity. The hierarchy of researchers has increased, as institutions often have doctoral students and candidates, post-docs, temporary lecturers and professors, adjunct professors, assistant professors, associate professors, full professors, and senior researchers all doing directed research within the same departments. It is now the norm in many academic fields for professors to work in teams. Team leadership often changes over time, and individuals enjoy different degrees of freedom to choose their research objectives. That said, freedom remains generally high in terms of research methods.

On the teaching side, effective programmes to develop faculty are built on the recognition of teaching as a scholarly activity, as well as respect for faculty freedom and knowledge. Pedagogical improvement programmes often work better when they bring academics together into communities of practice. These programmes are also more effective when they consider development across the participating academics' entire careers, and emphasise professional growth rather than remedial training. The literature on effective practices for improving teaching and learning in universities indicates that activities to position dialogue as a natural part of individual work programmes are more effective than occasional training events (Salmi and Holm-Nielsen, 2014; DPMG, 2014). Dialogue sessions between faculty and administrative leaders may also offer an alternative to faculty evaluations (Qualters, 1995, 2009). Dialogue encourages peer learning by permitting the explicit identification and exploration of unexamined

assumptions in a non-judgemental manner. It also encourages participants to share techniques and ideas.

The National Forum for the Enhancement of Teaching and Learning has been active in supporting the development of instruction quality in **Ireland**. The forum offers awards to recognise teaching excellence. One award is based on student election, and the other is based on empirical assessment. The forum provides postgraduate scholarships to support the development of higher education instruction. It is also developing a professional development framework for instructors in higher education, and supports the development of partnerships and collaborations across the sector that favours the enhancement of teaching and learning (T&L, 2016).

In the **United Kingdom**, the Higher Education Academy has developed the UK Professional Standards Framework which aims to ensure good practices within the teaching profession and, thus, high-quality education. The Standards Framework is written from the perspective of the practitioner and outlines the national framework for comprehensively recognising and benchmarking teaching and learning support roles. It has also provided professional recognition through fellowships, which 75 000 faculty members have received to date, certifying their excellence in instruction (HEA, 2017).

Australia has recently allocated AUD 42.8 million in programme funding over four years towards the Promotion of Excellence in Learning and Teaching in Higher Education (PELTHE) programme, administered by the Australian government's Department of Education and Training. PELTHE consists of five different grants as well as fellowship awards called the Australian Awards for University Teaching (AAUT), which recognise quality teaching practices and outstanding contributions to student learning in higher education. The goal of the AAUT is to promote excellence and encourage systemic change in learning and teaching through knowledge sharing and dissemination within the higher education community. The PELTHE funded 320 grants and 55 fellowships between 2012 and 2016 (Department of Education and Training, 2017; Office for Learning and Teaching, 2016).

Internationalisation

National innovation systems are strengthened when they have access to international knowledge and talent. Innovation also increases when countries around the world engage in a competition for the best minds. Some experts believe that, beyond acquiring international academics and preventing brain drain losses, it is essential for countries to achieve brain circulation (Thorn and Holm-Nielsen, 2008). The mobility of advanced human capital is one of the most important factors for successful insertion into the global knowledge exchange system. This is especially true for smaller economies like Chile.

Internationalisation is also important for student learning. Researchers have found that domestic and international students studying together outperform mono-cultural learning groups (McLean and Ranson, 2005). All students contribute social and cultural knowledge to advance learning in the classroom, but international students further diversify this knowledge (Ryan and Hellmundt, 2005). International students also transform campuses into global environments where students can learn more about communicating and understanding across cultures, and become better able to distinguish between individual and cultural characteristics (Ryan and Carroll, 2005; Sumer, Senel and Garaham, 2008). Intercultural skills will be critical to success in a globalised world.

Internationalisation is a significant priority in **Ireland**'s National Strategy for Higher Education to 2030. Priorities include encouraging Irish faculty and students to work and study overseas, attracting foreign faculty and students to Ireland, providing strong supports for international students, international competitiveness, other international linkages, and internationalisation of curricula (Department of Education and Skills, 2011).

Body of the recommendation

The OECD 2013 Review of Quality Assurance in Higher Education in Chile (OECD, 2013) envisioned a quality assurance system that would be **transparent, student-focused and outcomes-oriented**. Such a system would seek to: promote equity, relevance and efficiency; guarantee minimum standards; foster a culture of quality and professionalism which leads to continuous improvement; support the active involvement of stakeholders, especially students and employers, in order to promote responsiveness and relevance; allow for the diversity of institutions, programmes and modes of provision of higher education; embed transparency and openness in the system to inspire trust and confidence; and, be open to the experiences of other countries. These principles remain equally relevant today.

It is crucial to note, however, that any government reform, no matter how thoughtful, can only begin to realise Chile's goals for higher education quality. All the actors in the system must take responsibility and participate in cultivating a culture of quality that builds on previous achievements across political cycles. This effort involves continuously monitoring the progress of reforms. It also means adopting new, more ambitious and more relevant goals when successes are achieved, where emerging evidence suggests changes are required, and where the system's needs have evolved. In this vein, the Chilean government should review the impact of its current reforms in five years' time. Competing nations and institutions will certainly continue pursuing improvement; Chile must tirelessly do the same.

4.4.1. Focus on what students and graduates know and can do.

The Chilean government should aim to shift the focus of its higher education system towards the knowledge and skills it wants students to develop, and away from checklists of inputs and outputs. It should do so while also recognising and adapting to the increasing diversity of the student population, with diverse learning approaches, expectations and goals.

The development of the MNC provides an important opportunity to reorient the system. The Chilean government should learn from other countries and jurisdictions' experiences as it pursues development of the MNC. The government should structure the new MNC first and foremost around expectations of what graduates should know and be able to do as a result of completing their study programmes. It should then identify the programme elements necessary to fulfil these expectations. Institutions, employers and professional associations should participate in identifying these learning expectations to ensure they are relevant. Other key reference principles for developing the qualifications framework should include:

- A preference for the development of transferable knowledge and skills through academic programmes, as opposed to currently rigid and highly specialised curricula.

- A strong commitment to ensuring the efficiency of programmes and strictly limiting requirements to the relevant and necessary, so as to reduce programme length from current levels.
- Favouring transferability of learning between higher education institutions, while allowing flexibility for institutions to innovate in programme delivery.

Labour markets are becoming more flexible. With technology and globalisation, job functions and expertise are changing, and employees will have to catch up. Social and professional demands on workers are also likely to change much more frequently in the future. Therefore, graduates will be expected to become more adaptable. Individuals' initial higher education degrees may be relevant for their first jobs, but for later work, an individual's capacity to acquire higher-level skills is likely to be decisive. Learning skills and interdisciplinary knowledge are key.

A critical challenge will be to disseminate the new MNC and ensure that it is used in practice to frame instruction and student assessment (OECD/The World Bank, 2009). The MNC will have little effect if it exists only on paper. Integration within Chile's overall quality assurance framework is essential. The MNC and its learning expectations should form the reference point for quality assurance reviews, especially at the programme level. Conditions placed on funding relating to compliance could also be appropriate.

The 2013 OECD Review of Quality Assurance in Higher Education in Chile (OECD, 2013) recommended gradually expanding programme-level accreditation, particularly in priority areas of special economic and social relevance. This recommendation continues to be highly relevant. Professional associations often play a critical role in accreditation and support for continuous improvement in specific programmes, and the Chilean government should seek to further develop this in areas such as engineering. In the likelihood that such structures are empowered to assist with programme accreditation in the future, the Chilean government should ensure accreditation processes are transparent and that conflicts of interest are properly addressed. For example, accreditation partners should contract with the CNA to complete work, not directly with institutions. The current reforms to the CNA and the elimination of the private accreditation agencies are steps forward in this respect.

The Chilean government should encourage its higher education institutions to support or incentivise faculty to pursue evidence-based pedagogical methods. It should also support faculty in creating more innovative curricula that adapt to changes in student needs and technology, as well as changes in professional practices in the field of study. One useful change can be to include greater use of guest lecturers working in the field. Chapter 3 discusses how initial teacher education could be developed and modernised. Similar considerations should apply to many other degree programmes.

Of course, higher education institutions alone cannot fully prepare students for the labour market. Real employability comes from direct labour market experience such as internships and work-study programmes. International experience can also be a key asset.

4.4.2. Prioritise continuous improvement.

The OECD 2013 Review of Quality Assurance in Higher Education in Chile (OECD, 2013) recommended formalising the purpose of institutional accreditation as first and foremost to develop a culture of quality that promotes continuous improvement in teaching and learning. This report echoes that view and welcomes the higher education reform proposals that would make progress on this challenge.

Strengthening requirements for self-review should be a priority in quality assurance. All institutional reviews should examine institutions' internal mechanisms for assuring the quality of their programmes. We reiterate the 2013 OECD review recommendation to conduct assessments based on explicit and agreed-upon criteria, the details of which will be critical in determining the effectiveness and objectivity of accreditation moving forward. Criteria should include the extent to which institutions strive to meet employer and student needs, the extent to which leadership have internalised the importance of quality assurance, and, finally, dedicated professional capacity and the culture of quality more broadly. Ideally, institutions should assign responsibility for quality assurance specifically to a vice-rector or equivalent, have dedicated qualified staff, and regularly report to the senior management team and communicate visibly to broader institutional stakeholders (through newsletters or the website). All external reviews should also generate plans for improvement and include measures to assist institutions in strengthening institutional capacity to conduct quality assurance effectively.

Using a tiered system of institutional accreditation and provisional accreditation promises to create stronger incentives for improvement. Such a system is more likely than a simple accredited/non-accredited distinction to make visible the uneven capacity of institutions across the system. Institutional accreditation of stronger institutions could be limited to auditing the quality of their internal quality assurance processes, as described above. In contrast, weaker institutions could be subject to more in-depth review to ensure accountability. Focusing national quality assurance resources on more problematic institutions can improve effectiveness and efficiency.

The 2013 OECD review recommended that institutional quality reviews should draw on a pool of trained peer reviewers. Current reforms would make progress in this area. However, based on international experience, we further recommend that mandatory training for external reviewers increase from a half day to two to three days (OECD, 2013).

It is critical that standards and criteria for institutional accreditation adapt to different institution types, which is an objective of the recent reform package. Accreditation processes should also remain affordable for institutions.

4.4.3. Strengthen the higher education system's human capital.

The Chilean government must prioritise the development of its higher education and research professionals.

Chile should strive to narrow the gap relative to the OECD average in completion of advanced degrees, just as it has narrowed the gap at lower levels of education. Reorienting some research funding towards the development of the researchers themselves, as opposed to their specific research, could support this effort. The reason for this is that developing an individual researcher may have more important research implications in the long term than funding a single specific project. These efforts should be concentrated specifically on research-intensive institutions, and not distributed across the system.

Institutions should be encouraged and supported to develop detailed human resources strategies. These should include programmes for faculty recruitment and development that are systematic, rigorous and informed by practices in leading international jurisdictions. Such programmes should also involve engagement between faculty and other professionals and standard practices in their fields of study to improve relevance.

Establishing services to assist faculty in developing pedagogical and ICT skills would also be constructive. Faculty in research universities must be supported to pursue research and teaching, and to excel in both. More broadly, institutions must provide strong environments for faculty, including in terms of working conditions, infrastructure and broader human resources and governance policy frameworks.

The age profile of faculty should also be considered in institutional human resources strategies. Retirement packages should be adequate to support the transition to younger faculty when appropriate, and complemented by performance reviews of ageing faculty to support them and monitor their performance through the later stages of their career path.

Internationalisation

It is imperative for Chile to be an active partner in the global brain circulation system. With only 0.4% of global research pursued in-country, Chile risks being left at the periphery of the global knowledge exchange structure if it does not make participation in international networks a priority (Kamalski and Plume, 2013).

Steps to enhance the internationalisation of faculty could include the use of international linkages as decisive criteria in assessing proposals for supporting research centres by CONICYT, or further efforts to send researchers abroad for at least part of their PhD training (OECD/The World Bank, 2009). Institutions should also develop programmes to support international engagement at the institution level across different fields, in order to counteract current imbalances in engagement.

Supporting higher participation in international exchanges among Chilean students and researchers should be a priority for the higher education system, with support from MINEDUC potentially in the form of faculty grants, student bursaries or financial incentives for institutions. The Chilean government should also work with institutions to develop the agreements with higher education institutions around the world that can ensure the adequate and efficient recognition of credits obtained during academic exchanges. There should be special opportunities for recognition of higher education credentials across the Southern Cone through MERCOSUR, and across Latin America.

Attracting researchers and students from outside the region may promise even greater returns, notably in terms of improved diversity. Chile will be better positioned to draw in foreign-degree students and permanent faculty when the quality of the higher education system improves. It would also help for the Chilean government to reduce legal barriers to hiring international faculty. Nevertheless, Chile has considerable short-term potential to be a leader in attracting faculty and students on exchanges from within and outside Latin America. Its strengths include its regional position in university rankings and low crime rates, given research that indicates perceptions of quality and safety are key factors in the choices of international students and their families (APCIES, 2012; Grant Thornton, 2016; Becker and Kolster, 2012). Successes would bring considerably more diversity to Chilean classrooms, while expanding reciprocal opportunities for Chilean faculty and students to visit institutions abroad.

Finally, Chilean institutions should be encouraged and supported to develop administrative offices or centres to support internationalisation. These centres should be responsible for supporting faculty and students completing exchanges. This could include assisting visitors in establishing themselves in Chile and transitioning into the Chilean education system.

Conclusions

This chapter recognises important strengths of Chile's higher education system, including the deep commitment of Chileans and their government to higher education. Yet it also identifies important ongoing challenges in terms of atomisation, inequity and low quality overall. These challenges are holding back the system and Chile as a whole, but they are far from insurmountable.

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

The first step towards creating a stronger, more inclusive higher education system is to develop and articulate a guiding vision or strategy that includes the goals and the broad measures required to accomplish this vision. The process of developing such a vision cannot occur simply within the offices of MINEDUC or another isolated agency, but must include actors from across the sector, and must take place through meaningful and evidence-driven dialogue. Such a discussion should also take into account the mix of institutions that Chile will require to be successful.

Create steering infrastructure to support the accomplishment of the system vision

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

Prioritise equity and access

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

Strengthen quality and relevance

The Chilean government must take steps to improve the quality and relevance of instruction in higher education. The system needs to be reoriented towards student learning through mechanisms like the National Qualifications Framework. The quality assurance system must be refocused on supporting continuous improvement and not only

accountability. Higher education institutions should better engage with industry. The government and institutions should pursue efforts to strengthen the initial and continuous development of faculty, in terms of both teaching and research. Lastly, the Chilean government should prioritise greater internationalisation of faculty and students to deliver learning and research suitable to the globalised twenty-first century.

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

Notes

1. The 2009 General Education Law identified principles for the education system as a whole that are listed in Chapter 1.
2. Institutions were also permitted to increase enrolment beyond this limit where they had prior plans and 28 campuses did so – growth reached 30.1% at the Universidad Católica Cardenal Raúl Silva Henríquez (private), 27.5% at the Universidad Autónoma (private), 27.1% at the Universidad de Atacama (state) and 20.7% at the Universidad Católica del Maule (G9).

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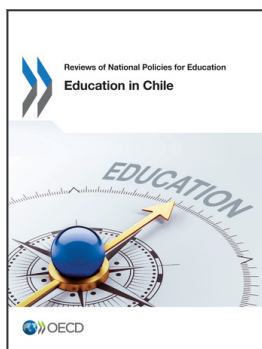
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