Qualifications Frameworks: Implementation and Impact

Background case study on Chile

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Foreword

This report was prepared as one in a series of background studies under an international research project conducted by the ILO Skills and Employability Department in partnership with the European Training Foundation on the implementation of National Qualifications Frameworks (NQFs) and their use and impact. The individual country studies and the subsequent cross-country comparative analysis strengthen the empirical foundation for eventual policy advise on whether and, if so, then how to introduce a qualifications framework as part of a strategy to achieve countries' wider skills development and employment goals.

Whether the emphasis is on increasing the relevance and flexibility of education and training programmes, easing recognition of prior learning, enhancing lifelong learning, improving the transparency of qualification systems, creating possibilities for credit accumulation and transfer, or developing quality assurance systems, governments are increasingly turning to qualifications frameworks as a policy tool for reform. Despite the growing international interest, there is very little empirical research about the actual design process, implementation and results of NQFs as an approach to reform skills development systems where it has been attempted.

This report on Chile is one of a dozen studies of countries around the world undertaken to examine the extent to which qualifications frameworks are achieving policy objectives and which types of qualifications frameworks seem most appropriate in which contexts. The case studies were conducted through two stages of field work. The first stage generated a description of the qualifications framework, the design process, its objectives and the existing system of qualifications that it was intended to reform. For the second stage, the focus was on implementation, use, and impact of the qualifications framework, including asking employers, training providers, workers, and government agencies about the extent of their use of the qualifications frameworks and the extent to which they felt it was serving their needs.

In addition, five case studies on the early starter qualifications frameworks (Australia, the English NVQs, New Zealand, Scotland, and South Africa) were written on the basis of existing research and documentation only, and published as an Employment Working Paper (Allais, Raffe, Strathdee, Wheelahan, and Young, ILO 2009).

I would like to thank Ana María Cabreba for carrying out the research and preparing this case study report. I would also like to acknowledge our gratitude to the practitioners and stakeholders who made time to respond to the questions and share their views. The paper reflects the views of the author and not necessarily those of the ILO.

Dr. Stephanie Allais, as Research Associate in the ILO Skills and Employability Department, supported the group of researchers in preparing the country studies and wrote the synthesis report *(The implementation and impact of National Qualifications Frameworks: Report of a study in 16 countries*, 2010) which also explains the methodology set out for the country studies. I would also like to thank Judy Harris for editing the case study.

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1. Introduction

Chile has been in the process of introducing a competence-based model of vocational education for the past 20 years. At school level, several small projects have proved successful at the experimental stage, but once institutionalized, have lost strength and not yielded the expected results. At the training level, the National System for the Certification of Labour Competences began 10 years ago with a series of pilot projects but is still not legally implemented.

The institutional and legal legacies of the military regime have not allowed new governments the manoeuvrability to implement successful educational policies. In particular, the privatization and decentralization of the education system during the 1980s led to a situation where enduring legal frameworks limit possibilities for implementing new educational measures. Despite a major process of reforms, four successive democratic governments (between 1990 and 2010) have found themselves without the political will and strength to modify the legal structure of the education system.

The Ministry of Education does not have direct influence on the administration of schools and all tertiary institutions are private.[1] This limits the remit of the Ministry to the definition of policies and the allocation of resources, without the legal power to implement them. The net result is that the status quo is retained. For example, the reform of secondary vocational education (1998-2002) was undertaken on the basis of the need to link vocational training with local and national labour requirements, but in practice, for various reasons, these objectives have not been fully achieved.

The most recent initiative to improve links between the training system and the labour market was the Lifelong Learning Program, Chile Qualifies (2002-09). It had similar objectives as for secondary vocational education i.e. linking industry and training, as well as setting up of the National System for Certification of Labour Competences. The programme was an alliance between the Ministry of Education, the Ministry of Economy and the Ministry of Labour and Social Security (through the National Training and Employment Service [SENCE]). One of its objectives was to improve coordination between different government agencies in order to generate common goals for policy making: even within the same ministry, pockets of power act alone, impeding communication between initiatives, programmes, units and departments.

The development of a National Qualifications Framework (NQF) is the last in a line of policy initiatives to facilitate lifelong learning and to coordinate, link and articulate levels within the training system in accordance with the needs of the productive sector and the labour market. The NQF initiative was officially announced by the Minister of Education in September 2009 to be followed by a series of institutional changes to support its implementation. Therefore, there is no NQF in place to allow for a thorough analysis of implementation and impact.

[1] The Ministry of Education is the main coordinator and regulator of the national education system and of tertiary education.

The idea of an NQF was recommended by national and international organizations. The Organisation for Economic Co-operation and Development (OECD) has been instrumental in highlighting the state of education system in the country. An OECD team of experts conducted a thorough analysis of the education and economic system, with a view to Chile becoming a full member of the organization in the near future. A series of educational studies have been undertaken by OECD teams of experts. The first one, in 2004, was a thorough review of the education system. The most recent, in 2009, was undertaken in conjunction with the World Bank to address the higher education system. In fact, OECD publications have been seen as one of the more reliable source of educational data in Chile.

Any understanding of Chile needs to be based on its development figures, as the country can be viewed with admiration or analyzed with scepticism. In the absence of substantial NQF development in the country, the case study offers an account of 30 years of educational reforms undertaken in the light of the country's need to face global challenges. Current initiatives include the design of a partial NQF for vocational training in the mining sector with an intention to link this with another framework developed by the eight universities belonging to the Council of Rectors. The second framework therefore includes academic education and training. Both initiatives are partial, the vocational one involves the most privileged part of the economic sector; the second involves a few of the most privileged universities. In a country with acute income inequalities (and therefore social inequalities) partial initiatives reaching privileged groups could foster and perpetuate exclusion.

2. Economic and social background

Chile has a population of 16.6 million and is the longest and narrowest country in the world. It borders Peru and Bolivia in the North and Argentina on the west. It is 4,300 kilometers in length and covers 757,000 square kilometres. Characteristics include the most arid deserts on earth; a central valley famed for agro-industrial products and livestock and an area nearer to the South Pole that is home to the aquiculture and fishing industry.

The country is divided into 15 regions, 53 provinces and 346 communes (boroughs). Regions are governed by regional governors and provinces by governors, all nominated by the President of the Republic. Communes are governed by mayors, elected by popular vote. Santiago, the capital or Metropolitan Region, comprises more than a third of the total population with 4,668,500 people (Chilean Government, 2009).

In economic terms, natural resources account for 10 per cent of the gross national product (GNP). The country is the world's biggest producer and exporter of copper. The agro-industrial sector (wine, fruits and vegetables), the fishing industry and other minerals also contribute significantly to balance the export-import ratio at 12 per cent. The real gross domestic product (GDP) increased by nearly 6 per cent per year between 1985 and 2007 (OECD, 2009a, p. 15). Chile was congratulated by the OECD in its *Economic Review* (OECD, 2007) for robust economic performance, exemplary macroeconomic management, strong public finance and low inflation. The World

Bank has placed Chile among the group of countries with superior middle income (OECD, 2009b, p.20.

In spite of natural wealth and sustained economic growth over two decades, unequal distribution of wealth persists. The Gini coefficient of 0.53 is to a large extent closely linked to wage inequalities that are not sufficiently smoothed by the tax and benefit system (OECD, 2009a). In 2002, the World Bank rated Chile as having the ninth largest inequality in the world. This is not necessarily because the poor are many or very poor – the percentage of poverty diminished from 39 per cent in 1990 to 14 per cent in 2006 (poverty being higher in rural areas than urban areas) - but because the rich are very rich, especially the highest 10 per cent (OCED, 2009a, p. 21). The inequality in the distribution of income is striking, with over 20 per cent of the country's income going to the top 10 per cent of households.

One of the main requirements, according to a recent OECD *Labour Market Review*, apart from ensuring that all Chileans benefit from the country's economic growth, is to foster the creation of more and better jobs. There are few job opportunities for certain groups particularly youth; and the female employment rate is 33 per cent below the male employment rate. Only about a quarter of 15 to 24 year olds are in employment and for those with low skills access to jobs is particularly difficult (ibid.). Out of a total labour force of 7,282,080, unemployment is currently at 10.8 per cent (10.3 per cent for males and 11.5 per cent for women). Participation in the labour market is higher for men, at 65.7 per cent, compared with 36.6 per cent for women (INE, 2009).

Self-employment (or informal employment) accounts for one fifth of total employment and is most common in the low-productivity segment of the economy. Workers in this category are often poorly paid with limited access to training and possibilities for career advancement (INE, 2009, p. 16). Persistent segmentation of the labour market is one of the key factors behind market inequalities in earnings and income in the country. Some job creation has taken place in low-productivity areas and in sectors dominated by small and medium sized enterprises (retail trade, tourism and personal services) (OECD, 2009a). However, much needs to be done within the labour market to enhance job opportunities and to reduce the informal sector. This needs to be complemented by further investment in education and training to boost the level of human capital and its distribution:

> Promoting the creation of more productive jobs requires a comprehensive strategy that focuses on increasing the creation of new firms, fostering the expansion of successful ones, and improving the productivity performance of existing business. Many needs still to be done to improve the human capital. (OECD, 2009a, p. 17)

A recent OECD publication (OECD, 2009c) reported that the tertiary education in Chile remains privately financed which exerts an enormous burden on families that fund 83.9 per cent of higher education studies. This is triple the figure for developed countries.

Income inequality is strongly based on level of qualification. With the General Certificate of Secondary Education a person can earn an average of US$600 a month; with a High Technician degree from a Technical Training Centre (CFT), US$1,000;

with a higher degree from a professional institute, US$1,300; and with a university professional degree, US$2,200. Further, a Chilean survey on socio-economic characteristics undertaken every two years (CASEN) has shown that the wage premium of around a third of the population is dependent on family background, irrespective of years of education (OECD, 2008, p. 7). Moreover, population growth is diminishing, and as people gets older, the output of the school system will have less effect on the labour force than in the past. Increases in productive capacity will be much more dependent on measures to increase the skills of existing workers than has been the case in the past (OECD, 2009d, p. 20).

Another huge disadvantage that Chile is facing is the education and training level of its workforce. The World Economic Forum in its 2007 report *Global Competitiveness* (in OECD, 2009d, p. 22) defined this as one of the worst problems involved in doing business with Chile. Although Chile was placed at 26 among 131 countries (above all other Latin American countries), "competitive disadvantages" such as the quantity (coverage) and quality of education at all levels were highlighted.

In summary, twenty years of sustained economic growth have highlighted some of the challenges and difficulties that Chile faces: income distribution is among the most unequal in the world and this is largely attributed to the low salary level of the unskilled working force, resulting in a labour market segmented in terms of income. The high percentage of informal labour needs to be integrated into the formal sector, and job opportunities for young people and women need to be enhanced and improved.

Access to training at tertiary level, which would improve income levels, is based on the capacity to pay and this has produced a vicious cycle in terms of returns. The Chilean population is ageing and training will soon be in higher demand than schooling. However, the tertiary offer at the technical level is fee paying and of poor quality, which places Chile at a competitive disadvantage in relation to other countries; the vocational schools are underfunded, and the government's contribution to technical training is considerably lower than to academic training.

The trend of strong economic growth has slowed between 2005 and 2009; further investment in education and training is required to boost the level of human capital and its distribution if Chile wants to maintain its position among the countries in the region.

3. Education context

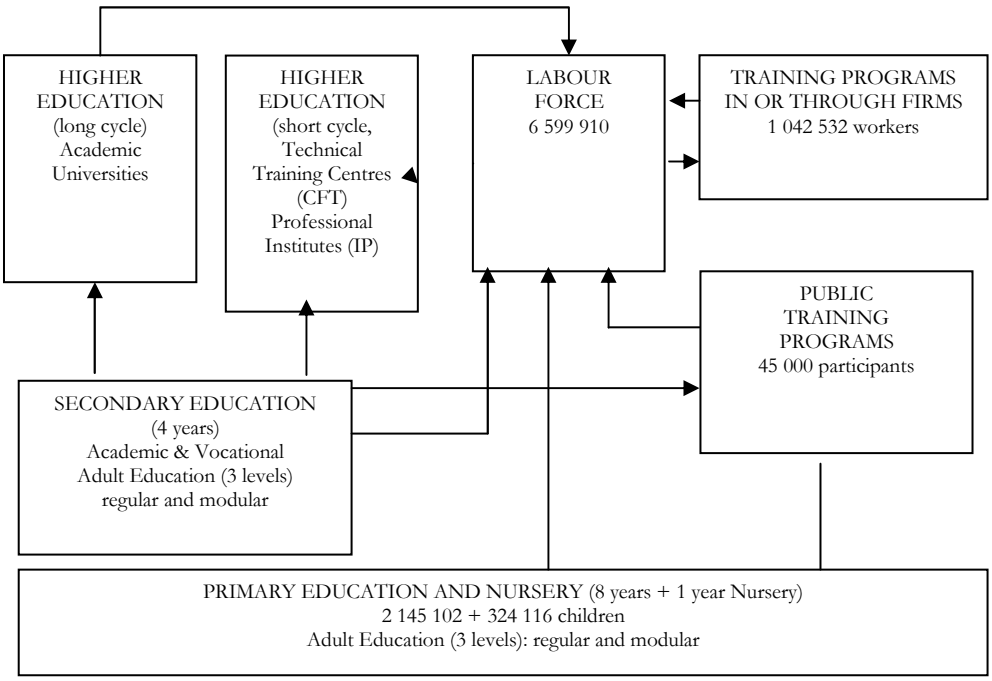
All the discussions that follow make reference to the general structure of the education and training system that is represented in figure 1 below (for table of scope and details of all reforms see Appendix 1).

3.1. Decentralization and a market model under the military regime

In the 1980s, the global neo-liberal economic policies that were extending to the education system coincided with an abrupt change of government leading to a military regime where no opposition to policy making was possible. Educational reform, especially the transformation of the administrative and financial structure of the

system, drastically changed the educational landscape in the country. The financial shift to open market neo-liberal policies introduced the notion of choice and competition for enrolments. Policies of privatization and decentralization reduced the role of the State as regulator and provider. Regional governments were established and to undertake the administrative and financial functions of the education system. The participation of the private sector in the provision of education was encouraged. A school subsidy on demand was introduced (a voucher system) together with legal instruments and market incentives to stimulate the creation and growth of state-funded private schools and private tertiary educational institutions. To be able to carry out these radical reforms, the power of teachers and their trade unions were restricted, and teachers' status as public employees was abolished.

Figure 1. General structure of the education and training system in Chile, 2009



Source: Ministry of Education, 2009a.

The school system was restructured to include two cycles, a compulsory eight years primary education (a cycle with six years primary and two years lower secondary) and four years of secondary education (not compulsory) with two separate streams - secondary general humanistic education and secondary technical vocational education (there were attempts to link this modality with the needs of the economic, productive and service sectors). Technical vocational students ended their secondary cycle with a Medium Level Technician Certificate; general humanistic education students ended their secondary cycle with a General Certificate of Secondary Education.

Privatization and decentralization policies were institutionalized as follows:

- All administrative and financial activities under the responsibility of the Ministry of Education were transferred to the local authorities (the boroughs).

The Ministry kept its regulatory functions: defining curriculum, technical assistance and evaluation.

- Education was financed through a "voucher" or subsidy per student given to the local authority and providing space for the emergence of private subsidized schools part-financed by the State.
- Teachers lost their status as public employees and their negotiating power diminished. The local authority or the private owners had the power to hire or dismiss teachers.
- Teacher training lost its university status. Only 12 careers were permitted professional status awarded by universities, and education was not one of them. This had a dual effect on the teaching profession: lack of university status for their training and lack of state recognition of their role in society (Cox, 2004, p. 28).
- The Technical Pedagogic Institute was closed in 1979, removing the only specialized centre for training technical teachers; therefore training for technical vocational teachers was no longer available (Cox, 2004, p. 380).
- Privatization extended to the general tertiary level, allowing new private universities, professional institutes and vocational training centres to open and diversify.[2]
- Decentralization extended to the curriculum and schools had greater freedom in its definition. Vocational schools' curricula could be defined according to local labour market needs, although in practice was dictated by the human and material resources available.

During the 1980s, government expenditure on education decreased in by 27 per cent, from 4.9 to 2.5 per cent of the GNP. By 1990, the average years of schooling for people age 15 or over was 8.6 years, covering basically only the eight years' primary level. Expenditure on tertiary education was similarly reduced from around 38 per cent in 1980 to 19 per cent in 1990 (Cox, 2004, p. 31, 36).

3.2. Reforms of the 1990s: Redefinition of the role of the State in education

Chile returned to democracy in 1990, prompting reforms in education. However, the policies of decentralization and privatization were retained as there was no political will to make changes. Consequently, reforms were undertaken in the context of the military regime's institutional arrangements. International agencies such as the World Bank and the Inter-American Bank, and cooperation agencies such as GTZ (the German Cooperation Agency) poured into the country armed with loans and credit to help rebuild democracy. The World Bank was instrumental in the design and financing of educational and curricular reform, with agreements that have lasted two decades. The Bank co-financed many programmes and trained most of the professionals that took the leading roles in the reforms that followed.

A major feature reforms in the 1990s was the increased policy and leadership role of the State in the economic and social development of the country. The State resumed

[2] Up to 1980, there were only eight universities, and the two state-owned ones had 65 per cent of the national enrolment (Chilean University and the Technical University). The other six were private. Between 1981 and 1990, 40 universities and 80 professional institutes were opened (Cox, 2004).

responsibility for defining and implementing education-related policies with overarching objectives to promote equality of opportunities and quality of provision. The education sector was seen as central in the long-term project of reconstruction and economic development. Teachers' status was restored and through negotiations with the teachers' union, their rights and state protection were regained.

3.3. Reforms in schooling

A series of comprehensive programmes of universal access to primary and secondary education were commenced. These aimed to improve the quality of learning and included earmarked remedial programmes for schools with poor results as well as resources to improve the quality and equity of access to learning for the most disadvantaged.

The education system was restructured to include one year of pre-school education.[3] In this period, schools belonged to three categories: municipal, private subsidized and private. Municipal schools do not involve fees. Private subsidized schools charge a small fee, substantially less than the private schools. It is generally accepted that the private schools educate the socio-economic elite, the private subsidized schools the middle income families, and the municipal schools the poorer sectors of society (Cox, 2004, p. 26).

The secondary cycle (made compulsory in 2003) was restructured to include a common curriculum for the first two years and streams (general humanistic and technical vocational) for the final two years on the grounds that students needed a more sound general education background to face the challenges of the changing world and the new technologies that were restructuring the labour market.. The output qualifications remained the same. Enrolment in secondary technical vocational education increased by 44 per cent between 1990 and 2007. Up to the mid-1990s, this increase was at a higher rate (52 per cent) than the increase for secondary general humanistic education (39 per cent). Recently it has evened out. Secondary school-leaving age is on average 18 years old. Those wanting to continue to university sit a university selection test (PSU) to help determine choice of university and career.

Figure 2. Secondary education enrolment and types of school, 2006

Type of School	Enrolment		Total number of schools
	Number	% (a)	
Humanistic Scientific General (Academic)	562 303	46.32	1 627
Professional Technical Vocational	340 752	29.04	**(b)** 440
Multi-purpose (both types together)	256 796	24.64	420
Total	1 159 851	100	2 487
(a) Total number of enrolments **(b)** Of which: 157 are municipal, 211 private subsidized, 70 private corporate and 2 private fee paying schools			

Source: Ministry of Education, 2008.

[3] Law No. 20162 of 20 January 2002. Compulsory Pre-School Education for All 5 Year Olds.

3.4. Reforms in secondary technical vocational education

There are currently 934 establishments offering secondary vocational education catering for around 500,000 students. Increased enrolment sent a strong signal to the government to improve the performance of vocational schools. Most technical vocation education takes place in municipal schools, with only 12 per cent of the total being private subsidized. Weaknesses in technical vocational training were identified very early in the 1990s. Studies showed that decentralization had rendered the quality and supply of technical programmes very heterogeneous with 1,595 different programmes on offers. Keeping training and equipment up-to-date was expensive. Moreover, the pedagogy and technology of the technical teachers was outdated and links to labour market requirements were weak (Cox, 2004, p. 378).

The major goals of the reform of secondary vocational were: to improve the quality of the provision through tackling decentralization; to address the increasing demand for this type of training; and to develop a flexible structure and curriculum organization responsive to changes in technology and in productive fields. Through the achievement of these goals it was hoped to facilitate lifelong learning and ensure that students improved their qualification status on a permanent basis (Cox, 2004, p. 382).

As mentioned, the reforms of the 1990s restructured the vocational cycle of the secondary technical education from 4 years to the last 2 years of the cycle. This was based on the increasingly short lifespan of many vocational skills and the need to provide students with a sound educational base to enhance their capacity to continue learning throughout their working life. The final two years prepared pupils to develop within a sector of the productive world, enabling them to enhance their opportunities in the labour market on a broader basis than training for a specific working place.

Pilot projects were developed, some of which were financed by the State, others co-financed with international organizations. One example of a successful pilot was the "Chile Joven" (Young Chileans) project. Launched in 1991, it targeted young people aged between 14 and 24 years where were at social risk, vulnerable, unemployed, looking for their first job, living in poverty and from low income families. Around 150,000 young people were trained over an 11-year period. The first stage was co-financed by the Inter-American Development Bank and the Chilean Government. Approximately 80,000 youngsters were trained in positive attitudes towards the world of work and in employability competences. The second stage was financed by the Government and reached a further 70,000 young people. This programme was subsequently replicated by the Inter American Development Bank in other Latin American countries.

A project based on the German dual system was piloted. This was very important in terms of introducing and defining labour competences and competence profiles and in training many of the monitors that would later work on subsequent processes of curricular reform.[4] This project was undertaken with the German cooperation agency (GTZ) and produced very good results. A student/apprentice would benefit from the working in a company, guided by a learning plan agreed between the company and

[4] Labour competences are defined as the attitudes, knowledge and skills that allow an individual to develop an integrated set of functions and tasks, according to certain performance criteria defined in labour circles.

the school, supervised by a tutor-teacher from the school. Within the company, the learning process was designed by the production unit concerned and coordinated by a master guide who was trained by the company (Cox, 2004, p. 400).

The Ministry of Education followed this with 18 pilots in municipal and private subsidized technical vocational secondary schools between 1992 and 1995. The results were positive and in 1996 the Ministry decided to adopt this curricular modality and reforms based on labour competences continued. Labour competences, based on an analysis of labour market and workplace requirements, were seen as a benchmark against which to orient workers' skills updating as well as a means to assess and certify without consideration of where and how competence was acquired (Cox, 2004, p. 384). Competences were developed in consultation with industry, commerce, trade unions, employers, academic institutions and public sector organizations. The DACUM method was used to define occupational profiles and questionnaires were used for occupational analysis; both contributing to the definition of competences. The first profiles developed were occupational and behavioural.

Curriculum design was based on the development of "capacities". Students' graduate and professional profiles were expressed as capacities, to become "competences" when combined with work and labour market experience. The school week extended from 38 to 42 hours to take account (to some extent) of the fact that students were in work for two days a week. According to interviewees, continuous contact with employers is designed to increase the possibility of long-term employment.

The number of occupational areas was rationalized and 1,595 programmes were reduced to 46. Teachers were retrained where their programmes became redundant. Technical equipment was upgraded in the newly defined specialities Between 1992 and 2002, 154 vocational schools (from a total 440) introduced the German dual system of training (apprenticeship) involving a total enrolment (in grades 11 and 12) of 14,700 students and the participation of 4,946 companies (OECD, 2004, p. 81). About 150 schools with dual modality were set up, improving the supply of technical training that alternates work at school and in a company. There was a renewal of technical equipment according to the programmes on offer in 105 secondary technical vocational schools and 87 secondary humanistic schools were also equipped as technical vocational, having both strands in the same school (Cox, 2004, p. 378).

Technical vocational education has high social value and in 1999 a study showed that five years after finishing secondary school, 82 per cent of fourth grade students had completed their professional practice and 69 per cent had obtained a Medium Level Technician Certificate. Around 80 per cent were working although only 44 per cent in the occupation they had studied at school, and 30 per cent were completing or had completed a higher degree (Cox, 2004, p. 379. Pass rates and drop-out rates improved between 1990 and 2002; pass rates increased from 80.1 per cent to 89.6 per cent and drop-out rates declined from 7.6 per cent to 4.3 per cent (OECD, 2004, p. 192).

Secondary vocational education also carries other important social implications. As late as 2006, statistics showed that 64.7 per cent of the students were from the two lowest income quintiles, rising to 83 per cent if the third quintile was added (OECD, 2009a). The quality and success of secondary vocational education is therefore highly significant for low-income families, as 44 per cent of total secondary enrolments were

from poor backgrounds; representing students looking to improve their situation in the labour market with a qualification for who further tertiary or university study is unfeasible.

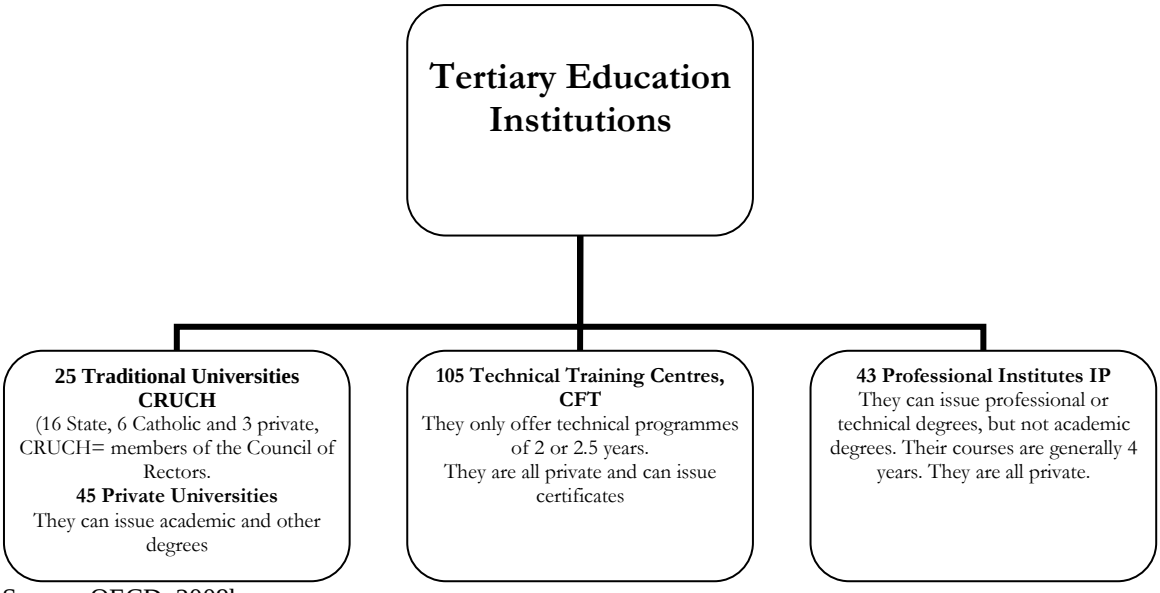
One of the major weaknesses of this period of reform was finances. All secondary school vouchers (awarded per student) are calculated on the same basis, but technical preparation is much more expensive than general humanistic education. Today it would be fair to say that the technical vocational schools are underfunded.[5] Another weakness is that curricular reform did not include a new evaluation system. Such a system would have helped to regulate the quality of the offer. Moreover, secondary vocational students are at a disadvantage if they sit the university selection test (PSU) because the latter is based on the curriculum for the general, humanistic stream. This makes academic progression difficult.

4. Tertiary education

4.1. Dynamics and productive development demands

The overall size and shape of the sector is represented in figure 3. There has been an increase in demand over the last 20 years and the sector now caters for roughly 700,000 students, more than 70 per cent of whom are first generation higher education students. This number demonstrates that Chile has developed from a homogeneous and elitist tertiary system financed by state subsidy, to a mass diversified system that is 90 per cent financed by private resources distributed through market mechanisms (OECD, 2009d). In the absence of systemic reform institutions have reacted to these changes on a piecemeal basis.

Figure 3. Size and shape of tertiary education in Chile



Source: OECD, 2009b.

[5] This view was supported by the Head of the Vocational Training Unit, Chile Qualifies.

Tertiary institutions are differentiated in three ways: by category, by degrees and by the subsidies they receive. There are three categories:

- 70 universities: including 25 belonging to the Chilean Universities Council of Rectors (CRUCH) (16 state and nine private universities [six catholic and three secular]) and 45 private universities.[6]
- 43 professional institutes, all private.
- 105 technical training centres, all private (Presidential Advisory Council, 2008).[7]

In terms of degrees awarded, only the CRUCH universities can issue academic first degrees and postgraduate diplomas.[8] The professional institutes issue professional degrees and High Level Technician certificates, but they cannot issue academic degrees. The Technical Training Centres can only offer technical programmes, of two or two and a half years and also issue High Level Technician certificates.

The third differentiation relates to funding and subsidies. The CRUCH universities receive direct financial subsidy from the State; the private universities do not receive any State subsidy. The professional institutes and technical training centres are all self-funding. Table 1 shows this breakdown in more detail:

Table 1. Funding mechanisms in tertiary education

Funding Mechanisms	Beneficiaries: Institutions and Students	Proportion Total Funding
Direct State Funding	CRUCH Universities	34%
Competitive Funds I (MECESUP)	Universities and Technical Institutes of CRUCH	7.3%
Competitive Funds II (Funds for Institutional Development	CRUCH Universities	0.5%
Performance Agreements	4 Public Universities	0.0%
Research Funds I (FONDECYT)	All the Universities	6.4%
Research Funds II (FONDEF)	All the Universities	3.2%

Source: OECD, 2009b, p. 258.

Table 2 illustrates how enrolment increased over a six year period and in which type of institution. It is clear that the private universities together with CRUCH universities account for 63 per cent of the total number of student enrolments. The professional institutes and the technical training centres enrol only 29 per cent of all tertiary students. It is the rapid increase of private institutions at tertiary level, basically financed by the students and their families, that has facilitated the expansion of the tertiary sector referred to above.

Recommendations from the OECD (2009b) point to an urgent need to launch a second generation reform that would reach the tertiary level with particular reference

[6] CRUCH was established in 1954; it represents the interests of its university members and administers the university selection test (PSU).

[7] In addition there are 19 higher education institutions belonging to the Armed Forces.

[8] An academic degree, a bachelor's degree is normally a five-year course, based mainly on theory and allowing progression to postgraduate study.

to inequality of access for students from low-income families. The report notes how Chilean value education, seeing it as "the most important and secure path" towards continuous prosperity and the huge efforts that individuals and as society make to ensure access to quality education. The report also notes how increases in enrolment have not exerted excessive pressure on institutional frameworks and that educational quality has not diminished in the process. The OECD (2009b, p. 11) argues that Chile has been successful in its transition from an elite system to a mass system "maintaining the quality of the offer, which has been achieved through the implementation of policies with new approaches." However, interviews revealed that education civil servants do not necessarily agree with the OECD suggestion that future reform should be led by the Ministry of Education (MINEDUC).[9] This is because previous reforms directed from the top via a cascade model were deemed to have been excessively expensive with poor results.

Table 2. Enrolment in higher education, 2001-06

	2001	**2002**	**2003**	**2004**	**2005**	**2006**
CFT	57,082	61,123	62,070	62,046	62,429	69,933
IP	10,796	12,317	16,924	25,144	36,880	40,415
CRUCH Universities *	11,174	12,163	11,513	10,208	8,524	9,637
Private Universities	4,467	4,075	4,068	4,442	4,906	6,050
Total Technical enrolment	83,519	89,78	94,575	101,840	112,739	126,035
Total Undergraduate enrolment	464,707	501,262	540,869	559,492	619,734	635,065
% Technical enrolment	18.0%	17.9%	17.5%	18.2%	18.2%	19.8%

Source: Compiled by the author from various sources (including OECD, 2009b).

In 1997, the government defined quality and national targets for tertiary education that have been followed to date. These included the view that the problems of access, quality and relevance highlighted by the OECD could continue to be tackled independently through the "new approaches" referred to above. Inequality of access has been partly addressed through improvement of the credit system for technical training and different credit modalities for students wanting to pursue tertiary studies. However, as a consequence of the limited number of grants available, there has been a high dropout rate especially amongst students from lower income families who could not carry on paying and/or working and paying their studies.

Action has been taken in recent years regarding quality. The MECESUP programme (Improvement of the Quality of Higher Education), co-financed by the World Bank was set up in 1997 to incentivize and finance initiatives and projects to help the institutions improve undergraduate and postgraduate education, develop technology

[9] The Ministry of Education (MINEDUC) is the main coordinator and regulator of the national education system and of tertiary education through the higher education division.

and strengthen a quality assurance system. Initiatives undertaken by the Improvement of the Quality of Higher Education programme (MECESUP) followed a clear strategy aiming to: generate dialogue amongst role-players; promote vertical articulation; enhance consultation and the participation of all key actors (academics, vice-rectors, rectors etc.) and ensure actions are agreed by all participants (through consensus-based approaches).

A Quality Assurance Framework was established in 2006 to control, assure and promote quality in Higher Education. It is officially known as the National System of Quality Assurance and comprises the Council for Higher Education (CSE)[10] and the National Accreditation Commission (CNA).[11] The Higher Education Quality Assurance Law No. 20.129) was promulgated on 23 October 2006. The National Accreditation Commission was legally empowered to coordinate the new voluntary system of quality assurance for tertiary education. In April 2008, there were a total of 62 accredited institutions, 44 were universities, 10 were professional institutes and seven were technical training centres.

Another major reform drive in the sector was participation in the Tuning Europe and the Latin American Project in 2004, both of which were set up to implement Bologna Plan agreements, that is, to establish convergence and student exchange among European countries and to internationalize higher education. The Latin American project was an excellent vehicle for the diffusion of ideas that helped to achieve the national targets of improving access, quality and relevance. Chile's participation in these projects resulted in the idea of a National Qualifications Framework (NQF) for the country.

The development of a Transferable Credit System (SCT) also had its origins in the experience of participating in those projects. To create the conditions for an SCT, the Academic Directors of the 25 CRUCH universities revised the existing normative processes and approved a new model. The new model went through a socialization phase followed by training academics in its curricular dimensions. Finally, the conditions were created for student mobility. The system has gradually been implemented in the 25 CRUCH universities. Such a system was considered as essential prior to designing an NQF.

4.2. Tertiary technical education

The concept of technical vocational education that prevails in Chile is of training for work. The system is organized to provide the means for somebody to access the world of work and to develop from there. Teaching has verifiable outcomes expressed through performance standards. The verifiable labour value of a person is expressed through the capacity to perform concrete functions, according to the standards or technical specifications of an industry or productive sector (Presidential Advisory Council, 2008, p. 131).

[10] The CSE has discretionary power over applications from private institutions to obtain official recognition and licenses to operate. It supervises those institutions accredited as autonomous, and awards autonomy to those that have demonstrated quality.

[11] The CNA conducts processes of accreditation and coordinates the new quality assurance system.

There are therefore clear differences between vocational technical training and university education. The former does not have knowledge as a means or an end and does not aim to give students theoretical knowledge of a given science or art. This would be given if needed, within the context of the competences required to effectively perform a determined functional task (Presidential Advisory Council, 2008, p. 133).

The profile of students that choose technical training, particularly evening courses, is different from university students. They normally come from state or private-subsidized schools; they usually work and study at the same time, and they tend to come from low-income households. Technical training centres are privately run, financed exclusively by enrolment fees and the students themselves have limited capacity to pay. Furthermore, until very recently (2007) students choosing technical training would have limited access to state funding, loans, grants or any other help. Even today the loans are lower than those given to university students. Technical vocational training is seen as at a "lower level" than university options, and this perception has seriously affected the development of the centres.

Overall enrolment in tertiary education has increased over the last two decades even though unevenly. Enrolment in universities grew on average 8.3 per cent a year and in professional institutes 8.4 per cent. In the 1990s, enrolment in technical training centres represented 32 per cent of the total tertiary enrolment; today the figure is 12 per cent. Latest figures (2009) show total enrolment in tertiary education of 820,000 students, consisting of 68 per cent university participation, 21 per cent in professional institutes, and 12 per cent in technical training centres (Department of Higher Education, 2009).

The technical training centres and professional institutes take around 50 per cent of their enrolment from the poorest 60 per cent of the population (Ministry of Education, 2009b) mainly because students do not need a university selection test as a pre-requisite for entry. Rather, they need a General Certificate of Secondary Education or a Medium Level Technician Certificate. The courses offered are shorter than university courses and evening classes are an option. On balance, the tertiary technical option works out cheaper for these students than a university career.

There are various reasons for the decline in enrolment in tertiary technical education. One reason is the lack of grants or loans for technical studies; another is differentiation in terms of the well known social and economic profitability achieved through higher tertiary (university) studies which means that students seek out what they think is "better" and will give better returns. A further factor is an increase in the career options available for students, for example, more university centres. One interviewee noted how students tend to try to enrol at a university due to its traditional "status" and the idea of a degree being a form of life assurance.

Chile presents an atypical enrolment pattern in relation to other countries. Enrolment in universities is 2.1 times higher than in vocational options. The OECD considers that as a human capital development strategy, this may have negative consequences in terms of economic efficiency and inequality of opportunities and income (Presidential Advisory Council, 2008, p. 135).

Enrolment is atomized and distributed unevenly in favour of the few technical training centres whose quality reputation is assured. According to information from the High Council for Tertiary Education, 53.8 per cent of enrolment is concentrated in three such institutions. Similarly, 51 per cent of professional institute students are in three institutions, and nine institutes (out of a total of 44) comprise 85.4 per cent of all enrolment. However, around 48,000 professional institute students and 32,000 technical training centre students study in non-accredited institutions (OECD 2009a). This implies that there are a great number of small institutions without real possibilities for development and their curricular relevance and quality may be poor.

The overall increase in enrolment has highlighted some of the major challenges that tertiary technical training faces in a near future. Some weaknesses can be found in the lack of articulation between training and the labour market, and the lack of flexibility of current legal structures. This was echoed by an interviewee from the Chile Technological University (INACAP) a private institution that kept the name of the former National Training Institute in the 1970's and was privatized with the reforms of the 1980's. It is now one of the three institutions that are capturing the highest percentage of enrolments. It is the biggest OTEC (Technical Training Agency) in the country; the biggest technical training centre; the second largest professional institute and the ninth university in terms of the number of students. It has an enrolment of 82,000 students, 25 national campuses around the country with a presence in all regions, and employs 75,000 people. The interviewee noted problems of rigidity and lack of articulation between government agencies and the training sector as some of the difficulties they have been experiencing for a long time.

A particular challenge is the current legislation that has fixed the number of hours of formal instruction as a requirement for the approval of the careers. A High Level Technician graduating from a two-year course at a technical training centre needs to have undertaken 1,600 hours of lessons. This does not include training or work-based learning. The INACAP interviewee argued that for a competence-based curriculum, the hours of class instruction are not an appropriate measure of performance or acquisition of knowledge: "The structure of the degrees is blocking the inclusion of the contents (competences) that the Chilean economy requires".

INACAP has taken the initiative and modularized all of its curricular options without waiting for government legislation in this regard. With the modularization of their options, based on competences, they have facilitated career mobility for their students within the institution. Even though it could be argued that the modularization was done for financial reasons such as retaining students and as a means to address the diminishing demand for technical options, it has allowed students to change geographical place and to carry on with the same studies on another campus. It has also allowed students to start in a technical training centre and transfer to university level, following the compulsory modules for each career option. This has produced good results.

4.3. Adult education

The reform of the adult education programme (2003-2009) was initiated in response to the need of many youngsters and adults to catch up with their school studies. This initiative has had major achievements and positive social impact.

Prior to the reform, the number of Chilean adults with an average 8.5 years of schooling and very low levels of literacy and training amounted to about 50 per cent of the active working force. Widespread participation in secondary education is a relatively new phenomenon (legislation in this regard was promulgated in 2003). Many older people lacked the minimum level of education (Cox, 2004, p. 23). In 2002, there were 2.5 million people with less than 6 years of schooling and 70 per cent of the population older than 15 years had not finished primary or secondary school. Thus there were 500, 000 illiterate adults and 6.5 million adults with incomplete secondary education (Chile Qualifies, 2007, p. 4).

Adult education is therefore a modality that permits youngsters and adults to catch up with school studies in special integrated adult education centres that have been in place since the mid-1990s. There are 294 such centres around the country. Under the umbrella of the Chile Qualifies programme (2002-2009), legislation was approved (in 2005) for adult education to develop curricular programmes and a new form of delivery. Courses could be taken in two modes: a regular mode and a flexible mode, with three modules for primary education and three for secondary education.

The programme includes in its design an apprentice option that can be taken during the second or third primary-level module. A regular modality is delivered in the adult education centres during the day time and there is also an evening shift with the same modular modalities. The regular mode is usually taken by younger adults who have dropped out of mainstream schooling. The flexible mode is a distance learning modality that has proved very popular with mature adults. Both modalities follow the same six modules. This programme is free and has benefited an average of 200,000 students in each of the last four years (OECD, 2008, p. 15).

The process of defining the competence units for each of the apprenticeship modules was a very rich experience in the recognition of experiential learning undertaken in partnership with teachers working in those trades in other institutions. The competence approach considered recognizing the prior knowledge of adults that have worked in the trade during their working life and the unit profiles were used to build curricular modules. The competences were developed on site, by a team of professionals that observe the working process and identify the unit standards to be included in a competence.

In the case of the adult education, recognition of formal and non-formal knowledge in the form of a competence was undertaken with the purpose of incorporating the adult population into the formal education and training system. The curriculum is oriented towards improving adults' employability and enabling them to obtain the necessary competences to facilitate their insertion in the labour market.

5. National Service for Training and Employment (SENCE)

The first reform of the national training system occurred in 1976, during the military regime, with the Training and Employment Statute. This was the first piece of professional training legislation in Chile and it removed training activities from

INACAP (the National Institute for Training, referred to above) and created the National Service for Training and Employment (SENCE).

Prior to this change, that is, during the 1960s and 1970s, INACAP offered free courses (financed by the State) to the workforce in all economic sectors. Courses would cover trade activities, learning programmes, training and improvement programmes for middle-ranking workers, and High Level Technician courses in association with universities. With technical assistance from the ILO and technical and financial collaboration from foreign governments, for 10 years INACAP provided training for millions of adult workers and youngsters from low-income backgrounds (Espinoza, 2007, p. 141).

With this new training agency, SENCE, the State changed from being a provider of training to becoming a regulator, facilitator, and a co-financer of training activities across the country. SENCE was established as a public body within the Ministry of Labour and Social Security. An income tax franchise allowed companies and industry tax relief on a maximum of 1 per cent of their payroll, to be used for training activities (Espinoza, 2007, p. 134).

With the return to democracy, SENCE went through changes that remain in place today. Important modifications were made such as the creation of the National Training Fund (FONCAP), a financial allocation coming directly from the national budget, to finance and administer a wide variety of training programmes, including: government social programmes for the unemployed and youth who had dropped out of education and training, migrants, adults needing retraining, youngsters starting their working life, a national grants programme targeting youth and adults with no qualifications and trade-related programmes.

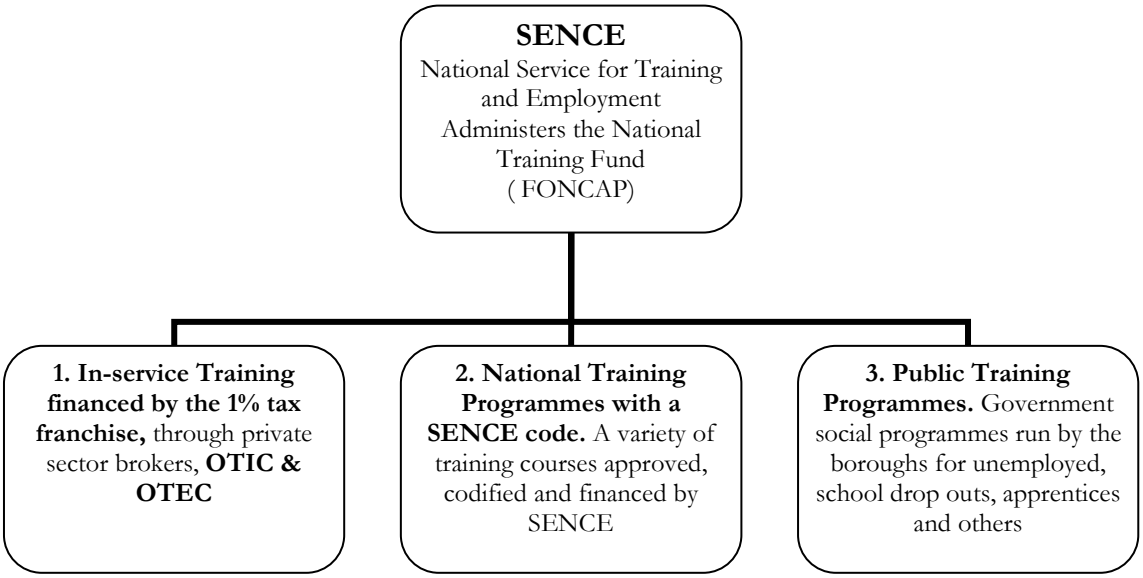
National and regional training councils were created to advise the government on matters such as public policies for training. SENCE is also the public office in charge of monitoring the accreditation of training centres, offers specialized information to private agents and to authorizes the use of the 1 per cent tax franchise for in-company training.

The present day activities of SENCE are represented in figure 4 below. SENCE works through OTECs (Technical Training Agencies) Organisms of Training Technicians (OTEC). The OTECs are brokers that provide training services to companies and to public training programmes. They present training proposals to SENCE for approval. Successfully approved courses are given a code and financed from the National Training Fund (FONCAP) or from the 1 per cent franchise.

The Intermediate Technical Agencies for Training (OTIC) are non-profit private corporations that plan and organize (but do not deliver) training activities for groups of associated companies. Each OTIC is a service agent that hires training services for its members through the OTEC.

In 2001, legislation permitted the tax franchise to be used for courses for those who had not finished school and recently SENCE has started financing the Certification of Labour Competences through the Chile Foundation (this is discussed later).

Figure 4. The National Service for Training and Employment



Source: Compiled by the author, drawing on Espinoza, 2007.

In order to operationalize some of the initiatives of Chile Qualifies, in 2002 the Ministry of Education approved the modularization of technical courses according to the needs of productive sectors. The Ministry trained professionals from technical training centres on how to modularize their curricular offer with scope for choice in terms of adopting (or not) the competence approach. Although the courses offered were not evaluated for relevance and quality, the centres that had modularized their programmes became eligible to apply for courses under the 1 per cent tax franchise arrangement. An interviewee noted that the process followed was that the Higher Education Division of the Ministry of Education approves centres' training offers first and then the modules can be inscribed as eligible to use the franchise.

Adding together all of the course modalities covered by SENCE, the Service finances training for 1,200,000 people a year, 900,000 of whom are trained through the tax franchise. Training done by SENCE does not involve performance certificates. Rather, all SENCE's training services are within the framework of the non-formal training activities, so training programmes do not lead to formal recognition or certification apart from an attendance certificate. If certification is required, the worker must pay for it.

Further advances have been made. In 2006, when the Quality Assurance Agency for Tertiary Education was implemented, it decided that all OTECs (Technical Training Agencies) should be certified and their courses registered with SENCE. These measures resulted in many OTECs leaving the training market.

Recently (2009) SENCE adopted a new approach to the application format and to the content of the courses eligible for funding. It has developed an online application system via an electronic catalogue (only for the social programmes), where, instead of receiving applications for courses from OTECs, a working group drafts tables of standardization from which to develop modules based on the labour competences. The tables allow SENCE to check on the variety and scope of the proposals and select

those to be included in the national electronic catalogue. Increasingly, OTECs also select courses in this way.

This change of paradigm has turned the role of SENCE from financer of courses to provider of already modularized (standardized) courses according to the catalogue of Labour Competence. OTECs are given a month to standardize courses before finance is offered. Courses also have a standardized structure. The 2008 Catalogue had 200 standardized general courses and 150 apprenticeship courses. The 2009 Catalogue has standardized courses divided into units of competence up to the full profile. The cost of the course has also been standardized by competence unit. SENCE has courses standardized to the full occupational profiles which can be certified, and modular courses with no profiles that cannot be certified.[12] This new modality has been developed in line with legislation pertaining to the new System of Certification of Labour Competences which in principle should be fully operational by March 2010.

One of the main challenges for SENCE today is to improve the quality of the training provided by the OTECs which are its partners. They are private enterprises, mostly of small and medium size, which do not generate enough business volume to be able to renew their equipment, methodologies, update their course offers or adequately respond to the changing training needs of companies or to the new labour competence standards developed by several productive sectors. The institutional and technical weakness of the OTEC does impact on the efficiency of the SENCE´s role.

6. The role of the Chile Foundation[13]

In 1999, the Chile Foundation identified a need to widen the scope of its activities, from the adaptation/transfer of technologies and company creation to the improvement of human capital, and to improve workforce training via demonstration pilots that can later be replicated.

The National Vocational Qualification (NVQ) system of learning and accreditation in England, Wales and Northern Ireland was considered appropriate for Chilean needs on the basis that it had the capacity to improve competitiveness and align the training system with the labour market requirements. Interviewees were of the view that such a systemic approach would allow workers to make their capacities and potentials explicit and that this would help build a profile of the workforce against which to develop training aligned to employers' demands.

The first pilot was financed by the Corporation for the Promotion of Production (CORFO) and the Inter-American Development Bank's Multilateral Investment Fund.

[12] To recap, an occupational profile is an accurate description of the group of labour competences that a productive sector identifies as necessary occupational components to perform a task or job, and is the base upon which to evaluate and design training for that working post.

[13] Chile Foundation is a non-profit, privately owned corporation, created in 1976 by the Chilean Government, in partnership with ITT Corporation USA and in 2005 by BHP Billiton. It was established as a platform between the government, the private sector and the academic community. Main areas of activity revolve around the transfer of technology including the creation of pilot companies to test initiatives in this regard. Spanning the public and private sectors, its position as an autonomous body dedicated to the economical and social development of the country allows it to explore innovations in the area of public policy without necessarily committing government ministries or agencies.

Prior to the pilot, research was conducted into other international experiences of the certification of labour competences, particularly in New Zealand, Australia, Scotland, and Mexico. It was agreed to adopt a bottom-up strategy, building strong links between the labour force and the productive sectors. In order to reach agreements established clear objectives were established. Trials were run, and if successful, the processes were institutionalized. Interviewees noted that over time, resistance from workers' organizations was overcome.

International experiences of the recognition of experiential learning through the certification of labour competences were acknowledged as giving good returns (Chile Foundation, 2004a, p. 15). Such an approach had been used by companies and countries for purposes such as:

- To identify the abilities, attitudes and knowledge required by people in order to be employed, to develop in the world of work and to contribute to the production and competitiveness of companies.
- To improve the quality and relevance of professional, vocational and labour training in response to demand;
- To identify learning and capacities acquired by people in non-formal and informal learning environments.
- To contribute to labour mobility between or within companies through the certification of workers' competences.
- To support the evaluation of the impact of training policies.
- To contribute to labour market transparency through an occupational language that would facilitate a meeting point between work supply and demand for a system of labour counselling.
- To support management to align different human resource processes and systems (Chile Foundation, 2004b).

The first pilot project on the assessment of labour competences took place in 1999 - 2000 in the construction sector (gas and electricity). It was a combined project with the Electricity and Fuel National Board linked to the renewal of the gas inspectorate licenses. The pilot was coordinated by the Chile Foundation, the National Construction Board and SENCE. Those evaluated as "competent" were awarded their inspectorate licenses. Around 800 people participated in the process.

In 2001-02 a new pilot project began - Project 0 Fault - financed by the Inter-American Development Bank and SENCE. In this pilot, the competences of 1,200 electricians and plumbers in the field of construction (gas and electricity) from three country regions were certified. They were evaluated by universities that had previously worked with the Chile Foundation on the raising of standards and certified by the Production and Commerce Confederation. The Chile Foundation acted as coordinator and executor.
The project had as a final objective the full certification of electricians and plumbers. The initiative later became a national regulation of the Gas and Electricity Secretary of the Ministry of Energy, establishing that only certified plumbers could do household installations and repairs to the gas networks. According to interviewees, the next step was the institutionalization of these experiences for them to become a public policy through the Chile Qualifies Program.

According to interviewees, the main achievements of the pilot projects designed developed and managed by the Chile Foundation between 1999 and 2009 with around 30,000 people obtaining units of labour competences have been:

1. A systemic effect on the training system: the Ministry of Education offering the option to modularize technical careers; technicians being trained in the raising of standards; technical training centres that modularized their programs based on competences had the opportunity be co-financed by the 1 per cent tax franchise administered by SENCE. The Ministry of Education through its Higher Education Division would evaluate and approve the modules elaborated by centres wanting to access the franchise.[14]
2. An improvement in the quality and relevance of some of the training offer, to be more in line with demand.
3. Increased visibility of labour capacities and the recognition of non-formal and informal learning.
4. Improvement in the use of the 1 per cent franchise.
5. Improved links with industry and between industry and the training centres.

7. The Chile Qualifies Programme

The reform of the secondary technical vocational education surfaced evidence about the lack of real links between the education and training system. In 2002, as the last step of the World Bank major involvement in educational reforms in Chile, a programme was launched with the main aim to create the bases for the articulation of formal education with a continuous training system, in a systemic process of permanent education for work.

To institutionalize the joint efforts of the various sectors involved in supporting the country's process of development and economic growth, an alliance between the Ministry of Education, the Ministry of Labour and Social Security (through SENCE), the Ministry of Economy and the World Bank was agreed to design and implement a Lifelong Learning and Training Programme, Chile Qualifies.[15]

The overarching objectives of the program were:

- To contribute to the productive development of the country by developing its human capital.
- To improve progression opportunities for people.
- To articulate a lifelong learning and training system with the participation of the private sector.

The main aims of the programme were:

- To improve access to quality primary and secondary education for adults who had not finished schooling,

[14] Chile Foundation, Labour Competences for Chile, Human Capital Unit, Law No. 19.518 of 10 September 1997 modified 10 June 2002 (p. 82).
[15] The agreement was to share in equal parts the cost of US$150 million (World Bank Loan No. 7106, for US$75,750 million signed on 20th June 2002 to run to 30th September 2008).

- To finance and set up institutional networks to improve curricular articulation between secondary vocational education and tertiary technical training.
- To devise some sort of qualification for the active labour force.
- To establish a System of Certification of Labour Competences building on professional itineraries in selected economic sectors, particularly in the 14 occupational areas identified when the secondary vocational school curriculum was modified (OECD, 2008).

These aims were defined after evidence had shown the serious effects that a slow down in economic growth was having on the labour market, most heavily felt in the poorer sectors. This new economic reality highlighted the lack of flexibility, schooling and training of the working force. Under these circumstances, it was urgent to increase and democratize access to the knowledge and technology required in production/commercialization processes through policies that would improve key factors in the growth strategy.

The main problems identified were:

- Lack of integration and articulation between the technical vocational schools and tertiary technical education with very little participation of employers and private sector employees in training processes and programmes.
- A high proportion of the adult labour force with a few years of schooling and no qualifications.
- The private status of a technical training centres and professional institutes which were not aligned to the new approach and focus of the technical vocational education curriculum based on competences.
- The lack of direct State funding for the above institutions had restricted their updating of equipment and teacher training in accordance with the requirements of Chile's economic expansion.

Chile Qualifies was the first programme of its type in the country, aiming to improve and coordinate the work of three ministries in alliance with the private sector. Its base is the Ministry of Education. It is not a separate agency or department within the government; rather, it has a number of small regional teams and support networks.

The main lines of action of the Chile Qualifies programmes are represented in table 3. Chile Qualifies was primarily designed to last six years (2002-08). Through an agreement with the World Bank, it was extended for another year and officially ended in October 2009. The government is financing a grace year (10/2010) to allow the initiatives to restructure and/or be institutionalized in other agencies or ministry departments. A recent evaluation of Chile Qualifies by the Treasury Department and the World Bank has shown very poor results. From their four main lines of action, only the Adult Education had a good evaluation.

Table 3. Chile Qualifies: units and lines of action

Units	Lines of Action
School upgrading. Evaluation and certification of primary and secondary studies unit (Adult Education)	- Flexible modality for upgrading studies - Regular upgrading modality - System of evaluation and certification of primary and secondary studies
Articulation and improvement of Technical Training Unit	- Itineraries - Quality improvement networks and linkage with technical training - Training of technical teachers - Quality surveillance of secondary technical vocational training - Strengthening of the dual training modality
Information Systems Unit	- Studies on labour market performance - Information systems and Chile Qualifies web page - Career guidance
Labour training based on Labour Competences + linkage with Adult Education Unit	- Improvement and articulation of Adults' Education networks based on Labour Competences - Improving the technical training offer - Quality evaluation of OTEC´s - New technologies for training
Standardization and certification of Labour Competences Unit	- National Qualification Framework (of LC) - Labour Competences Certification System

Source: Chile Qualifies, 2009a.

Comments

During the last 20 years of democratic government, the education and training system in Chile has gone through a series of reforms at all levels and in all components. All aspects of compulsory primary and secondary education have been reformed; secondary technical vocational education underwent extensive reform; adult education has a new curricular design, and more recently the tertiary level has developed a Transferable Credit System within the CRUCH universities. A quality assurance system, set up in 2006, has accredited universities and technical training centres, and has also reached the National Training and Employment Service (SENCE). A special programme linking the economic and social development targets of three ministries was set up, the Chile Qualifies program, to build a Lifelong Learning system and develop links between industry and the training sector.

In spite of this massive effort to improve the education and training sector, challenges remain. There are institutional changes which become imperatives when implementing new approaches and there is a severe lack of articulation among some of the government institutions. There is still no Master Plan for education and training i.e. a waybill such as the one established for economic development that would coordinate economic and human efforts towards the same objectives of economic growth plus social well-being. Lack of communication and coordination is severe, sometimes within departments of the same institution, as was reflected in the recently modified curricular framework for adult education, which has no articulation with the apprenticeship options at primary level or with the vocational options at secondary

level for the same adults programme. Neither was coordinated with the secondary level vocational education options.

Regulatory changes which have been highlighted in almost every reform undertaken since the 1990s, but have not been undertaken. The privatization of higher education, and particularly the training system, deregulated the offer in terms of relevance and quality. Attempts at improvements from the Ministry of Education such as modularization of the technical curriculum in 2002 were optional and quality assurance was not considered. Nor was relevance checked through the module approval procedures carried out in the same Ministry.

Very often, loose ends in the regulations or legal loop holes have not permitted the improvements that important initiatives could have brought about. Even within the same ministry, linkages between vocational training at secondary and tertiary level are loose.

The allocation of money per student, the voucher given to the local authorities, is legally determined as being the same for a humanistic school and a vocational one, which in practice has meant that the reform for the vocational schools has not been as effective as it should have been because vocational schools, which are more expensive to run, were highly underfunded.

Regulations regarding the length of careers remain fixed by legislation still in place since the 1980 reforms. Changes have been requested even by private training institutions, arguing that is seriously impinging upon quality of delivery, but there is no political quorum for change.

The "great divide" between tertiary institutions is an old implicit hierarchy between the universities that existed prior to privatization and the new establishments. Chile has progressed from a tertiary education system for the elites (financed by the State) to one for the masses (financed privately). However, the State still favours giving a high percentage of the subsidy budget to "traditional" universities - the CRUCH universities belonging to the Chilean Universities' Council of Rectors. In 20 years and with the massive increase in numbers of students paying for tertiary education, the State is still indirectly favouring a group of 25 universities from a total 61 institutions. The Transferable Credit System was developed and it is being implemented among the 25 CRUCH universities.

Equality of access to grants for training at tertiary level is much lower than for academic studies and the students following technical training are mainly from low-income families. Links between the secondary vocational training and the world of work are not yet well developed, although there was an attempt to do so through the definition of new occupational areas that articulate with the labour market. There are some economic sectors such as wine exports for which technical training is almost not available. One interviewee reported: "Until now, if we want to use the franchise for training, we need to bring people from other regions where there are some vocational secondary schools having the speciality.[16] Often, government institutions do not have

[16] Interview with Chief of Human Resources from one vineyard, who added that in order to use the 1 per cent franchise the company sent workers' wives to available courses such as hairdressing or gastronomy and with that they keep the workers happy!

a proactive attitude that would consider all variables involved, they advance slowly and merely by external pressure or foreign advice rather than by design.

The Chile Qualifies programme was expected to increase articulation amongst ministries. This has not been the case. Labour training taking place through the National Service for Training and Employment (SENCE) does not have formal educational recognition or certification. SENCE's new electronic Catalogue 2009 offers modularized courses based on the labour competences included in the National Catalogue, but those courses are not recognized by training institutions. Employer interviewees argued that this is one of the reasons why the exemption franchise is not used to full capacity. Even today, figures for SENCE (2007) show that from a national occupied workforce of 6,567,230 people (dependent and independent), only 1,042,532 (20.3 per cent) have been trained using the 1 per cent tax exemption (SENCE, 2009).

Policy advances such as the Certification of Labour Competences, which was part of the mandate for the Chile Qualifies programme was targeted, designed, started and run by a private entity, the Chile Foundation. It operated for nine years with its own professionals developing the certification process from scratch; they trained the professionals to raise the unit standards, to recognize prior knowledge, to manage functional analysis, to build up occupational profiles, to set up a competence unit; and to developed the certification processes; they contacted the industries and companies participating in the pilot projects and union members to validate the standards. In order to institutionalize all of this work, it was mentioned (off-the-record) that Chile Foundation professionals and directors also undertook the draft legislation. The actual legalization of the National System for Certification of Labour Competences consisted of an agreement between the Chile Foundation, economic sectors and trade unions. The legislation took four years to be promulgated.

Evaluations of programmes or projects are not common, for example, there was no evaluation of the implementation, impact and achievements of the secondary vocational education reform started in 1994. Nor are there any evaluation procedures to measure learning outcomes at the end of the secondary cycle. There is no impact evaluation of the certification of labour competences project started in 1999. Evaluations tend to be seen as negative instruments, rather than illuminating the way forward.

The ILO (2008, pt. 29) states that the role of governments: "should be the support of the development of professional competences in the workplace and in the value chains, promoting a lifelong learning culture and guaranteeing quality training". I would argue that in the case of Chile, this has been stated on paper but not fulfilled in practice. The country does have the capacity to plan pathways for economic development and social well-being, but in the case of the education sector there has been a lack of government capacity in institutional terms and/or political willingness to produce radical economic and social change as was the case of South Africa and New Zealand.

Brazil and Colombia, countries with severe internal difficulties, but with strong government leadership, have managed important improvements in the training of their workforces: the first one through SENAI, the Brazilian National Service of Industrial Learning, and the second through SENA, the Colombian National Learning Service.

They have improved their economic performance within the Latin American Region and nowadays are contesting Chile in terms of economic growth capacity.

My own experience allows me to say that the Ministry of Education, which is where up to now all decisions have and should be taken (as all decisions regarding education are centralized) has very poor capacity to lead systemic reforms. Articulation and communication within its departments is an endemic problem. Many technical and professional positions are filled by people without the appropriate competence for the task, which is an enormous weakness when it comes to the design and implementation of any programme, project or initiative.

This is not to say that no institutions in the country work. During the last decade, Chile has achieved excellent macro-economic management; has raised living standards significantly during the last twenty years; has considerably improved housing for the poor; has set up unemployment insurance and a pension scheme and health cover for everybody in the country as well as measures such as a social protection network that starts with pregnancy, but education is lagging behind.

8. New departures?

8.1. An external commission to study technical vocational education

During the last government (2006-10), the President has based decision making for public policies on public consensus or a "participative democracy". This has introduced a more proactive orientation to current social, economic and educational with increased participation of civil society. In education, the government has set up commissions, councils, and committees to study and inform it about certain issues. These involve the participation of all political parties.

This approach, in the case of the National Commission for Education (2006) facilitated the modification of the General Education Legislation (LOCE) which was originally promulgated by the military regime. Although not systemic, the changes when implemented will permit some improvements at secondary level.

Based on economic figures and the analysis of external agencies such as the OECD, and internal pressure from leading economic groups, a National Council of Innovation for Competitiveness (a public-private alliance) was set up in 2005. Its role is to give permanent advice to the President of the Republic in matters of social and economic development.

The Council drafted a National Strategic Plan for Development, a sort of waybill with concrete guidelines for action to guide the country's development during the next decade. The Plan identified three pillars of innovation: human capital, science, and business innovation. The Strategic Plan also stipulated that the State should have the objective of maximizing the potential of the private sector to benefit the country's development. Recommendations on human capital gave clear indications about the need to tune the technical training sector towards the country's objectives.

Recently (2009) the Minister of Education constituted an External Commission to review the state of the art in technical education and make proposals for improvement.

The Executive Report of this Commission sets the basis for a technical training policy and identified four fields of action:

- The organization of the technical training into a coherent system.
- The rationalization of curriculum and learning outcomes.
- To safeguard the quality and relevance of the offer.
- To restructure the financial procedures for vocational training.

The OECD (2009a) reinforced the findings of the review by noting the plight of young people from low-income quintiles that are excluded from the world of work and training. The imbalance in financial assistance between those pursuing academic and technical studies was also recorded,

The recommendations of the Commission, apart from being in line with the National Strategy of Innovation for Competitiveness, are also very similar to the stated aims of the earlier Chile Qualifies programme. For example, the need to develop a lifelong learning system of accessible and quality provision; the linkage of secondary vocational educational to the world of work and the rest of the training system, and the consolidation of the competence-based system that is relevant to market demands and that includes the evaluation and recognition of experiential knowledge acquired in different settings.

The above recommendations implicitly recognize that government programmes have not fulfilled their objectives. However, they go further in a fundamental aspect as the Commission also recommends establishing a "Professional Training System in Chile**"** and for this purpose action should be taken on three grounds:

- A qualifications framework
- Institutional structure and articulation
- Recognition of prior knowledge and certification of competences

Qualifications framework

The Commission suggested the development of a qualifications framework (QF) where levels of professional training could be established in relation to occupational areas and to current training levels including apprenticeships, professional and technical degrees and the certification of labour competences. The Commission also recognizes that political agreement at the highest level is required in this regard and that all stakeholders must be tuned to the objectives set out in the National Strategy for Innovation and Competitiveness. A working itinerary of five years was suggested in order to allow time for the creation of a National Council for Professional Training with members from the productive, labour and training sectors. They would have responsibility for developing a QF, defining its functions and scope and for its gradual implementation and updating including public information regarding the new system.

Institutional structure and articulation

The Commission recommended a revision of the actual technical training degree system to incorporate and articulate apprenticeships, Medium and High Level Technician and professional awards within a qualifications framework. The idea is that the QF will permit the reorganization of the current professional degree system

along competence lines. Modularization is recommended as a way of articulating the system. The Commission suggested moving toward professional training based on competences, organized according to the complexity of the expected professional performance, not according to the length of the programmes. This sole change requires substantive legal changes, as requirements for issuing degrees are enshrined in law.

Recognition of prior knowledge and certification of competences

The Commission recommended the continuation of measures to evaluate and recognize experiential knowledge and competences acquired in different settings i.e. from apprenticeship to tertiary level and from labour experience.

It is also important to link the National System for the Certification of Competences to the education system, particularly to ensure that workers are given full formal recognition for taking single modules at tertiary level (through in-service training for example). Competences acquired in this way should be accepted by training institutions in case the worker wants to continue studying. This implicitly means that training institutions validate the certification of experiential knowledge as an adequate mechanism to recognize professional competence.

The Commission also reported on the curricular and pedagogical structure of secondary vocational education. They considered that it should be competence-based to allow continuity with tertiary education, and should include employability competences to enter the world of work. This would replace the conception of the end of the secondary study cycle as the end of a training cycle. A recommendation is made that the government finance a two-year tertiary cycle free of charge to students belonging to the three lowest quintiles in terms of income, thereby assuring that they have the opportunity to reach a 14 year study cycle. This would create a powerful and adequate incentive for them to opt for a two-year technical training path with further pathways within the Professional Training System. The Commission also recommended the creation of a system of technical quality assurance specifically for the training modality to introduce criteria, evaluation processes, follow-up mechanisms and accreditation. Improvements and expansions of the grant schemes available for technical training were suggested, provided students choose an accredited institution.

8.2. Improving the labour training industry

In line with the recommendations of the National Council of Innovation for Competitiveness and the National Commission for Vocational Training, a three-year project “Improving the Labour Training Industry in Chile” began in October 2009, managed by the Chile Foundation and co-financed by the Inter-American Development Bank and SENCE (National Training Agency).

Government studies have shown that public investment in training has not necessarily meant better human capital accumulation, basically because the quality and relevance of the training offers available are deficient. Public investment in the development of the training market is almost non existent as the State has not taken an active role in the matter. Rather, it has supervised the allocation of public funds according to long-

standing norms which do not really address the quality of the training institution or the specificity of the application (BID et al., 2009).

The BID (Inter-American Development Bank) has a Strategic Action Plan (2006-2010) for Chile, which stipulates that one of its axes is to reduce the competitiveness gap amongst developed economies. To achieve this goal, innovation and technological development needs to be fostered together with support to small- and middle-sized enterprises. Serious inadequacies with the labour training legislation have been detected, as the latter is mainly used by the big enterprises through the 1 per cent franchise, and not by the smaller ones which need it the most.

The main aim of the project is to contribute to the strengthening of the labour and lifelong training industry in Chile, aligning the quality and relevance of their training with the demands of companies and key sectors of the national economy. The purpose is to create a sustainable and transferable model of training and management technologies, to improve the quality and relevance of all the products and services offered by the OTECs (BID et al., 2009).

The direct beneficiaries are the 250 small- and medium-sized OTECs (Technical Training Agencies) involving 400 managers and 600 instructors. The objective is to reformulate their curricular offer, to develop new training methodologies and to improve their management and knowledge.

Indirect beneficiaries of the project are about 150 companies from key economic sectors, again from the small- and medium-sized sector. This sector amounts to 97 per cent of all companies in the country, and has little capacity to articulate training with OTECs. The project aims to train at least 1,000 workers from participating OTECs for whom new training materials, manuals and procedures will be designed together with a proposal to address the sustainability of the training model.

8.3. A national system of certification of labour competences

New legislation for a National System of Certification of Labour Competences and Improvement of the Statute for Training and Employment was promulgated in 2008, with the following aims:

- To raise productivity by improving labour standards achieved through agreements with employers and trade unions.
- To increase inclusion by giving an opportunity of certification for many Chileans workers who have not gained a formal secondary school certificate.
- To increase access to formal vocational programs (with certification of all modules studied, which could then be recognized on the formal education system, thus lessening the costs and time of following all the career courses).
- To improve transparency, as all Evaluation and Certification Centres would need to belong to a new National Registry[17].

The law states:

[17] Law No. 20.267.

> The System would have as a purpose the formal recognition of the labour competences of people, independently of the way or means by which they had been acquired, and if they have or not a grade or an academic degree issued by the institutions of formal education; it would also favour the continuous learning opportunities of people, its recognition and value. People could voluntarily ask for the Certification of their Labour Competences according to the System established by this Law, although it is not compulsory or a pre requisite to carry out a defined economic or occupational activity. The Certification would be granted by Accredited Institutions through a common methodological framework accepted by the different productive sectors.[18]

The implementation of the System is in the hands of a Commission which should be fully operational by 2010. The Commission has an Executive Secretary and comprises one member of the Ministry of Labour, another from the Ministry of Economy and other from the Ministry of Education, three members from the Workers' Central Union, and three members from the Employers' Organizations representatives of the productive sectors plus representation from the central State administration and from workers in charge of producing and updating the strategic guidelines for the labour competences units.

The new legislation states the principles which underpin the new system as follows:

I. Those who certify do not train, separation of function of education and training on one side and assessment and certification on the other, to prevent conflict of interests and doubts about the propriety of certificates.
II. Certification is voluntary on the part of employers and workers joining the system.
III. Impartiality and objectivity, with qualifications based on common quality assured methodologies and procedures.
IV. An open market among suppliers of assessment services and certification in order to achieve transparency.
V. Financing the evaluation/certification process to be shared in order to gain legitimacy; 51 per cent will be paid by the private sector and 49 per cent by the State, although for the first two years of implementation the costs to be entirely financed by the State.

The Executive Secretary of this Commission was nominated in August. Interviews with her and her team shared their actions so far:

A. They have tendered (in August) the development of 15 competences on critical profiles for each of the economic clusters defined by the National Council of Innovation for Competitiveness which are: Off-shoring, Special Interest Tourism, Aquiculture, Mining and Livestock and Agricultural Products. This tender has opened a new market niche. The team acknowledged that the market might not be prepared for the task, but they considered it necessary nonetheless. They are taking responsibility for the articulation of the training and productive sectors.

[18] Ibid.

In the past, the methodology used for developing profiles had been functional analysis as defined by the Chile Foundation. However, in the context of these new developments, tenders to develop 90 occupational profiles for five economic sectors (clusters) will be open to several other providers using their own chosen methodology. The 90 new profiles will be developed according to needs identified in consultation with stakeholders in each of the economic clusters' Executive Councils and with representatives of training institutions, the business community and workers. Occupational areas with significant demand have been identified and corresponding training levels and gaps between the labour competences required by industry and the ones currently present in the labour force have been identified.

The Terms of Reference included the definition of the training requirements for each of the new profiles, with the purpose of including them in the National Service for Training and Employment (SENCE) new Electronic Catalogue modularized to competences, thereby enabling companies to apply for training for their workers using the 1 per cent tax exemption.

B. They are beginning to work with some training institutions to translate the competence profiles into training modules and to define how these occupational profiles would or could be part of an NQF.

Table 4 below gives an account of the estimated number of participants in the certification process, the productive sectors, and an estimated number to December 2009.

Interviewees noted that the Commission has yet to define the methodology, criteria and principles with which it will operate the system. It also needs to establish how the system will project in the market, and the appropriate evaluation procedures, supervision processes, mechanisms and rules to best fulfil its functions.

Defining competence units

Labour competences were defined using functional analysis, the method used in National Vocational Qualifications (NVQ) in England where the standards thus developed are known as "Occupational Standards, grouped together into Units of Competences" (Young, 2009, p. 23). The method was considered the most appropriate for evaluating experiential knowledge gained through work.

Functional analysis "begins with the assumption that a statement of workplace performance can be identified by a competent professional in ways which are recognized by an appropriate employer" (Young, 2009, p. 22) could be seen as a shift of power from institutions to industry (the workers), especially when units are placed on a framework.

Table 4. Estimated number of participants in productive sectors, 2009

Productive Sectors Participants

Productive Sector	N° Profiles	N° Labour C. Unit UCL	People that Participate (*)
Aquaculture & Fishing	19	79	771
Agro industrial	127	431	12.814
Livestock	60	173	2.139
Construction	19	80	976
Gas & Electricity	4	15	1.381
Logistics & Transport	19	41	4.557
Metallurgy % Metal Mechanic	16	38	1.294
Mining	111	215	1.117
Tourism	19	43	4.653
Municipal	34	176	0
Commerce (Supermarkets)	3	8	200
Median & Small Enterprises MYPE	1	3	200
Training Industry	1	4	0
Broadcasting	4	10	200
TOTAL	**437**	**1.316**	**30.302**

(*) Estimate N° of people evaluated at 31.12.2009

Source: Chile Qualifies, 2009a.

Pilots were undertaken among workers with or without completed secondary school level. The competence profiles were developed from lower-rank positions, no higher than the equivalent of a Medium Level Technician, the certificate obtained when leaving a secondary vocational school.

The pilots were presented to stakeholders as a tool for human capital improvement that could, through productivity and competitiveness, be translated into social and economic well-being. The pilots were not designed as pathways towards further studies. Rather, certification was seen as a way to make workers' performance visible, to identify gaps, to define training needs, to improve performance level. In this way, Chile borrowed part of the NVQ system. Whereas in England the employee might decide on further training, in the Chilean context, the focus was on assessment and the employer would address any training gap.

If these qualifications are going to be part of a future framework as planned, they would be better equated with Allais's description of a "designing down process" where a "new notion of knowledge and a new hierarchy of educational providers would be in place, where they are no longer the leaders and standard-setters of inputs, and content is no longer the starting point" (2009, p. 16). Indeed, SENCE and some technical training centres have already been asked to modularize their curricular options according to the units of competence developed by the industrial sector.

Whether this will be a "revolutionary change" (Young, 2005, p. 8) is yet to be established, as the raising of the occupational standards was not part of a defined and explicit strategy towards an NQF or towards training. The units of competence were

developed without the participation of the academic world or education/training sector. There was no discussion at an academic level to define how much of the competence evaluated was based on knowledge acquired in a setting other than the workplace. Questions such as "the separation of leaning processes from learning outcomes" (Young, 2009, p. 23) were not deemed important and there was no consideration progress and lifelong learning. As one interviewee put it "certification is not linked with schooling levels neither is it part of a training pathway to the formal training sector". The process was simply "a technique which sets out to be an objective and systematic method for analyzing the tasks which are required for competent performance, which in turn would identify the purposes of the employees" (Young, 2009, p. 24).

Not one of the 14 people interviewed from the productive sectors participating in the certification pilot had any notion that certification was meant to be the first step towards developing a new system of qualifications. Interviewees included people at all levels: workers, supervisors, heads of human resources, directors of the sector unions, and union members. The certification process was presented as an end in itself, and none of the interviewees had heard of a National Qualification Framework. The first step towards formal recognition is the legalization of the competence units in a Registry set up by the recently constituted Commission.

One, interviewee, a union executive and member, pointed to broader concerns about the competence process:

> The certification of labour competences should have wider implications for the workers than being more productive and/or competitive. If from the productive world, productivity and profitability are not linked with a social project which would benefit and improve the life conditions of the workers in the wider sense of the word, it would not achieve what the country needs which is to break the inequality barrier, because society does not only growth with productivity. The workers contribution in a company is valued in terms of human resources but not in terms of remunerations. We should make a big difference between a businessman and an investor. The State should take an active part making visible the social value of the competence as a counterpart of better remunerations

In-depth interviews in three economic sectors

Three economic sectors were selected; mining, agro industry, and tourism, and interviews were conducted at all levels, from workers to general managers to workers.

Question: Objectives and benefits of the certification of occupational standards?

Employers' perspectives: Mining Sector	Employers' perspectives: Agro Industry and Tourism
To improve the status of the company and its national and international competitiveness	To be able to cope with regulations of the international trade treaties
To transform management through a competence approach to the development of human capital as a concrete tool for the achievement of CODELCO's[19] long-term objectives of maximizing competitiveness, economic value and contribution to the country	To identify performance gaps and plan (uncertificated) in-company training and to define training to achieve the company targets.
Management of human resources promptly and efficiently.	To make the mobility process within the company more objective
Knowledge management defined under the methodology based on competences	Individual development plans for personnel career development and training
To delimit responsibilities and visualize individual performance	To make workers' competences more visible
To diminish rotation	To improve personal competences and collective collaboration
To define post profiles	To plan career development
To objectify mobility processes and to establish career development plans	Description of their labour posts to build profiles
To improve the management of a merit culture within the company	Certification is fundamental for the industry
To increase the transferability of labour posts	Labour project of personal growth
A competence is an organizer analysis unit	To diminish accidents
To make experience transferable	To improve efficiency and loyalty
To build up a memory registry given a very high labour turnover	To objectify the perception of people's recognition

Question: Benefits and future plans for the certification of occupational standards?

Workers' perceptions: Agro Industry	Workers' perceptions: Tourism
Improvement of their self esteem and motivation	The university of life has been validated
Labour mobility within the company and in the open market, improve employability	Recognition of prior knowledge has been a positive experience for them and their families
Their evaluation portfolio is a degree for them	Feel more sure of what it does because it has been validated
Personal motivation and the improvement of collective collaboration because they see and understand the production process as a collective achievement	Possibility of recognition of their capacities and written recognition of their competences. The importance of collective collaboration

In synthesis, managers and directors responses to the question about the objectives, benefits and future projections of this experience were very similar; they were all directed towards productivity and competiveness, for example, efficiency of human resources management, improved dialogue between development and performance management and more effective planning of training. Career development was also mentioned, but depended very much on the company's approach on Human Resource Development. Where a company had an "expansive" rather than a "restrictive" (Young, 2009, p. 36) approach towards Human Resource Development, intentions were made explicit in terms of benefits for the workers. However, there was no

[19] CODELCO, the Chilean Copper Corporation is the most powerful industry in Chile.

mention though of a competence approach as a social tool for raising salaries, diminishing inequality and promoting inclusion, which are acute problems in Chile.

Workers' responses to the question of benefits and future of the certification of their labour competences were all focused in the present and the past but not the future. They were thankful for the acknowledgement of their daily routine, the recognition of capacities that they did not know they had, the value to their families of the framed competence certificate, mobility prospects and employability opportunities that were previously uncertain. It was defined by one interviewee as a life experience, a ray of hope.

The certification process and methodology

The process is very similar to the NVQ approach. Functional analysis involves the worker, an evaluator and an auditor in three phases:

- Introduction to the programme
- Evaluation
- Certification and portfolio development

Introducing the programme

Companies define their training needs and there is a briefing meeting where the process is explained to the workers who are then they invited to write down all the activities they do in their daily work. They are given some occupational profiles and asked to identify themselves against them. The role of the evaluator is explained very clearly, as somebody who is not there to find mistakes but to help improve performance.

Evaluation

Evaluation is based on work observation of their work and how this is done. A technically proficient evaluator determined whether the worker is competent or not yet competent. The process has three steps:

*Observation on site***:** empirical confirmation by expert judgment defining whether a worker's performance meets the performance standards that are being evaluated. This evidence is the most important and valuable in terms of the evaluation process. The Observation processes follow a strict procedure: planning, evaluation and review.

Semi-structured technical interview: a personalised questionnaire designed by the evaluator's institution (which is not a training institution). For each performance criterion there is one targeted question to ascertain the knowledge the worker has to perform the particular functions.

Indirect evidences: this refers to relevant evidence gathered independently of the evaluation instruments. It could be in the form of diplomas, supervisor reports, letters of application, CV's, performance reports, projects submitted, testimonies, videos, photos of work process, budgets elaborated or other products that attest to the worker's competence. Evaluation consists of three marks:

- A **Yes** for those complying with all the technical and basic indicators given by the performance criteria, together with the expected result and the value-added reflected in the unit of competence.
- A **Not Yet** where the worker does not comply or only partially satisfies the performance criteria; this answer needs to be properly justified.
- A **Non-Applicable** is when for external reasons the worker does not fulfil the functions expressed in the competence unit.

Portfolio

This is the end product containing a detailed account of what has been done in each phase of the evaluation process, including the code and name of the different competences evaluated. This information is written in a document called a Unit of Labour Competence, on the basis of company descriptors and criteria. Two copies of the portfolio are produced, one is for the worker and the other is kept by the evaluation agency.

It should be noted that this is the first experience of the recognition and certification of non-formal or informal knowledge in the country; there are no other points of comparison. The evaluation process itself was highly praised, by both employers and employees. Employers considered it respectful, serious, rigorous and well-received by the workers. Employees commented on the portfolio, as a valuable document that could be shown to family and friends. They liked the possibility of having a second evaluation if they were not yet competent. They recognized that this evaluation was for progress and not for dismissal and that gave them a sense of security that their employers considered failure as an opportunity for improvement.

A Commission member and member of the Workers National Central Union reported that the union became interested in the certification of experiential knowledge experience when it was legislated. Union membership of the Commission was renegotiated up to three people. The union perspective was that Chile has pursued and approach to development without inclusion. It was hoped that certification of labour competence would create a useful platform for wage bargaining.

The same interviewee was of the view that the country has to date no clear knowledge regarding the labour and qualification needs of the productive sectors; arguing that what information there is is often invalid. He reported that certification is done without workers' participation and training priorities are defined by the employers. He went on to argue that there is no clear definition of the role training should play in the economy. Workers today try to study what they think it will improve their job possibilities but with no guarantee because there are many careers that do not have application in the labour market. He believed that nowadays the old tradition of a job for life is over and that that perspective has not been incorporated into the legislation. Nor is there is a culture of ongoing training or lifelong learning system for workers. He reported that labour force rotation is high as there are not many qualified workers (average time in one post is three or four years). Although bipartite committees for training are a legal requirement in industry, in practice they do not exist. He hoped that the certification law would have further positive repercussions.

9. Steps in the development of an NQF

The first official attempt to design an NQF in Chile was in 2003 when an agreement was signed between the Research and Documentation Centre on Economic, Employment and Professional Qualifications (CIDEC) and the Chile Foundation in the context of the Chile Qualifies programme. CIDEC, a not-for-profit Spanish research centre CIDEC undertook a feasibility study for an NQF.

The main objectives of the study were to produce policy guidelines and expert recommendations for an NQF drawing on international experience and literature and national variables and critical dimensions. The study was therefore directed to the identification of the necessary pre-conditions required in the country for the construction of a framework rather than to the design of a framework. During the same year, a Law Project was sent to Congress with a proposal for the construction of an NQF. This has not yet been discussed or approved.

After three visits by the Spanish team of experts, the Final Report, and an extensive three-volume report was handed to the Chile Foundation in 2004. The Executive Summary was presented at a seminar on July 2004. As well as establishing pre-conditions, the report also highlighted many of the systemic weaknesses already discussed in this case study. In general terms they stressed the need:

- To advance the process of modernization and improvement of general education and the quality of the technical education in particular.
- To reorganize the whole of the technical offer, improving coherence and the interrelations among the different levels as a way of strengthening the technical qualifications system in the country.
- To improve the quality and coverage of the SENCE training system, degrees of access and the quality of the training offer through the 1 per cent franchise and the social training programmes.
- To create and develop procedures for the recognition of non-formal and informal learning as a way of formalizing labour qualifications.

CIDEC recommended the construction of an integrative and strengthening systemic framework including the reorganization of technical training at secondary and tertiary level in order to build up vertical itineraries or transfer pathways and to create mechanisms to recognize prior leaning. CIDEC also recommended that at the core of these components it should be placed the quality of delivery and the social legitimization of technical education, achieved through the wide participation of the productive sectors, the businessman, workers in the design and development of the technical education offer.

In 2007, another consultancy was commissioned by Chile Qualifies from the Australian Department of Education, Science and Training. The aim was to provide recommendations on the implementation of a National Qualifications Framework. The agreement followed consultations and visits from Australian professionals where it was agreed that a multi-sector qualifications framework based on the Australian model might assist in facilitating lifelong learning and other related educational and training initiatives to support the development of people and the economy (Allen and

Bryne, 2007). The recommendations were that a qualifications framework would need to:

- Be multi-sectoral, linking the different education sectors, defining their main characteristics and the relationship between them.
- Include an appropriate number of levels linked to qualification titles and professional and industrial skill requirements.
- Indicate the volume of learning expected for each qualification.
- Define in broad terms the level of achievement expected at each level in different domains of learning or components of competences.

The consultants added that if the framework was to be successfully implemented it will need to be:

- Developed through consultation with major stakeholders, and be formally adopted and applied to all institutions.
- Supported by quality assurance arrangements within institutions and other agencies, and be consistent with arrangements for accreditation.
- Used as a reference point for validation and agreed packaging of national competence standards for qualification in vocational education.
- Used as a basis for a widely accessible national register of programmes at authorized institutions or other organizations that are assessed as meeting the standards of learning outcomes as specified in the framework.

Professionals from Chile Qualifies, The Higher Education Division of the Ministry of Education and the National Training and Employment Service also travelled to Spain in 2007 to acquaint themselves with the Spanish NQF-related developments.

In 2008, with the experience of recognizing non-formal and informal learning well under way through the development of standards and the certification of labour competences, the OECD undertook a special study on the visibility of the non-formal and informal learning outcomes. Recommendations stated the need to link the different components of the education and training system: compulsory education, adult education, the Certification of Labour Competences, the technical training centres, the professional institutes and other higher education institutions in a transparent manner. The OECD team was cautious about recommending a framework: “The authorities might actively consider whether the development of a National Qualifications Framework would materially aid recognition and transfer between the component parts of the new education and training system, or whether it would lack credibility at this stage” (OECD, 2008, p. 29).

In the most recent OECD study on higher education (OECD, 2009d) the team concluded that unnecessary institutional and legal barriers encountered by students transferring from secondary schools (particularly vocational schools) to higher education could be eliminated by the design of new pathways. A National Qualifications Framework could be developed to include all qualifications - academic and vocational, from secondary school to doctorate programmes. The study argued that it seemed reasonable to build on the framework established by Chile Qualifies. A key purpose of the framework would be to facilitate students’ access to tertiary institutions from all fields, including academic and vocational secondary education. Another purpose would be use credit procedures to support transfer between

institutions or from one grade to another within the tertiary system. Qualifications could be based on results and achieved competence not on time/hours of study. Finally, the study recommended that a framework could support the recognition of equivalent national and international qualifications and the accreditation of prior studies (OECD, 2009d, 314).

From within the country, support for an NQF has been voiced in three other sets of recommendations recently presented to the authorities:

1. The National Strategic Plan for Development (human capital pillar) prepared by the National Council of Innovation for Competitiveness identified three key problems: the rigidity of the training system, the lack of vertical articulation between qualification levels, and the lack of horizontal articulation within different training institutions. Their concrete proposals to address these problems included the need:

    - for a lifelong learning system to deal with the speed of change of the labour market and the need to train the human capital required in a knowledge economy;
    - to strengthen connections between different training levels;
    - to develop a National Qualification Framework based on labour competences; and
    - to consolidate the National System of Certification of Labour Competences to facilitate articulation between vocational and academic qualifications.

2. A report produced by the Presidential Advisory Council for Higher Education (submitted to the President in 2008) recommended the need for a National Qualifications Framework. This was taken into account and funds were allocated for a one-year ministerial programme (MECESUP) (4/2009-4/2010) to advance the design of a framework. A committee was set up comprising nine universities represented by their 25 academic directors. They visited Ireland, the UK and Australia to learn from their experiences and are currently working on a design of level descriptors, grades and a qualification framework for include academic qualifications that will relate to the framework for technical qualifications that is being designed by Chile Qualified.

    The committee has argued that such a system will support the accreditation processes for careers and institutions; facilitate students' mobility process either nationally and internationally; use transit pathways to enhance vertical articulation between technical training centres, professional institutes and universities and promote the transparency of the system creating the conditions for access to better information for students about the different programmes on offer (Presidential Advisory Council, 2008, p. 398).

    The director of the committee reported that outcomes were very positive. All institutions were participating well and some institutional changes had already been achieved or were under way, including a system of institutional career accreditation and a process of curricular restructuring of careers and programmes based on competences and learning achievements/outcomes. New

legislation would replace the General Education Legislation (LOCE) which was originally promulgated by the military regime. He also reported that the 25 CRUCH universities had reached an agreement that will shortly be legislated permitting the establishment of an inter-university academic credit system.

3 The third recommendation for an NQF came from the External Commission for Technical Education detailed earlier in this case study. The Commission argued for an NQF and recommended the need for political approved at the highest level, with the participation of all stakeholders and a short time scale with a specific agenda (Ministry of Education, 2009, p. 44).

9.1. Two different institutions designing a framework

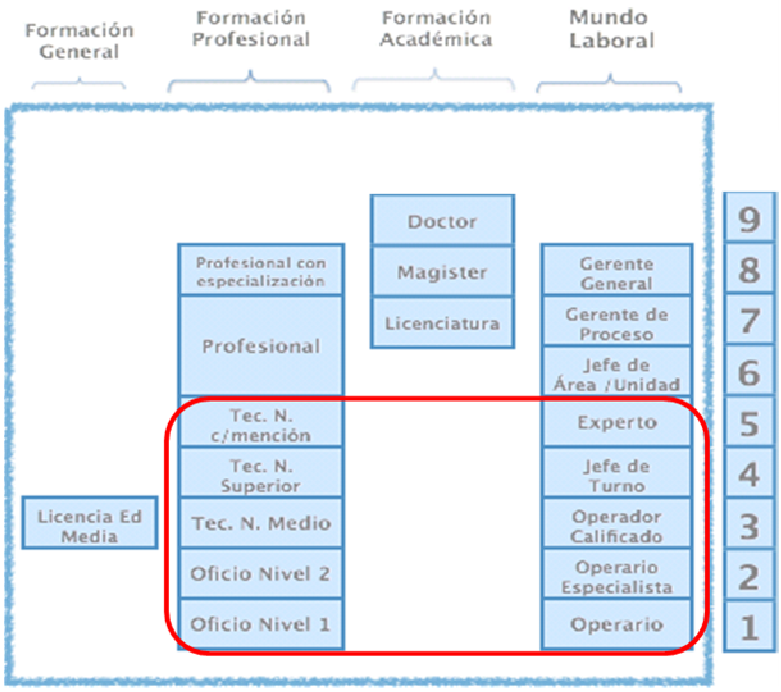
All of the above recommendations regarding an NQF have found expressions in a couple of recent design projects. Both projects position an NQF as a tool for development, a sort of a magic wand, that will solve many of the system inconsistencies and problems sustained over many years.

The first is a development through an agreement between Chile Qualifies[20] and a team of professionals from the Santa María University. The objectives were: 1) To test the methodology to define level descriptors and its consistency with the different stakeholders in education and training, in order to ascertain the scope of an NQF and challenges associated with its impact. 2) To define an NQF for technical education that would take account of all the different levels of technical training currently on offer, identifying levels and descriptors using the Units of Labour Competences already developed for this sector (and registered in the National Catalogue of Labour Competences) as a starting point. 3) To study the topic, generate concepts and form opinion in order to inform policy making towards the construction of an NQF.

[20] A technical committee consisting of members of the SENCE Training and Study Division, Ministry of Education (Departments of Curriculum, General Education and the Higher Education Division), and representatives of the Labour Competences and the Technical Training Units from Chile Qualifies itself.

Figure 5.

National Qualifications Framework with its application focus in the mining sector



Source: Chile Qualifies, September 2009.

The project started a year ago with the design of a partial framework which was piloted in the mining sector in October 2009. The sector had already validated the Units of Labour Competences. A nine-level framework with descriptors is being designed, although the pilot in mining will only involves levels one to five. The remaining four levels (six to nine) will be addressed in the second project discussed below. The overall framework is presented in figure 5.Level four equates with the High Level Technician degree and level five with the High Level Technician plus a speciality i.e. the degree obtained at tertiary level in the technical training centres and professional institutes. Levels one to three correspond to school level; level three being equivalent to the Medium Level Technician certificate gained on graduation from a secondary vocational school. The first two levels are equivalent to the certified Labour Competences which include recognition of non-formal and informal learning.

The team has identified specific problems that an NQF should help to improve which are:

- *Vertical break up*: Lack of vertical articulation within different education levels, with specific knots such as a disorder among titles and degrees; break up within the levels of vocational education and a deregulated tertiary system.

- *Horizontal break up*: There is no connection between the experience of non-formal and informal learning and the education system nor does the education system recognize the certificates awarded by the National System of Certification of Labour Competences; there are no mechanisms in place for the recognition of experiential learning.

- *Lack of relevance of the training offer***:** Training opportunities do not respond to the needs of the productive world or the knowledge society. The school vocational curriculum lacks relevance and it is difficult to adapt formative levels with occupational profiles. Current legislation does not make it compulsory that tertiary and vocational schools use the standards (except in the case of SENCE training courses).

- *Little transparency in the training system and little international comparability***:** Access to information is asymmetric which makes it difficult to design a training pathway; lack of information of training offers and its further possibilities; little transparency in the titles and degrees awarded by the universities, professional institutes and technical training centres, making international comparability very difficult.

The team has also adopted a definition of "qualification" for framework purposes:

> Learning outcomes associated with a set of competences, certified by an appropriate institution, with significance to the labour market and/or for further training that have been achieved through a formal or a non-formal programme, or through experience (Chile Qualifies, SENCE and Ministry of Education, 2009).

Workshops will be held towards the end of 2009 involving technicians from the mining corporations, the Chile Qualifies team and the professionals from the Santa Maria University. The aim is to correlate framework levels and descriptors occupational profiles, to see how they well they articulate and what future work might be required.

The second initiative to design a qualifications framework is financed by MECESUP (the equity and equality improvement programme for tertiary education), and based in the Ministry of Education. The committee concerned involves the 25 academic vice rectors of the CRUCH universities - the oldest, most powerful and prestigious educational institutions in the country and the most successful in terms of the quality of their academic programmes. They are the first option for most students going into higher education.

This initiative lags behind the Chile Qualifies one and is drawing on its experiences. Both projects overlap at the point of High Level Technician. This second framework starts with the High Level Technician and ends at doctoral level. The committee has looked closely at the European Framework and members have visited Ireland and Australia. Although members are committed, they have a short span of time to do the design and they belong to.

The future of NQF-related developments is uncertain as there are general elections at the end of 2009, and the continuity of the current government coalition is seriously challenged. However, there is cause for optimism as the idea of an NQF enjoys popularity on all sides of the political spectrum.

10. Insights

Chile has an institutional-based, traditional model of qualifications where educational providers have total autonomy over the qualifications they issue. There are 440 higher education and training centres in the country and together they issue around 9,000 titles and grades from technician to doctors. This liberty is a great impediment to developing a coherent system focused towards the same objectives. Tertiary education is mainly private and deregulated and this seriously affects students in terms of quality and access.

Trust is the main consideration students and families prioritize when electing a tertiary institution. If choosing an academic option they choose the CRUCH universities; if choosing a technical option they try first, if they can afford it, the two main technical universities, INACAP (the National Institute for Training) and DUOC (the Professional Institute and Technical Training Centre); thereafter they go down their list of priorities. A technical degree from INACAP or DUOC has a high market value, and although less than an academic degree, is still prestigious.

In a country where almost 50 per cent of the adult population did not finish school and where there are many unemployed young people with very low levels of training, the recognition of informal learning is a very powerful tool to promote inclusion (one of Chile's worst problems). Recognition of experiential learning could therefore be a powerful tool for change for the adult working force with little schooling and training and for those youngsters who rotate from one low-paid job to another, accumulating experience that could count as an entry point to formal training. This would follow Young and Allais (2009, p. 5) who point out that many policy makers "emphasize the economic importance of non-formal, informal and experiential learning and the accreditation of these outcomes-based qualifications as a key policy instrument" for fostering inclusion and social equality.
Nowadays, knowledge is around us in many different forms, the media and IT allow almost everybody to have access to information and knowledge without having to study a formal course. It is not be so difficult to imagine the possibility of certifying knowledge acquired informally in order to gain access to training at tertiary level. The Units of Labour Competences could become an access route to qualifications like the NVQs in the UK.

The current development of a partial qualifications framework in the mining sector by the Chile Qualifies resonates with England's NVQs for the National Health Service (NHS). Both employers have very strong HRD policies (Young, 2009, 37). Unlike the NHS, the mining sector does not employ the highest number of workers in the country, but it does employ around 60,000 people and is certainly the most powerful employer in the country, paying salaries that are way above the national salary level. There are similarities in the strong internal market for qualifications: "In many ways, as the largest employer in the country, the NHS is unique, and the issues of portability and transferability are internal rather that external" (Young, 2009, 37). Interviews revealed that the mining sector in Chile can be seen as offering an "expansive" employment environment with the following characteristics:

- learning and career opportunities;
- emotional and practical support for learners; and

- appropriately designed jobs aligned to individual and organizational objectives.

The two sectors are also analogous in that technical training is highly valued. Staff dismissal and rotation is expensive and works against service quality which in both contexts is vital. It is possible to envisage the development of "communities of trust" between mining employers, training institutions and local universities so as to concretize the "credibility of the programmes and the qualifications linked to them" (Young, 2009, p. 37). To pilot a partial framework in this sector would build on: a high level of cooperation from the industry; an already established set of labour competence standards included in the national catalogue, and participation and interest from the training sector (contracts to work with the mining sector are always profitable). Moreover, interviews highlighted that certification is highly valued by low- and lower-level workers in the sector. Such a development would enable the mining industry to have a set of useful qualifications legalized and available within the training system.

A third qualifications framework project is also possible and was communicated in October 2009 by the press and the Minister of Education. The option of a partial framework for Technical Education and Training proposed by the Ministerial Commission on Technical Education (mentioned earlier), has in my view more solid ground for success than other frameworks. This Commission has been transformed into a permanent Executive Secretariat for Technical Education in the Ministry of Education, and its members have strong links with the Chile Foundation that will manage the new project entitled "Improving the Technical Training Industry" (funded by Inter-American Development Bank) and SENCE.

Members of the Commission belong to the training and industrial sectors and are all committed to improvement. This Secretariat can act as a broker among stakeholders and prepare the ground for the implementation of a partial NQF. If this framework is developed, it would be a communication or "enabling framework", helping articulation between levels and defining courses in terms of outcomes, achievements or competence profiles.

The General Education Legislation currently in place (LOCE) does not promote this type of articulation, so a strong framework will be needed involving legislation to implement it. There are loop holes in Chilean legislation that often give dual options for action, and that dual option fosters no change. An example is the legislation pertaining to the certification of labour competences, which states that it is not compulsory for secondary vocational education and tertiary technical education centres to relate labour competences from the national catalogue into their curriculum offer. Somehow deregulation is favoured by law.

The last question to address is policy borrowing. The global economic and training problems faced by many countries are all similar. Statements such as the following can apply to Chile, New Zealand or the UK:

- improve competitiveness in the global markets;
- reduce educational inequalities;
- modernize the education system and encourage lifelong learning;

- increase skill levels in the labour force

The NVQs in the UK were developed in response to weaknesses in the system of vocational qualifications and are the same as the faced by Chile today:

- No clear, readily understandable pattern of provision as well as considerable overlap, duplication and gaps in that provision.
- Many barriers to accessing vocational qualifications and inadequate arrangements for progression and transfer of credit.
- Assessment methods based towards testing of knowledge rather than skill or competence.
- Insufficient recognition of learning gained outside formal education and training.
- Limited take up of vocational qualifications.

If Chile wants to use the same tool to solve its problems, the government needs to seriously consider the internal institutional and regulatory conditions to ensure that it will be possible to build an appropriate infrastructure for the development, within a reasonable time span and with a reasonable chance of success. This would avoid a repeat of the experience with the labour competence units. These were developed in the early 2000s are have time expired (they need to be renewed every three years) before they could be included in any framework or training programme. In the UK the timetable for implementing NVQs and an NQF were a decade. Chile has been trying to implement a competence-based approach to technical training for 20 years and is now looking to an NQF to achieve it.

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Appendix 1. Reforms

Period	**1980 – 1989** **Military Regime**	**1990 – 2000** **Democratic Government**	**2000 – 2009** **Democratic Government**
General trend	**1981**. **A shift to a market economy** Decentralization: the administration of education goes to local authorities and is financed by a voucher per pupil.	**1990. Change of paradigm** State defines, conducts and promotes educational policies. Decentralization and privatization policies remain	**2000. New concept: A lifelong learning approach to education** Reforms at tertiary level and the setting up of a lifelong learning programme Chile Qualifies
School system	**1980-85**. Privatization: participation of the private sector in the provision of education. Appearance of private subsidized schools	**1996-2000.** Curricular reform for primary, secondary and pre-school education	**2003.** Adult education reform as part of Chile Qualifies
	1980. School cycle changed to 8 years primary and 4 years secondary	**1991.** Teachers' status restored and their rights reinstated	**2008**. Adult education: one-year apprenticeship as part of the primary modules offer
Reforms to vocational education	**1980-83.** Secondary Technical Vocational Education, 4 years. Great curriculum deregulation	University status for teacher training reinstated	**2002.** Chile Qualifies integrated: Education, Labour & Economy Ministries
	1980-81. Teacher training lost university status and teachers lost status as public employees	**1994-2001.** Secondary Technical Vocational Education curriculum redesigned competences based, specialties redefined, cycled changed to two years general and 2 years vocational	
Training system	**1981.** The National Institute for Training (INACAP) stopped its functions	**1997.** The National Fund for Training FONCAP is created from the national budget, administered by SENCE	**2003.** Modularization of CFT courses by MINEDUC, they become eligible for SENCE 1% franchise courses
	1976. The Training and Employment Statute creates the National Training and Employment Service (SENCE)	OTECs retained, providing services to companies and public sector training schemes	**2008.** National System of Certification of Labour Competences as part of Chile Qualifies
	OTEC's created to train technicians	OTIC retained i.e. non-profit private corporations that plan and organize training for others	**2009.** SENCE Electronic Catalogue modularized to competences linked to Labour Competences
	The OTIC, Intermediate	CFT and IP not yet quality regulated.	

Period	1980 – 1989 Military Regime	1990 – 2000 Democratic Government	2000 – 2009 Democratic Government
	Technical Organisms for Training created.		
Tertiary system	**1981.** Participation of private sector in higher education: opening of private universities, professional institutes and Technical Training Centres (CFT)	**1990-2005.** Only 20 new institutions were created, 10 universities and 10 professional institutes, and 38 were closed	**2006.** The National System for Quality Assurance and the National Accreditation Commission for tertiary education
	1981 to 1990. 40 private universities and 80 professional institutes were opened. Tertiary education is fee paying.	**1997.** Equity and Quality Improvement Programme for Tertiary Education, MECESUP was launched.	**2006 onwards.** Process of accreditation of some universities, CFTs and IPs. 10 universities, 10 IPs and 38 CFTs closed.