

KOF Swiss Economic Institute

The KOF Education System Factbook:
New Zealand

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Table of Contents

FOREWORD	1
EDITING AND ACKNOWLEDGEMENTS	2
1. The New Zealand Economy and its Political System.....	3
1.1 The New Zealand Economy	3
1.2 The Labour Market.....	6
1.2.1 Overview of New Zealand’s Labour Market.....	6
1.2.2 The Youth Labour Market.....	9
1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for New Zealand	10
1.3 The Political System.....	12
1.3.1 Overview of New Zealand’s Political System.....	12
1.3.2 Politics and Goals of the Education System	13
2. Formal System of Education	16
2.1 Pre-Primary Education	20
2.2 Primary Education.....	21
2.3 Lower and Upper Secondary Education	22
2.4 Postsecondary/Higher Education	24
2.5 Continuing Education (Adult Education).....	25
2.6 Teacher Education	26
3. The System of Vocational and Professional Education and Training	28
3.1 Vocational Education and Training (VET; Upper Secondary Education Level)	28
3.2 Professional Education and Training (PET; Post-Secondary Level)	30
3.3 Regulatory and Institutional Framework of the VPET System.....	33
3.3.1 Central Elements of VPET Legislation.....	33
3.3.2 Key Actors	33
3.4 Educational Finance of the VPET System	35
3.5 Curriculum Development.....	37
3.5.1 Curriculum Design Phase.....	38
3.5.2 Curriculum Application Phase	41
3.5.3 Curriculum Feedback Phase	42
3.6 Supplying Personnel for the VPET System (Teacher Education).....	43
4. Major Reforms in the Past and Challenges for the Future	45
4.1 Major reforms	45
4.2 Major challenges	46
References.....	48

List of Abbreviations

CAT	Certificate of Adult Teaching
GCI	Global Competitiveness Index
GII	Global Innovation Index
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
ITE	Initial Teacher Education
KOF	Swiss Economic Institute
NCEA	the National Certificate of Educational Achievement
NEG	National Education Guidelines
NZTC	New Zealand Teachers Council
NZQA	The New Zealand Qualifications Authority
NZQF	New Zealand Qualifications Framework
OECD	Organisation for Economic Co-operation and Development
PBRF	Performance Based Research Funds
PET	Professional Education and Training
SAC	Student Achievement Component
TEC	Tertiary Education Commission
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
VPETA	Vocational and Professional Education and Training Act
WEF	World Economic Forum
YLMI	Youth Labour Market Index

List of Figures

Figure 1: Employment by sector (as % of total employment), 1991-2017 5

Figure 2: KOF YLM Spiderweb for New Zealand and OECD in 2016 10

Figure 3: YLM-Index over time, 2004-2016..... 11

Figure 4: ISCED 2011 Mapping of New Zealand's Education System 17

Figure 5: Percentage of population that has attained upper secondary or post-secondary non-tertiary education in OECD countries (2016) 19

Figure 6: Percentage of population that has attained tertiary education in OECD countries (2016)..... 19

Figure 7: Curriculum Value Chain (CVC)..... 38

Figure 8: Lifecycle of a Qualification on the NZQF..... 41

List of Tables

Table 1: Value added and employment by sector, 2014 4

Table 2: Labour force participation rate, unemployment rate by age 2016..... 7

Table 3: Labour force participation rate, unemployment rate by educational attainment 2015 (persons aged 25-64) 8

Table 4: Gross and net enrolment ratios by education level, 2015 (in %) 18

FOREWORD

The increasing competitiveness of the world economy as well as the high youth unemployment rates after the worldwide economic crises have put pressure on countries to upgrade the skills of their workforces. Consequently, vocational education and training (VET) has received growing attention in recent years, especially amongst policy-makers. For example, the European Commission defined common objectives and an action plan for the development of VET systems in European countries in the *Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for 2011-2020* (European Commission, 2010). In addition, a growing number of US states and other industrialized, transition, and developing countries (for example Hong Kong, Singapore, Chile, Costa Rica, Benin and Nepal) are interested in either implementing VET systems or making their VET system more labor-market oriented.

The appealing outcome of the VET system is that it improves the transition of young people into the labor market by simultaneously providing work experience, remuneration and formal education degrees at the secondary education level. If the VET system is optimally designed, VET providers are in constant dialogue with the demand-side of the labor market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labor market. Besides practical skills, VET systems also foster soft-skills such as emotional intelligence, reliability, accuracy, precision, and responsibility, which are important attributes for success in the labor market. Depending on the design and permeability of the education system, VET may also provide access to tertiary level education (according to the ISCED classification): either general education at the tertiary A level or professional education and training (PET) at the tertiary B level. PET provides occupation-specific qualifications that prepare students for highly technical and managerial positions. VET and PET systems are often referred to together as “vocational and professional education training (VPET)” systems.

Few countries have elaborate and efficient VPET systems. Among these is the Swiss VPET system, which is an example of an education system that successfully matches market supply and demand. The Swiss VPET system efficiently introduces adolescents to the labor market, as shown by Switzerland’s 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017a).

Though not many countries have VPET systems that are comparable to Switzerland’s in terms of quality, efficiency and permeability, many have education pathways that involve some kind of practical or school-based vocational education. The purpose of the KOF Education System

Factbook Series is to provide information about the education systems of countries across the world, with a special focus on vocational and professional education and training.

In the KOF Education System Factbook: New Zealand, we describe New Zealand's vocational system and discuss the characteristics that are crucial to the functioning of the system. Essential components comprise the regulatory framework and the governance of the VPET system, the involved actors, and their competencies and duties. The Factbook also provides information regarding the financing of the system and describes the process of curriculum development and the involved actors.

The Factbook is structured as follows: First, we provide an overview of New Zealand's economy, labor market, and political system. The second part is dedicated to the description of the formal education system. The third section explains New Zealand's vocational education system. The last section offers a perspective on New Zealand's recent education reforms and challenges to be faced in the future.

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The KOF Education System Factbooks should be regarded as work in progress. The authors do not claim completeness of the information which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!

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1. The New Zealand Economy and its Political System

One of the main purposes of an education system is to provide the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors determining the current and future demand for skills. Therefore, these will briefly be described in the first part of this Factbook. In addition, this part provides an overview of New Zealand's political system with emphasis on the description of the education politics.

1.1 The New Zealand Economy

New Zealand has an open and export driven economy (exports represent about 30 percent of GDP), and has become one of the most free-market based economies in the OECD over the last 30 years. The KOF Globalisation Index¹ scores New Zealand at 78 for 2015, significantly above the world average of 61 (Gygli, Haelg, & Sturm, 2018). The economy generally experiences low inflation. Through its flexible exchange rate, New Zealand's economy is capable of adjusting to eventual market changes (New Zealand Now, 2018a). Since 2012, the country has experienced strong growth and employment expansion, and has enjoyed a close-to-balanced government budget (OECD, 2017b).

The GDP per capita of New Zealand in 2016 was an estimated \$33,197², which ranked 20th among the 35 OECD members and below the OECD average of \$38,154, despite high living standards in New Zealand. The below-OECD average GDP per capita can be explained by the low labour productivity in the country (low labour productivity signifies a low remuneration of the factor labour) (OECD, 2017b).

New Zealand has enjoyed steady growth since 2012, and growth rates have generally been in line with other OECD members over the last twenty years (OECD, 2017b). New Zealand's average growth rate from 1990 to 2016 was 2.7 percent, comparing favourably to the OECD average of 2.1 percent. In 2016, New Zealand recorded an output growth of 3.1 percent, exceeding the OECD average of 1.7 percent for the same year. In the years following the Global Financial Crisis of 2008, New Zealand once again outperformed the OECD average in terms of growth. From 2008 to 2012, the country's average growth rate was 0.9 percent, while

¹ The KOF Index of Globalisation measures the economic, social and political dimensions of globalisation. Here, we focus on the economic dimension of globalisation, the KOF Index of Economic Globalisation. It is constructed by using indicators for long distance flows of goods, capital and services (that is, data on trade, FDI and portfolio investment), as well as information and perceptions that accompany market exchanges (restrictions to trade and capital, using hidden import barriers, mean tariff rates, taxes on international trade and an index of capital controls).

² Constant purchasing power parity (PPP), 2010 US Dollars.

the OECD average was 0.5 percent. New Zealand recovered well from a growth rate of -1.1 percent in 2008 to a growth rate of 2.5 percent in 2013, while the OECD only reached an average growth rate of 1.4 percent in 2013 from 0.2 percent in 2008 (World Bank, 2018a).

Table 1: Value added and employment by sector, 2014³

Sector	New Zealand: Value added (%)	EU-28: Value added (%)	New Zealand: Employment (%)	EU-28: Employment (%)
Primary sector	6.8	1.6	6.2	5.0
Agriculture, hunting and forestry, fishing	6.8	1.6	6.2	5.0
Secondary sector	21.8	24.4	20.8	21.9
Manufacturing, mining and quarrying and other industrial activities	15.40	19.1	12.2	15.5
of which: Manufacturing	11.9	15.6	10.9	13.9
Construction	6.3	5.3	8.7	6.4
Tertiary sector	71.4	74	72.9	73.3
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	20.7	23.8	28.9	27.4
Financial intermediation; real estate, renting & business activities	31.5	27.6	14.7	16.0
Public administration, defense, education, health, and other service activities	19.3	22.6	29.3	29.9

Sources: OECD (2018a), OECD (2018f), Eurostat (2018a); (2018b)), Statista (2018).

Table 1 shows value added and employment (both as percentages of total) by sector for New Zealand in 2014 (the most recent year with complete data available). 2014 data from the 28 member states of the European Union is included for comparison. New Zealand and the EU both have tertiary sectors accounting for over 70 percent in the categories total employment and value added, by far the largest sector for both. The secondary sector is more or less equally important to New Zealand and the EU. It is the second largest sector for both (by a wide margin), accounting for over 20 percent of value added and employment. The EU is slightly more reliant on the secondary and tertiary sectors, both in terms of value added and employment.

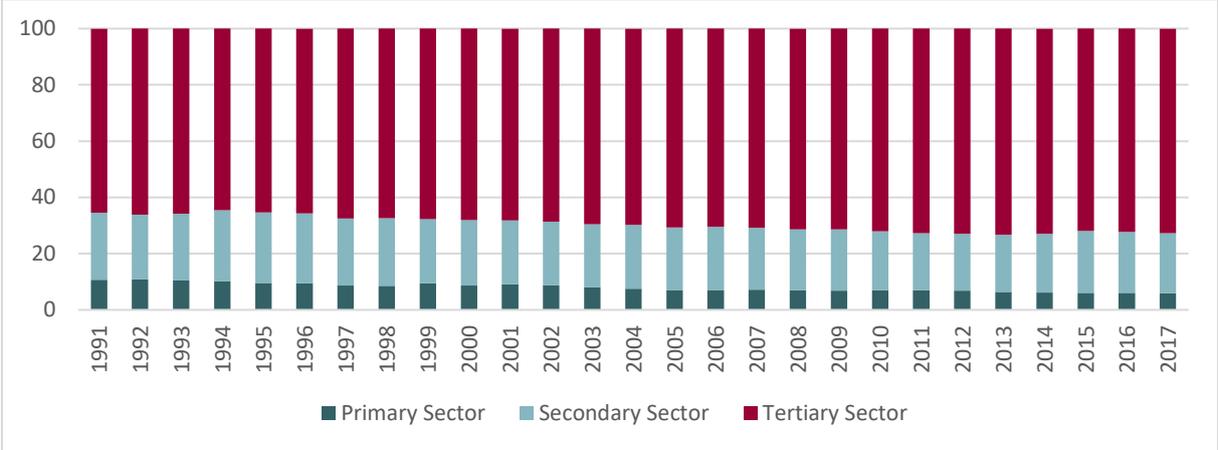
The main difference in Table 1 lies in the primary sector. New Zealand’s primary sector accounts for over 6 percent of value added, well above the EU percentage of 1.6. The primary sector also accounts for a larger percentage of total employment in New Zealand, with a

³ Due to rounding differences, the sum of all sectors falls below 100 percent.

percentage of 6.2 relative to 5. New Zealand’s fertile soil and productive growing conditions make the country ideal for primary sector activities. Primary commodities make up approximately half of all the country’s exports, and New Zealand is one of the five largest dairy product exporters in the world (New Zealand Now, 2018a).

In the tertiary sector, New Zealand has a larger financial service, real estate and business sector (in terms of value added), while its sectors related to public spending and services are smaller compared to the EU.

Figure 1: Employment by sector (as % of total employment), 1991-2017



Source: World Bank (2018b).

Figure 1 shows the percentage of total employment that each of the three broad sectors has comprised from 1991 to 2017. In 2017, the primary, secondary and tertiary sectors accounted for 5.9, 21.4 and 72.6 percent of New Zealand’s total employment, respectively.

One can see from Figure 1 that the primary sector in New Zealand has been in steady decline since 1991, when it made up 10.7 percent of total employment. This is an unsurprising trend followed by most developed countries. For example, the primary sector accounted for 9.5 percent of total employment in the European Union in 1991, and is now down to 4.4 percent in 2017. One of the major reasons is the increased use of capital in the production process. As mentioned in Table 1 and the discussion above, New Zealand still has a large and thriving primary sector in comparison to other countries.

Another trend that can be seen in Figure 1 is the steady growth of the tertiary sector. This sector accounted for 65.4 percent of total employment in 1991, which steadily increased to 72.6 percent in 2017. This growth has been driven in particular by tourism and related service sectors such as food and accommodation services (The New Zealand Treasury, 2018a).

Finally, the secondary sector is the only sector which has not experienced notable growth or decline. It had a 23.8 percent share of total employment in 1991, which decreased slightly to 21.4 percent in 2017.

The World Economic Forum's Global Competitiveness Index (GCI) assesses a country's competitiveness using 12 pillars. Among these pillars are categories such as innovation, institutions, and labor market efficiency. The 2017-2018 edition of the GCI report ranks New Zealand 13th out of 137 countries. The country's ranking has steadily increased since the 2012-2013 report, where it ranked 23rd. New Zealand performs notably well in several areas. It ranks 3rd overall in the institutions pillar, ranking 1st in subcategories such as government policy transparency and ethical behavior of firms. The country ranks 1st overall in the financial market development pillar, 5th in labor market efficiency, and 6th in health and primary education. New Zealand's weakest pillars for 2017-2018 were infrastructure (23rd), business sophistication (24th), and innovation (20th) (WEF, 2018).

The Global Innovation Index (GII) ranks countries by their capacity for innovation. New Zealand performs somewhat worse than in the GCI, ranking 21st out of 127 countries in the 2017 edition. New Zealand's strengths include the main categories of Institutions (2nd) and Market Sophistication (8th). More specifically, New Zealand performs well in the Institutions subcategories of political stability & safety (1st), ease of starting a business (1st), and regulatory environment (3rd). In terms of Market Sophistication, the country ranks well in ease of getting credit (1st) and ease of protecting minority investors (1st). Categories with room for improvement include Knowledge and Technology Outputs (29th overall, 59th in growth rate of GDP/worker, 107th in FDI net outflows) and Business Sophistication (28th overall, 116th in FDI net inflows) (Dutta, Lanvin, & Wunsch-Vincent, 2017).

1.2 The Labour Market

In the first part of this section, we will describe the general situation of New Zealand's labour market. In the second part, we will refer to the youth labour market in particular.

1.2.1 Overview of New Zealand's Labour Market

New Zealand's aforementioned strong recent growth has been accompanied by a similar trend in employment. Employment has expanded quickly in recent years, countering the increase in unemployment caused by the global financial crisis (OECD, 2017b). The unemployment rate has been in steady decline in New Zealand, dropping every year from 6.4 percent in 2012 to 4.7 percent in 2017. The unemployment rate for 2017 is the 8th lowest among OECD countries for that year (OECD, 2018b).

The 2017-2018 GCI ranks New Zealand 5th out of 137 countries in terms of labour market efficiency, ranking behind nations such as Switzerland (1st) and the United States (3rd). This very respectable ranking is driven by high sub-rankings in redundancy costs (1st), reliance on professional management (2nd), and cooperation in labour-employer relations (WEF, 2018).

The OECD Index of Employment Protection is a multidimensional index that quantifies the strictness of Employment Protection legislation (EPL) across countries. It is scaled between zero to six, where zero refers to a low level of EPL and six to a high level of protection. New Zealand fares rather poorly in this index, ranking 31st among OECD countries with an index value of 1.41 for 2013 (for protection of permanent workers against individual dismissal). This is significantly below the OECD average of 2.03 for the same year. Countries with high levels of employment protection include Portugal (1st) and Germany (6th). Only three OECD countries (the United Kingdom, the United States and Canada) performed worse than New Zealand in this index (OECD, 2017c).

The 2018 *Doing Business* Economy Profile on New Zealand states that minimum wage in the country is US \$1'942.8 per month (World Bank, 2018c). OECD data states that New Zealand's real minimum wage for 2016 was US \$19'346.4 annually⁴. This puts the country 7th overall among OECD countries, just below countries such as Australia (3rd) and France (6th) (OECD, 2018c). Trade union density (ratio of trade union members in the work force) in New Zealand was 20.9 percent in 2012⁵, the 16th highest percentage among OECD countries for that year and slightly above the OECD average of 17.2 percent. Similarly to most other OECD countries, trade union density has been on the decline in New Zealand, although not as drastically as in many other countries. Trade union density was 22.4 percent in 2000, falling to 18.7 percent by 2014 (OECD, 2017d).

Table 2: Labour force participation rate, unemployment rate by age 2016

Age Group	Labour force participation rate		Unemployment rate	
	New Zealand	OECD average	New Zealand	OECD average
Total (15-64 years)	79.9	71.7	5.3	6.5
Youth (15-24 years)	62.6	47.2	13.2	12.9
Adults (25-64 years)	84.7	77.3	3.7	5.6

Source: OECD (2018d).

⁴ Constant PPP, 2015 US Dollars.
⁵ Most recent year with complete data available.

Table 2 shows the labour force participation and unemployment rates for 2016, split by various age groups. The OECD averages for these rates are included for comparison. New Zealand performs significantly better than the OECD in terms of labour force participation, particularly in terms of youth participation (62.6 vs 47.2 percent). Youth unemployment, on the other hand, is higher in New Zealand relative to the OECD as a whole, but only by 0.3 percentage points. Total and adult unemployment is lower in New Zealand.

The 2017 OECD Economic Outlook notes that both the labour force and employment levels have seen large gains in recent years. However, employment has increased at a faster rate, which has led to recent decreases in the unemployment rate. It credits this to significant recent increases in the minimum wage, and projects that the current unemployment rate is not expected to fall much further than its current level (OECD, 2017e).

Another OECD report notes that a major employment-related issue in New Zealand is the lack of a public unemployment insurance system. The means-tested system that the country employs implies that most individuals do not qualify for unemployment benefits, and about half of displaced workers do not receive redundancy pay (OECD, 2017b).

Table 3: Labour force participation rate, unemployment rate by educational attainment 2015 (persons aged 25-64)

Education Level	Labour force participation		Unemployment rate	
	New Zealand	OECD average	New Zealand	OECD average
Less than upper secondary education	73.7	63.6	6.2	11.7
Upper secondary level education	85.4	80.1	4.8	6.8
Tertiary education	89.9	88.0	2.8	4.5

Source: OECD (2017f).

Table 3 shows labour force participation and unemployment rates for 2015⁶, this time organized by level of education. New Zealand once again outperforms the OECD average across all measures. The country’s labour force participation for individuals with less than upper secondary education is significantly higher, while the difference in rates lessens as we move up in education level. In terms of unemployment, the difference is once again largest at the lowest education level, while the differences at the next two education levels are approximately the same. It is worth noting however that New Zealand’s unemployment rates

⁶ Only Year included in OECD Employment Outlook 2017 Dataset

are almost half of those of the OECD in the cases of less than upper secondary education and tertiary education.

1.2.2 The Youth Labour Market

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI) to compare how adolescents participate in the labour market across countries (Renold et al., 2014). The foundation for this index is the critique that a single indicator, such as the unemployment rate, does not suffice to describe the youth labour market adequately nor provide enough information for a comprehensive cross-country analysis. To increase the amount of information analysed and to foster a multi-dimensional approach, the KOF YLMI consists of twelve labour market indicators⁷ that are grouped into four categories.

Dimensions of the KOF YLMI
<p>Activity state</p> <ul style="list-style-type: none"> - Unemployment rate - Relaxed unemployment rate⁸ - Neither in employment nor in education or training rate (NEET rate)
<p>Working conditions</p> <p>Rate of adolescents:</p> <ul style="list-style-type: none"> - with a temporary contract - in involuntary part-time work - in jobs with atypical working hours - in work at risk of poverty⁹ - vulnerable employment rate¹⁰
<p>Education</p> <ul style="list-style-type: none"> - Rate of adolescents in formal education and training - Skills mismatch rate
<p>Transition smoothness</p> <ul style="list-style-type: none"> - Relative unemployment ratio¹¹ - Long-term unemployment rate¹²
<p>Source: Renold et al. (2014).</p>

The first category describes the *activity state* of youth (ages 15-24 years old) in the labour market. Adolescents are classified according to whether they are employed, in education, or neither (unemployed, discouraged and neither in employment nor in education or training; see info box to the right). The category *working conditions* and the corresponding indicators reflect the type and quality of jobs the working youth have. The *education* category accounts for the share of adolescents in education and training and for the relevance of their skills on the labour market. The fourth category, *transition smoothness*, connects the other three categories by capturing the school-to-work transition phase of the youth. Each country obtains a score of 1 to 7 on each particular indicator of the KOF YLMI. A higher score reflects a more favourable situation regarding the youth labour market and a more efficient integration of the youth into the labour market.

⁷ The data for these indicators are collected from different international institutions and cover up to 178 countries for the time period between 1991 and 2012.

⁸ It is calculated as the number of unemployed and discouraged workers as a share of the entire labour force. Discouraged workers have given up the search for work (not actively seeking), although they have no job and are currently available for work (also: “involuntary inactive”).

⁹ Those who cannot make a decent living out their earnings, being at risk of poverty as a percentage of the working population.

¹⁰ Share of the employed population working on their own account or those working in their family business and thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.

¹¹ Is defined as the youth unemployment rate (15-24 years) as a share of the adult unemployment rate (25+). If the youth cohort is affected in the same way than the adult group with respect to unemployment, then the relative unemployment ratio will be equal to one. If the youth are relatively more affected, then the ratio will be bigger than one.

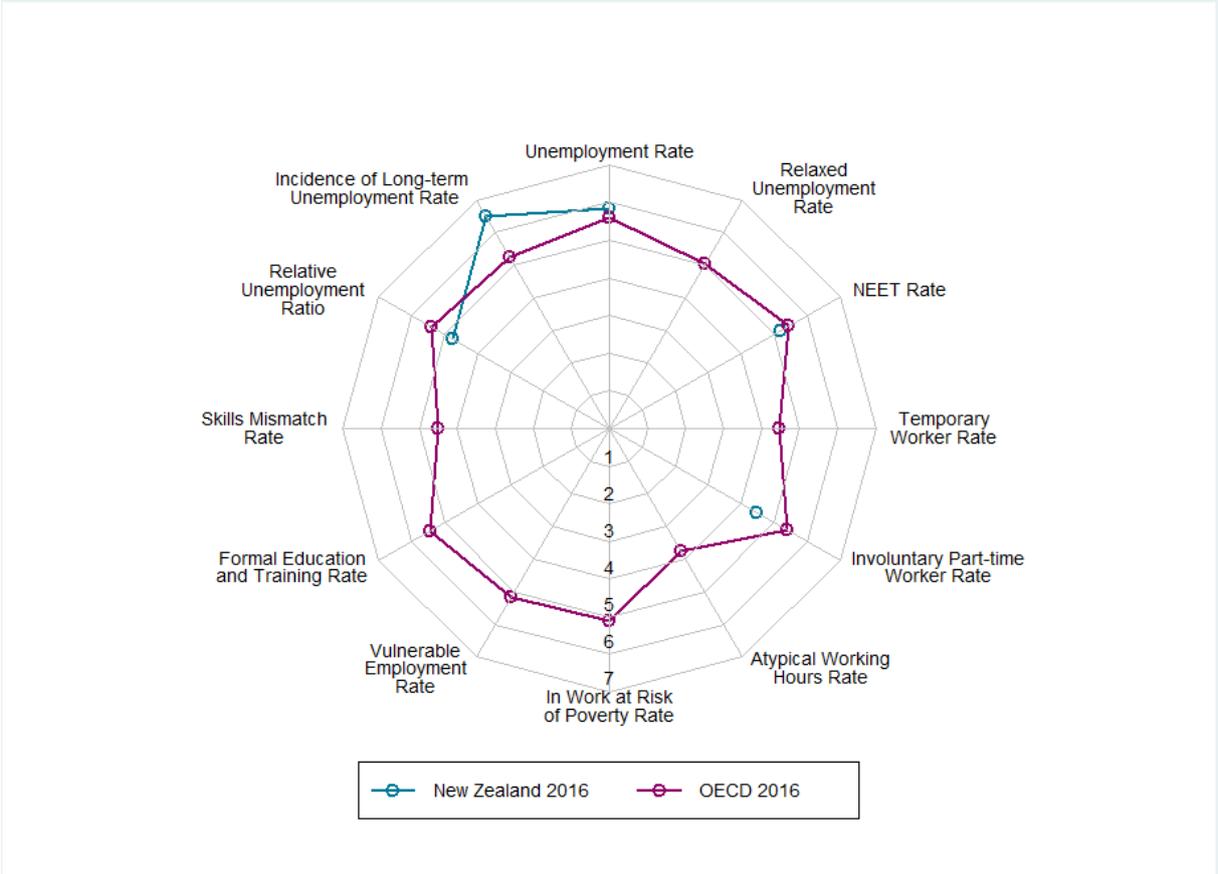
¹² Those unemployed for more than one year (52 weeks) in the total number of unemployed (according to the ILO definition).

One of the major drawbacks of the KOF YLMI is data availability. When data is lacking, a category can occasionally be based on a single indicator or must be omitted entirely when not a single indicator for that category exists in a given country. A lack of indicators can make comparisons across certain countries or groups of countries problematic and sometimes even impossible.

1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for New Zealand

Unfortunately, only six out of the possible twelve indicators had available data for New Zealand (for the entire period 2004-2016). The indicators with data available were unemployment rate, NEET rate, involuntary part-time worker rate, vulnerable employment rate, relative unemployment ratio and incidence of long-term unemployment rate.

Figure 2: KOF YLM Spiderweb for New Zealand and OECD in 2016

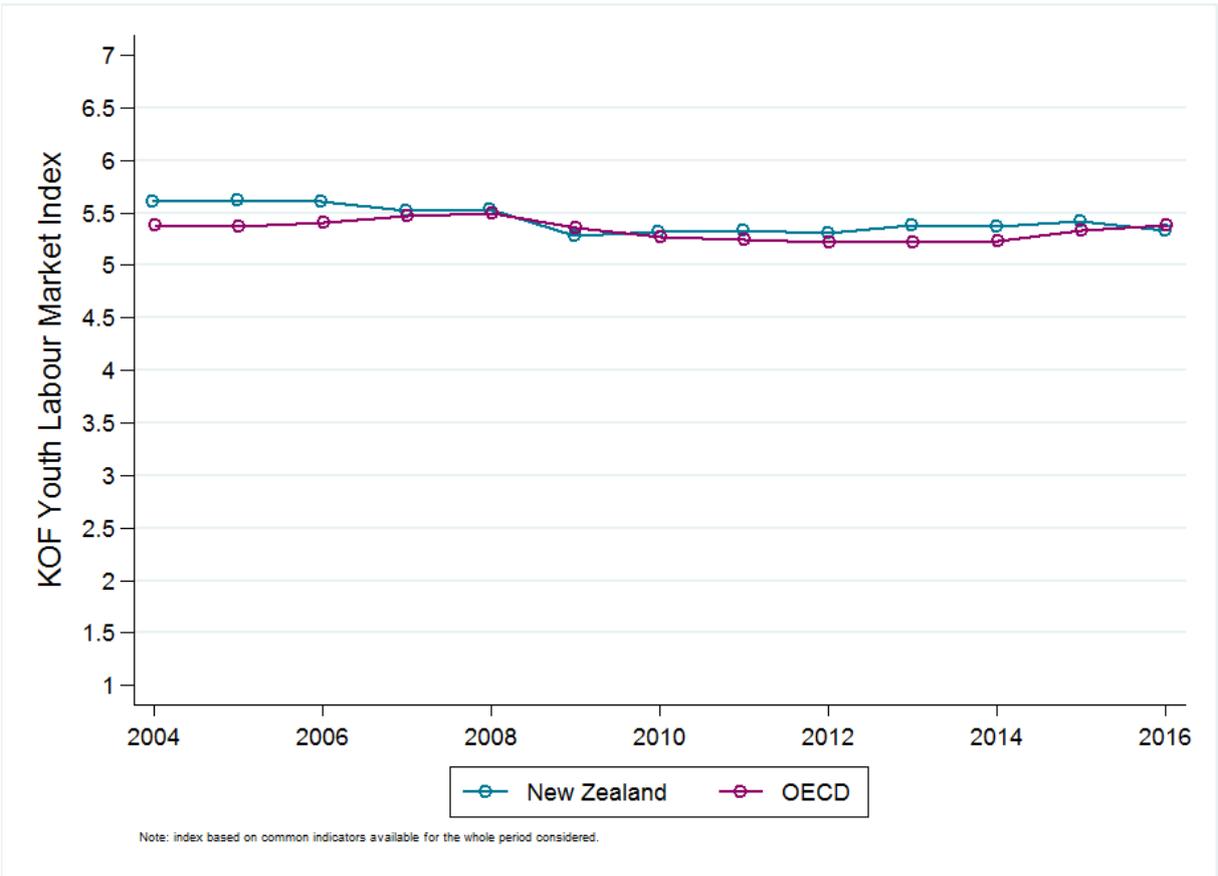


Source: KOF Swiss Economic Institute (2018).

Figure 2 shows the KOF YLMI spiderweb chart for New Zealand and the OECD for the year 2016. New Zealand’s overall index (average across all indicators) was 5.32 in 2016, below the OECD average of 5.38. In terms of the individual indicators, New Zealand performs better only in the incidence of long-term unemployment (6.48 compared to 5.25), but worse in all the other available indicators. New Zealand’s worst categories are involuntary part-time worker rate

(4.48 relative to 5.41 for the OECD) and relative unemployment ratio (4.77 relative to 5.38). Any comparison of the overall index should be made with caution, considering half of the indicators are missing. Furthermore, among the missing indicators are two education/training related categories, the formal education and training rate and the skills mismatch rate. Considering New Zealand's strengths in education relative to the OECD (see 1.3.2), one could surmise that the inclusion of these variables may have led to a more favourable outcome in the overall index.

Figure 3: YLM-Index over time, 2004-2016



Source: KOF Swiss Economic Institute (2018).

Figure 3 shows the value of the KOF YLMI for New Zealand and the OECD over time from 2004 to 2016, using the data from the six previously mentioned indicators with available data. The graph shows that New Zealand had a higher index value than the OECD every year from 2004 to 2008. New Zealand's index however fell steadily from 2005 to 2009, while the OECD index gradually rose to its peak in 2008 (5.50) falling slightly in 2009 (while still being marginally higher than the index for New Zealand). The index for New Zealand rises thereafter, and has a higher value than the OECD every year until 2016. New Zealand's lowest and highest index values in the time period were in 2009 (5.28) and 2005 (5.60) respectively. The OECD posted it's lowest index value in 2013 (5.22) and it's highest in 2008 (5.50).

1.3 The Political System

Understanding the basics of a country's political system and getting to know the political goals with respect to its education system are crucial points for the understanding of the education system in a broader sense. In the first part, we explain New Zealand's political system in general. The politics and goals regarding the education system will be referred to in the second part.

1.3.1 Overview of New Zealand's Political System

New Zealand's political system is a constitutional monarchy and operates under a parliamentary government. As in many other democratic countries, there are three branches of government: the legislature (parliament), the executive branch and the judiciary. The parliament of New Zealand is unicameral, meaning there is only one chamber. It is known as the House of Representatives. The parliament uses a mixed member proportional representation voting system. Each voter in a parliamentary election may vote twice. One vote is for a specific member of parliament, and the second vote is for a political party. These parties are then represented proportionally to the share of votes received in the "party vote" (the aforementioned second vote) (New Zealand Parliament, 2018).

The Economist Intelligence Unit publishes a Democracy Index every year, accumulating scores (out of 10) of 60 indicators in five categories in order to rate the democracy level of a country. In the 2017 edition of this index, New Zealand is rated very highly with a score of 9.26. This score ranks New Zealand 4th globally, and categorizes the country as a "full democracy". There were 19 full democracies in the 2017 index, including Norway (1st) Switzerland (9th) and the United Kingdom (14th). New Zealand is the highest ranked country in the Asia & Australasia category, ahead Australia (8th globally), which was the only other full democracy in the regional category. New Zealand's best categories were civil liberties (10.00) and electoral process & pluralism (10.00). It's worst category was political culture (8.13). New Zealand has never posted a score lower than 9.01 since the inception of the Democracy Index in 2006 (Economist Intelligence Unit, 2017).

The Worldwide Governance Indicators are a set of six indicators that evaluate different aspects of governance within a country. The six categories are voice & accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption. In the most recent set of these indicators (2016), New Zealand performed very well. The country ranked in at least the 97th percentile in every indicator and even ranked 1st overall (100th percentile) in the control of corruption indicator. It easily surpassed the averages for high-income OECD countries across all indicators (Kaufmann & Kraay, 2016).

Transparency International publishes a yearly Corruption Perceptions Index. The 2017 index ranked 180 countries by perceived corruption within the country, each country receiving a score out of 100, 100 meaning “very clean” and 0 meaning “highly corrupt”. New Zealand ranked 1st globally in the 2017 index, with a score of 89. It outscored countries such as Switzerland (tied 3rd), the United Kingdom (tied 8th) and Australia (tied 13th). Much like most countries in the index New Zealand’s score has been on the decline, dropping two points since it’s peak score of 91 recorded in 2013, 2014 and 2015 (Transparency International, 2018). Despite the high ranking, the country’s score was less than perfect. New Zealand had its share of corruption scandals in 2017, such as bribery cases involving Deloitte and Auckland Transport (Beckford, 2017).

1.3.2 Politics and Goals of the Education System

The education system in New Zealand is managed by the Ministry of Education. It was created under the 1989 Education Act. This legislation dissolved the ministry’s predecessor, the Department of Education (Ministry of Education, 2018a). The dissolution of the Department of education led to the division of national responsibilities between several new agencies. The Ministry of Education is responsible for the policy decisions of the education system, as well as the administration of the system and curriculum development.

New Zealand has ten “National Education Goals”, amended most recently in 2004. The goals relate to equal opportunity, development of skills and knowledge, broadness of education, recognition of qualifications among others. These goals can be read in more detail on the Ministry of Education website (Ministry of Education, 2015a).

The New Zealand Qualifications Authority (NZQA) is responsible for the New Zealand Qualifications Framework (NZQF), and reports directly to the ministry of education. It oversees the standards and quality of qualifications throughout education levels, such as the National Certificate of Educational Achievement (NCEA) as well as university level qualifications. It also is responsible for the recognition of New Zealand qualifications overseas and oversees qualifications in New Zealand (UNESCO, 2011).

Another agency with education system responsibilities is the Tertiary Education Commission (TEC). It is responsible for the management of the tertiary level of the education system. It was established under the 2002 Education Amendment Act. The TEC is responsible for all forms of post-secondary school education (UNESCO, *ibid*).

The most important reform with regard to New Zealand’s education system was the aforementioned 1989 Education Act. Aside from creating the ministries and agencies discussed above, it set out a blueprint for an overhaul of the entire education system in a report

titled *Tomorrow's Schools*. The legislation changed the governance of the education system, making it more decentralised by giving individual schools more responsibility and power over how they are run. More community involvement was also introduced, via the implementation of boards of trustees for every school made up of community members. In 2006, an amendment to the act was introduced. It implemented several policy changes, including a new regulatory system of early childhood education and some minor changes to improve the administration of the system (UNESCO, 2011).

The original 1989 Education Act also introduced the National Education Guidelines (NEG). These guidelines set out expectations and rules that schools (which recently gained more autonomy) were required to meet. The NEGs contained four subsets of goals/guidelines. The National Education Goals stated policy objectives, while the National Administration Guidelines gave direction to boards of trustees on management and administration of schools. The third subset, the National Curriculum Statements, related to skills and knowledge that should be taught in schools. The fourth and final set of guidelines were the Foundation Curriculum Policy Statements. These were policy guidelines for teaching and assessment in the education system (UNESCO, *ibid*).

The 1992 Industry Training Act implemented government policy on industry representation in training, it was amended in 2002 to improve the effectiveness and efficiency of the system of representation¹³ (UNESCO, *ibid*).

New Zealand can be said to have a strong education system relative to other OECD countries. It had the 4th highest graduation rate among OECD countries for upper secondary education in 2015 (95 percent), and the 2nd highest (behind Australia) for graduation from a bachelor's degree or equivalent (57 percent) (OECD, 2018e). It has also been a strong PISA performer since 2000. Students have consistently performed above the OECD average in subjects such as reading and science. New Zealand has low grade-repetition levels, and an inclusive curriculum in early childhood education and flexibility in terms of upper secondary education options (OECD, 2013). Furthermore, the previously discussed GCI ranks New Zealand highly in several education categories in its 2017-2018 index. The country ranks 7th globally in the higher education and training pillar (10th in quality of the education system, 2nd in internet access in schools) and 6th in the health and primary education pillar (7th in quality of primary education). (WEF, 2018).

¹³ This will be discussed in more detail in chapter 4.1, which discusses reforms related to VPET.

There are however some challenges that the education system of New Zealand faces. Its starting salary for teachers of US \$31,000 in 2015 was just below the OECD average for that year (US \$32,000) (OECD, 2018e). The comparatively low salary makes the teacher profession less attractive relative to other professions. Furthermore, the OECD notes that there are large gaps in performance between students. Most notable are issues surrounding ethnic and socio-economic backgrounds. The average effect of socio-economic background on school performance is above the OECD average. In addition, students from Māori and Pasifika ethnic groups may be less likely to finish secondary level education, and face worse school outcomes in general. The OECD Education Policy Outlook on New Zealand recommends that national and school level policy should revolve around improving access to education and educational performance of students from diverse backgrounds (OECD, 2013).

2. Formal System of Education

Figure 4 shows a map of the New Zealand education system in accordance with the 2011 International Standard Classification of Education (ISCED). In New Zealand, compulsory education begins at age six, although the majority of children begin their first year of primary school (year 1) at age five. Depending on the type of school a child attends, primary school ends after either year 6 or year 8 (age 10 or 12). A “full primary school” goes from year 1 to year 8, after which a child progresses to secondary school (year 9). A “contributing” primary school ends after year 6, after which there are two common paths. A student either attends years 7 and 8 at “intermediate school” before progressing to secondary school, or goes straight to a secondary school that begins at year 7 (Kiwi Families, 2018). Most secondary schools in New Zealand begin with year 9 and end in year 13. Compulsory schooling ends at age 16, when most students would be in (or about to start) year 12. There are also a handful of composite schools in New Zealand, which combine different levels of schooling, often times incorporating years 1-13 into one school. After secondary school, students who wish to further their education may choose between the academic and vocational pathways. Higher education would begin with a bachelor’s degree, which would typically last three years for most subjects. In some cases, a fourth year of study grants a bachelor’s with honours. Thereafter, a student can go on to study a graduate or postgraduate certificate or diploma (lasting one to two years), a master’s degree or a doctorate. The typical path one might take in further study is shown in Figure 4. A vocational education pathway begins with programs/courses leading to certificates of the New Zealand Qualifications Framework (NZQF)¹⁴. The level at which one might begin their vocational education depends on how much of secondary school (which covers levels 1-3 of the framework) a student has completed. At levels 5 and 6 of the framework, students can study both certificates and diplomas (diplomas usually last longer). Level 7 of the framework introduces graduate certificates and diplomas, which can be studied after the completion of a bachelor’s degree or when relevant experience is shown (NZQA, 2018a).

¹⁴ This is a national framework that organises all nationally recognised and regulated qualifications across ten levels. Levels 1-3 are covered when completing secondary school (or vocational certificates), while the highest level (level 10) covers a doctoral degree.

Figure 4: ISCED 2011 Mapping of New Zealand's Education System

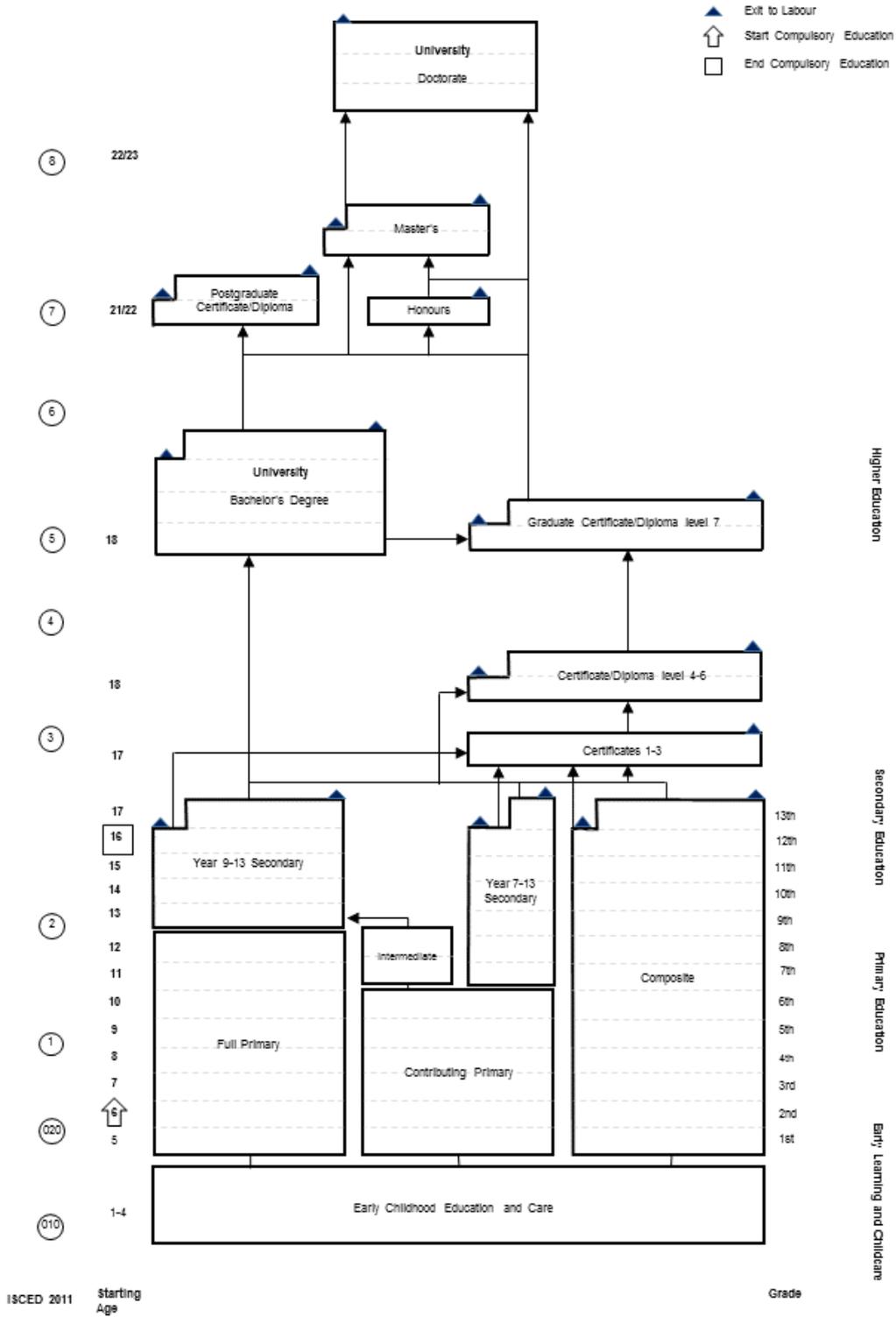


Table 4: Gross and net enrolment ratios by education level, 2015 (in %)

Educational level	ISCED 2011	Gross Enrolment Ratio	Net Enrolment Ratio
Early childhood educational development programmes	010	24.5	n/a
Pre-primary education	020	91.9	90.5
Primary education	1	97.9	97.7
Secondary education	2 – 3	114.7	95.3
<i>Lower secondary education</i>	2	102.2	97.0
<i>Upper secondary education</i>	3	130.5	86.5
Compulsory education age group	1-3	100.0	98.0
Post-secondary non-tertiary education	4	74.7	n/a
Tertiary education	5 – 8	80.6	n/a
<i>Short-cycle tertiary education</i>	5	n/a	n/a
<i>Bachelor or equivalent level</i>	6	n/a	n/a
<i>Master or equivalent level</i>	7	n/a	n/a
<i>Doctoral or equivalent level</i>	8	n/a	n/a

Source: UNESCO (2018).

Table 4 shows the gross enrolment ratio (GER) and net enrolment ratio (NER) by education level for the year 2015. The GER of 91.9 percent for pre-primary education (which is not compulsory) implies that slightly less than all pre-primary age children are enrolled in that level of education. The very similar inference can be made for the primary education level (97.9 %). The GER increases even more for secondary education, where almost exactly all lower secondary age students are enrolled in education (102.2 %). The GER for upper secondary education shows that more students than are in the age cohort attend this level of education (130.5 %). As can be expected, the ratio drops once secondary education ends. The non-tertiary and tertiary levels of education have GERs of 74.7 percent and 80.6 percent respectively¹⁵.

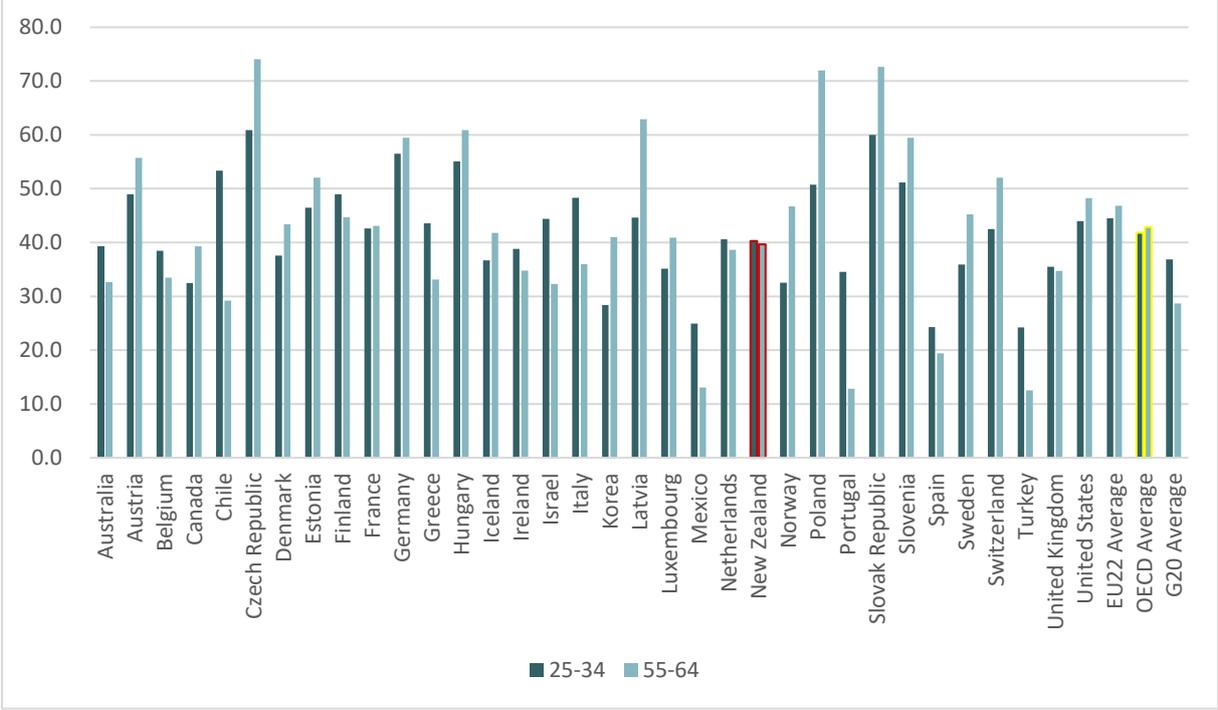
In terms of NER, New Zealand maintains high ratios across most education levels with data available. 98 percent of compulsory schooling age students are enrolled in education. The NER falls to 86.5 percent for upper secondary education, as compulsory education ends at the age of sixteen.

Relative to the rest of the world, New Zealand's GER (for secondary education) ranks 15th among 142 countries with data, behind Australia (2nd, 158.1 %) and the UK (9th, 125.5 %). In terms of overall GER (primary to tertiary), New Zealand ranks 9th among 103 countries with

¹⁵ A gross enrollment ratio of 100 corresponds to a situation where each child in a given country is enrolled in the corresponding education level. A value above 100 could occur due to students who are older than the typical enrolment age for primary education (e.g. have to repeat grade, adult learners). A value below 100 implies that not everyone who is in the typical age for primary education is actually enrolled.

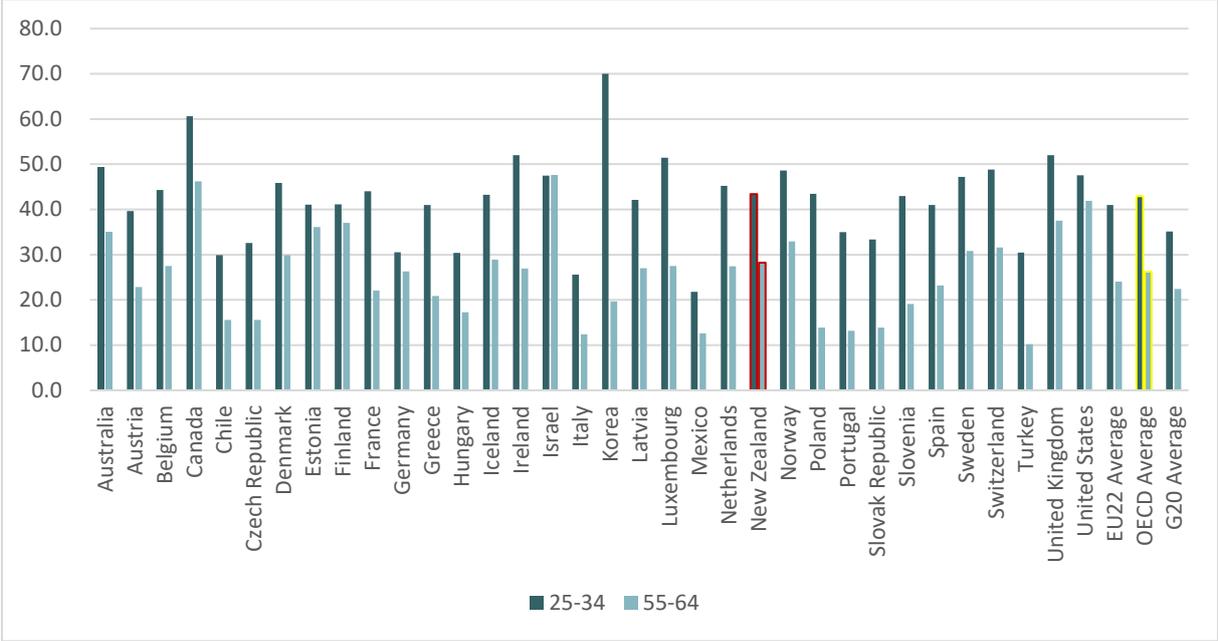
available data with a ratio of 103.3 percent. Other rankings include Australia (1st, 134.0 %), the UK (17th, 97.4 %) and Norway (15th, 98.3 %) (UNESCO, 2018).

Figure 5: Percentage of population that has attained upper secondary or post-secondary non-tertiary education in OECD countries (2016)



Source: OECD (2017).

Figure 6: Percentage of population that has attained tertiary education in OECD countries (2016)



Source: OECD (2017).

Figure 5 shows the percentage of the population that has attained upper secondary or post-secondary non-tertiary education for all OECD countries except Japan (which had no data available), split by two age groups (25-34 and 55-64 years old). New Zealand performs below the OECD average in both age categories, with percentages of 40.3 (relative to 41.8 %) for 25-34, and 39.7 (relative to 42.9 %) for 55-64. These percentages would rank New Zealand 19th among OECD countries for the 25-34 age group and 20th for the 55-64 age group.

Figure 6 shows the same percentages as in Figure 5 but for tertiary education. New Zealand fares much better in this regard, outperforming the OECD average in both categories (43.4 % versus 41.0 % for 25-34, 28.2 % versus 24.0 % for 55-64). These rank New Zealand at 17th and 13th among OECD countries for the two age groups respectively.

2.1 Pre-Primary Education

Pre-primary education in New Zealand is comprised of some form of early childhood care and teacher-led pre-school education such as kindergarten. It is non-compulsory, but early childhood care may start as early as the age of 2 for some children. Compulsory education begins at age 6, although most children will be enrolled in their first year of primary education by age 5 (UNESCO, 2011).

There are various types of pre-primary education in New Zealand, and reportedly over 5,000 childcare and pre-school facilities in the country. According to the Ministry of Education, these can be divided into two categories, teacher-led services and parent-led services. Teacher-led services include kindergarten and other similar early education services. To qualify as a teacher led service, 50% of supervising employees must be qualified early childhood education teachers. Parent-led services such as playcentres and Kōhanga Reo (Māori cultural care/playcentres) are more care-oriented services, but must still be licensed and registered with the government (New Zealand Now, 2018b). All of these services (teacher or parent-led) may be publicly or privately provided. In 2016, a reported 46.4 percent of pre-primary education providers were privately owned, while the rest were publicly/community owned (Walters, 2016).

In New Zealand, the first twenty hours of pre-primary education are government funded for all children in the country regardless of nationality or visa status. Eligibility for this funding begins at age three and ends at age five. After these twenty hours fees are charged by providers.

These charges can vary. In 2015, kindergartens charged on average NZ\$5-6 per hour¹⁶, while playcentres charged up to NZ\$50 for a term of ten weeks (New Zealand Now, 2018b).

According to Table 4, 90.5 percent of all pre-primary age children are enrolled in the corresponding education level in New Zealand.

2.2 Primary Education

Primary education in New Zealand begins with year 1, which most children will begin at age 5. Compulsory schooling however only begins at age 6 (although 6 year olds who have not yet entered school would still begin with year 1). There are no criteria for admission into primary school. As mentioned earlier in chapter 2, primary school ends after year 8 (around age 12) for children attending a full primary school, while in a contributing school, primary education ends after year 6, at which point students progress to either a secondary school or an intermediate school for years 7 and 8. (UNESCO, 2011).

Most primary schools in New Zealand are full primary schools. There were 1,064 full primary schools in the country in 2017, compared to 764 contributing schools and 117 intermediate schools (there were also 173 composite schools (167 of which included all years from 1-13) (Education Counts, 2018a)). The vast majority of all schools (primary and secondary) are public schools provided by the government. These are free for domestic students up to the age of nineteen. Costs that parents may incur for public schools include uniforms, exam fees and extra-curricular activities such as field trips (If a trip is part of the core curriculum, children may take part without extra cost). Around 10% of all students in New Zealand are enrolled in state integrated schools. These are schools that are associated with a particular religion (such as Catholicism) or teaching method (such as Montessori). These schools also receive funding from the government, but usually charge compulsory fees as well. A student attending a state integrated school can expect to pay around NZ\$1,500 per year¹⁷. Under 5% of children in New Zealand attend private school, many of which may be boarding schools. Private schools receive no funding from the government. Yearly fees for a private school in New Zealand are around NZ\$20,000 per year (New Zealand Now, 2018c).

Public schools in New Zealand are funded by the government through four main streams. These are staff salaries, operations grants, school property funding and transportation assistance. If a school's board of trustees chooses to do so, it may receive staff salaries as a lump sum and allocate to staff as it sees fit (NCEE, 2018). In 2014, New Zealand spent

¹⁶ Approximately US\$3.50-4.10 per hour, exchange rate (as of 15.05.18) of 1 NZ\$ to 0.69 US\$

¹⁷ Approximately US\$1,035, exchange rate (as of 15.05.18) of 1 NZ\$ to 0.69 US\$

US\$7438.4 on primary education per student, 20th among OECD countries with data for that year. This ranked the country behind Australia (17th, US\$8,251.5) and the UK (4th, US\$11,367.4) (OECD, 2018e).

The most recent version of the national school curriculum in New Zealand was launched in 2007. It is composed of two documents, *The New Zealand Curriculum* and *Te Marauntanga o Aotearoa*. These are equivalent documents for English speaking and Māori speaking schools. The curriculum covers all school years from 1 to 13, and applies to all state and state integrated schools. The curriculum is the basis for which each school must define its individual curriculum. The curriculum is comprised of several sections, including Vision, Values, Key Competencies and Learning Areas. These sections set out various areas considered to be of importance to a child's education. Vision is described as the curriculum's vision for young people. It wished for students to be confident, connected, actively involved and lifelong learners. Similarly, the Values section describes the values that should be encouraged in school. These are excellence, innovation, inquiry, curiosity, diversity, equity, communication, participation, ecological sustainability and integrity. There are five key competencies that the curriculum sets out for students to be successful learners. These competencies are thinking, using language, symbols & texts, managing self, relating to others and participating & contributing. Finally, there are eight learning areas the curriculum defines as essential in schools. These are English, the arts, health & physical education, learning languages, mathematics & statistics, science, social sciences and technology (TKI, 2018). While equivalent to the English based curriculum, the Māori *Te Marauntanga o Aotearoa* curriculum has more focus on the strengthening of Māori culture and the achievement of Māori students (TeachNZ, 2018).

Primary education in New Zealand has no entry requirements other than a birth certificate or passport (as proof of age) and a copy of an immunisation certificate (Ministry of Education, 2018b).

Table 4 shows that primary education in New Zealand has an NER of 97.7 percent, meaning almost all primary school aged children are enrolled in school.

2.3 Lower and Upper Secondary Education

There is no distinction in New Zealand as to when lower secondary education ends and upper secondary education begins. Secondary school (also often known as high school or college) is comprised of either years 9 to 13 or years 7 to 13. According to the ISCED classification however, upper secondary education in New Zealand begins with year 11. Most students begin secondary school either at age 11 (year 7) or 13 (year 9). School enrolment is mandatory up

to the age of 16. This would typically be sometime during or after year 12 for most students (New Zealand Now, 2018c).

As previously mentioned, there are slightly different types of secondary schools a student may attend. Of the 374 registered secondary schools in New Zealand in 2017, 111 were year 7-13 schools, 238 were year 9-13 schools and 25 were special types of schools. As mentioned in section 2.2, there were also 173 composite schools registered (years 1-13) in 2017 (Education Counts, 2018a). As in primary education, the vast majority of secondary schools in New Zealand are public, along with a small number of private and state integrated schools (New Zealand Now, 2018c).

Government funding, fees and other school costs work in the exact same way as in primary education in New Zealand (see 2.2). In 2014, New Zealand spent US\$10,266.7 per student on secondary education, 18th among OECD countries with data for that year. Ranked ahead of New Zealand were countries such as Australia (13th, US\$11,022.8) and the UK (7th, US\$12,451.7) (OECD, 2018e). The aforementioned national curriculum in New Zealand covers all school years from 1 to 13 and is described in section 2.2.

Entry to secondary school in New Zealand is contingent only on the completion of primary education (New Zealand Now, 2018c). Starting in upper secondary school (year 11), students may start choosing vocational courses alongside general subjects. Many schools also have programs in which students can transition from secondary school to vocational education providers. Vocational education will be discussed in more detail in chapter 3. In 2016, 30.5 percent of upper secondary school students in New Zealand were enrolled in a vocational program. This ranked as 38th globally out of the 87 countries with available data, well below other developed countries such as Australia (15th, 56 %) and the Netherlands (10th, 67.5 %) (UNESCO, 2018).

Upon completion of secondary school, a student will receive a leaving certificate known as the National Certificate of Educational Achievement (NCEA). The certificate is comprised of three levels, which correspond to the first three levels of the New Zealand Qualifications Framework. The first level is typically studied in year 11, the second in year 12, and the third and final in year 13 (NZQA, 2018b). Schoolwork that goes towards the NCEA is assessed both internally and externally. There are national external exams that students must take that are marked by the NZQA. Internal assessments such as essays and tests are marked by teachers, which in turn are moderated by the NZQA to ensure a national standard (CareersNZ, 2018a).

Lower secondary education in New Zealand has an NER (in Table 4) of 97.0 percent, meaning almost all lower secondary school age students are enrolled in school. Upper secondary

education has a lower NER of 86.5 percent, which can be attributed to mandatory schooling ending at 16.

2.4 Postsecondary/Higher Education

Postsecondary education in New Zealand would begin around the age of 18 for most students. The higher education pathway begins with a bachelor's degree, which should last for three years (sometimes a bachelor's with honours requires four years of study). Thereafter students can pursue further academic qualifications such as graduate certificates/diplomas, postgraduate certificates/diplomas, master's degrees or doctoral degrees. All of these qualifications are a part of the aforementioned New Zealand Qualifications Framework. Bachelor's degrees, as well as graduate certificates and diplomas, sit on level 7 of the framework. Postgraduate certificates and diplomas are on level 8, master's degrees on level 9 and doctoral degrees on level 10 (the highest level of the framework). Vocational postsecondary study will be discussed further in chapter 3.2 (NZQA, 2018a).

There are eight universities (as well as various polytechnics and institutes of technology) in New Zealand, offering various higher education qualifications. All of these institutions are run autonomously and funded by the government. Government funding accounts for 42 percent of universities' income in New Zealand. This funding comes through tuition grants Student Achievement Component (SAC) funding and Performance Based Research Funds (PBRF) (Universities New Zealand, 2018a). SAC funding is government funding for direct teaching costs and other costs related to student numbers. Allocation is decided by the Tertiary Education Commission (TEC). SAC funding is the largest component of tertiary education funding in New Zealand (Education Counts, 2018b). PBRF funding relates to the research performance of a university. Universities are assessed on their quality of research and then allocated funding accordingly by the TEC (TEC, 2018a). 30 percent of funding comes from research and other revenue such as commercialisation (Universities New Zealand, 2018a).

The final 28 percent of a universities income stems from tuition fees. The eight universities in New Zealand set their own fees, which can vary considerably by course. A domestic student can expect to pay between NZ\$10,000 and NZ\$25,000 per year¹⁸ for an undergraduate degree and between NZ\$10,000 and NZ\$30,000¹⁹ per year for a postgraduate degree. A government policy beginning in 2018 has made domestic students (under other criteria) eligible for one year of fee-free study in New Zealand, with the hopes of increasing this to three years by 2024

¹⁸ Approximately US\$6,900-17,250 per year, exchange rate (as of 15.05.18) of 1 NZ\$ to 0.69 US\$

¹⁹ Approximately US\$20,700, exchange rate (as of 15.05.18) of 1 NZ\$ to 0.69 US\$

(Fees Free, 2018). International students pay considerably higher fees than domestic students. International fees for undergraduate degrees range from NZ\$20,000 up to NZ\$75,000²⁰ for certain degrees such as dentistry and medicine (THE, 2018). Financial help via student loans, scholarships and grants is available from the New Zealand Government (New Zealand Government, 2018a).

Curriculum and assessment for each qualification are specific to study area and university. There are two general admission requirements to attend university in New Zealand (there may also be course specific entry requirements). The first requirement is completion of level 3 of the NCEA (completed during year 13 of secondary school). The second entrance requirement relates to obtaining credits in literacy, numeracy and specific subjects in school. Students who do not meet the university entrance requirements (whether through lack of achievement or a different school system) may be eligible for discretionary entrance based on other requirements (NZQA, 2018c). Universities are regulated and quality assured by Universities New Zealand, a statutory body authorised under the 1990 Education Amendment Act (Universities New Zealand, 2018b).

Table 4 shows the GER for tertiary and post-secondary non-tertiary education. Tertiary education has a GER of 80.6 percent, meaning a large percentage of tertiary education age individuals are enrolled in some kind of tertiary education. Post-secondary non-tertiary education has a slightly lower GER of 74.7 percent, which offers a similar interpretation.

2.5 Continuing Education (Adult Education)

Adult and community education in New Zealand is based on improving foundational skills and offering pathways into different professions. Adult education is funded by the Tertiary Education Commission of New Zealand. The commission has set out priorities for adult education, which include targeting learners who were not successful in their initial education, raising foundational skills of learners, and strengthening a learner's ability to participate in social and economic life (TEC, 2018b). Funding for Adult Education was cut significantly in 2009, what funding remained was focused on foundational skills classes such as literacy and numeracy, non-vocational courses were forced to charge higher fees, and many providers closed their programmes for adult education. Providers that no longer received funding had to rely on grants or other funding from various government departments. According to *Te Ara*²¹,

²⁰ Approximately US\$13,800-51,750 per year, exchange rate (as of 15.05.18) of 1 NZ\$ to 0.69 US

²¹ *Te Ara* is an online Encyclopedia of New Zealand run by the Ministry for Culture and Heritage.

enrolment in evening and weekend adult education classes dropped from 153,746 students in 2009 to 22,503 students in 2013 (Te Ara, 2018).

Adult education is most commonly provided in schools, communities (including local organisations, private training providers and rural education activity programs), institutes of technology and polytechnics (vocational education providers) and Wānanga (Māori education provider). A 2016 OECD report shows that the population in New Zealand has a high rate of adult learning. The report states that 68 percent of individuals aged 25 to 64 participated in some form of formal or non-formal education in 2016. Furthermore, participation in non-formal forms of education (64 percent of adults) was well above the OECD average (46 percent of adults) in 2016 (Ministry of Education, 2016a).

2.6 Teacher Education

In order to become a teacher in New Zealand, candidates must complete an Initial Teacher Education (ITE) program. These programs can be completed on a campus or online, as well as full-time or part-time. There are ITE programs for specific schooling areas such as early childhood, primary and secondary, as well as certain programs that allow you to choose as you progress through the course (Education Council, 2018a).

An ITE program leads to a teaching qualification located at level 7 of the NZQF, and allows you to teach at any school in New Zealand (relative to the age group specialized in). Programs mix pedagogical theory, curriculum learning, practical experiences and cultural studies to provide a well-rounded teacher training. Programs are offered in two main ways. At the undergraduate level, one may complete a three or four year bachelor's degree (or diploma for early childhood education). A one year graduate diploma is also available to those with a relevant qualification at level 7 (bachelor's degree, graduate certificate/diploma) or above of the NZQF (ibid).

ITE programs are offered at universities, polytechnics and institutes of technology. There are 156 nationally approved ITE programs across New Zealand, offered by 25 different providers. Funding, fees and entry requirements work in the same way as other higher education courses (see 2.4). ITE candidates must also meet an English language competency requirement, administered as a literacy assessment (ibid).

Upon completion of an ITE program, an individual must apply to the Education Council to become a fully certified and practicing teacher. Once certified, a teacher is not restricted to a specific sector of education (regardless of which sector they specialised in). Provisional certification is awarded to newly qualified teachers who do not yet have enough experience,

and have not been assessed as meeting all of the *Standards for the Teaching Profession*, a set of standards created by the Education Council, which set out the expectations for all teachers (Education Council, 2018b). A fully practising certification is awarded upon completion of at least two years of teaching, an induction and mentoring program (a provisionally certified teacher is paired with an experienced teacher for guidance, support and feedback (Education Council, 2018c)), and assessment of meeting the aforementioned *Standards for the Teaching Profession*. Once a full certification has been obtained, it must be renewed every three years, a provisional certificate also expires after three years (Education Council, 2018d).

3. The System of Vocational and Professional Education and Training

This section of the Factbook describes the vocational education and training (VET) system at the upper secondary level and the professional education and training system (PET) at the tertiary level in more detail. Thereby, the term vocational and professional education and training (VPET) refers to both, the VET and the PET system.

3.1 Vocational Education and Training (VET; Upper Secondary Education Level)

All formal and nationally recognised forms of VET and PET (and other tertiary qualifications) are part of the aforementioned New Zealand Qualifications Framework. There are ten levels to the framework, seven of which apply to vocational education and training. Vocational qualifications included in the framework are certificates (located at levels 1-6), diplomas (levels 5-7) and graduate certificates/diplomas (both located at level 7). Despite the hierarchy in qualifications, the levels of the framework do not necessarily represent any kind of mandatory progression through the system. The level at which a qualification is located indicates the skills and knowledge that are expected of a student upon completion of a course. For example, level 1 represents basic foundational knowledge and skills, while level 5 represents broad operational, technical and theoretical knowledge in a certain field. Level 10 of the framework (a doctoral degree) indicates “knowledge at the most advanced frontier of a field of study or professional practice” (NZQA, 2018a).

The New Zealand vocational education system does not differentiate between vocational and professional education and training. However, the previously mentioned NCEA (national school leaving qualification) covers levels 1 to 3 of the NZQF. Vocational certificates at levels 1 to 3 of the framework can therefore be said to be at the upper secondary level, and all levels thereafter would be at the postsecondary level (ibid).

Certificates at level 1 and 2 are the most basic qualifications, and tend to be focused around foundational skills and basic training for a certain sector. Entry requirements are usually minimal. Some courses have no entry requirements (apart from being at least 16 years of age), while some specify a certain minimum proficiency in the English language. Level 3 certificates have slightly stronger requirements such as completion of a related certificate at a lower level or literacy and numeracy level. Certificate courses vary in length, usually from 3 months up to a year (CareersNZ, 2018b; SIT, 2018a; UCOL, 2018).

At the upper secondary level, vocational education and training is offered in schools, as well as institutes of technology and polytechnics (ITPs), private training providers and Wānanga. In schools, students may specialise in vocational subjects, or take vocational courses that count towards a certificate alongside other general subjects. This is often provided in conjunction with a program that bridges a student's vocational education with a post-secondary training provider, where a student may continue their vocational education after they have finished school (UNESCO, 2012). Since compulsory schooling ends at age 16, students may leave school before their final year (or even before/during their penultimate year) of school. Certificates at the upper secondary level are therefore also provided by other training providers.

The most prominent vocational education providers are ITPs. There are 16 ITPs in New Zealand, providing vocational courses from the certificate to diploma levels. They provide training focused on practical skills and experience, teaching in facilities designed to reflect real workplaces (Education New Zealand, 2018). ITPs are state owned training institutions (NZQA, 2018d). Private training providers (i.e. not state owned) are equivalent (and usually smaller) organisations that provide vocational education (NZQA, 2018e). These also offer diploma and certificate courses, but often in slightly more niche fields/occupations (UNESCO, 2012). There are around 550 registered private training providers in New Zealand (Ministry of Education, 2018c). A third type of training organisation, Wānanga, are training institutions recognised under the Education Act of 1989. They provide education in a Māori context, focusing on Māori tradition and customs (NZQA, 2018f).

As previously mentioned, certificate 1-3 of the NZQF are introductory courses. As stated by the NZQA, certificates at level 1 provide students with basic knowledge and work skills. Level 2 certificates provide students with slightly more specific but still introductory knowledge and skills for an area of work. They will learn to apply standard processes and apply literacy and numeracy skills relevant to the field of work. During a level 3 certificate, students will learn to demonstrate more operational and theoretical knowledge in a field, learn further standard processes and communication skills, demonstrate more individual responsibility for learning, and apply a range of solutions to familiar problems (NZQA, 2018g). While literacy and numeracy are often components of these certificates, they can still be said to be very occupation specific.

This can be said of the VET and PET system in New Zealand as a whole. Programmes are industry specific with a large practical teaching component, taking place in workplaces such as laboratories, hospitals and workshops. Whether these are simulated workplaces or actual workplaces can vary by program and training provider. Some courses may include a placement

at an actual workplace, while some training providers may offer practical training in facilities similar to real workplaces (see 3.5.2). Many qualifications include compulsory work experience elements, such as internships, apprenticeships, on the job training and cooperative learning in a workplace. Overall, all courses and qualifications are designed to provide practical knowledge that applies directly to work related environments (UNESCO, 2012). The system is highly regulated (by the NZQA), described by the OECD *Learning for Jobs* report operating a tight qualifications design that is strongly regulated and applies common rules across all qualifications (OECD, 2010). In terms of collaboration between government bodies and stakeholders, New Zealand cooperates strongly with industry and union representatives, academic and professional groups and other organisations in order to identify gaps and shortages in skills, fill training needs and improve the VPET system as a whole. Collaboration with industry partners is mainly conducted through Industry Training Organisations (ITOs). These organisations represent specific industries and stakeholders in collaboration efforts with government bodies. There are 11 registered ITOs in New Zealand (Ministry of Education, 2018c). The functions and responsibilities of ITOs will be discussed further in section 3.3 (UNESCO, 2012; Blumenfeld, 2017).

With regard to the above paragraph, the New Zealand VET and PET system can be said to be of a high quality and to be highly standardised and organised. This level of standardisation could be said to be comparable to that of the Swiss system. Qualifications (as well as the system as a whole) are highly regulated and organized, and provide students with industry specific knowledge and skills (as well as more general skills in lower level certificates), provided in a classroom, in the workplace, and in training facilities designed to replicate a workplace environment. Government bodies relevant to the system collaborate heavily with industry partners such as ITOs, as well as experts such as academic and professional groups.

In a 2013 national census, it was reported that around 13 percent of individuals in New Zealand had a level 1 certificate as their highest qualification. Just over 10 percent had a level 2 certificate, and just under 10 percent had a level 3 certificate. The percentage of individuals with a level 3 certificate slightly increased from the last recording of data (2006 census), while the percentage of individuals with a level 2 certificate (and percentage for level 1) declined slightly (StatsNZ, 2013). In 2017, around 157,000 individuals were registered in formal VPET programs (Education New Zealand, 2018).

3.2 Professional Education and Training (PET; Post-Secondary Level)

Post-secondary vocational education in New Zealand begins at level 4 of the NZQF (the composition of which is explained in the first two paragraphs of 3.1). Different vocational

certificates are located at levels 1-6 of the framework, and vocational diplomas are located at levels 5-7. Also located at level 7 (the same level as a bachelor's degree) are graduate certificates and diplomas. For bachelor's degree holders, these qualifications are designed as "bridging qualifications" for those who may wish to change their career area or go on to postgraduate study in a different field. From a vocational perspective, they are also designed to develop vocational/professional knowledge and skills within a profession/subject area. (NZQF, 2018g; Manukau Institute of Technology, 2018a). These qualifications can therefore be considered to be of an academic as well as vocational nature.

Entry requirements can vary considerably by level, field of study and qualification type. Qualifications at levels 4-6 typically have basic entry requirements similar to those of level 3 certificates (see 3.1), as well as additional requirements. These requirements can include relevant work experience, completion of a related certificate at a lower level, or an interview to discuss previous learning/occupational experience (Manukau Institute of Technology, 2018b). Students who have completed certain levels of the NCEA are also eligible for entrance to certain qualifications as an alternative to previous experience or vocational certificate completion (Ara, 2018; NZIHT, 2018). Level 7 qualifications typically have more stringent entry requirements (on top of previously stated requirements such as an interview or NCEA completion). Level 7 diplomas and certificates often require a relevant level 6 qualification or a bachelor's degree (not necessarily related to the subject of the diploma), as well as a certain amount of relevant work experience (often between two and four years) (KITE, 2018; EDENZ, 2018). Graduate certificates and diplomas generally require either a university degree, or a level 6 or 7 qualification (certificate/diploma) and several years' work experience (NZQF, *ibid*; Manuaka Institute of Technology, *ibid*). Certificates at levels 4 to 7 usually take between a few months and a year to complete. Diplomas typically require a longer study duration, usually between one and two years. Graduate certificates generally require one semester of study, while graduate diplomas require one full year of study (CareersNZ, 2018b).

PET provision in New Zealand works in the same way as VET (see 3.1). One small difference is that graduate certificates and diplomas (level 7 qualifications) are also offered by universities, as they are commonly studied by degree holders (CareersNZ, 2018b). ITPs, Wānanga and private training establishments provide courses in all qualifications up to graduate certificates/diplomas. Information on universities in New Zealand can be found in section 2.4.

Certificates and diplomas at levels 4 to 7 provide more specific training in a certain field. According to the NZQA, a level 4 certificate qualifies individuals to work in a specialised field. Completion of a level 4 qualification provides broad operational and theoretical knowledge in

an occupational area. Level 5 qualifications provide more theoretical and technical knowledge, as well as the skills required for a specific field of work. Trainees at this level are expected to be able to apply some unfamiliar and non-standard solutions and processes relevant to their area of training. At level 6, skills and knowledge learned are applied to a more specialised context within a field. Graduates from these programs will be able to demonstrate a depth of specialised and technical knowledge within a specific aspect of a field of work (NZQA, 2018a).

Level 7 qualifications increase the professional element of a training. A level 7 diploma for example, provides specialised knowledge and skills in a professional context. More complex problem solving is introduced, and students are taught specialised and professional knowledge within a field. Also located at level 7 of the New Zealand Qualifications Framework are graduate diplomas and certificates. These introduce a more academic element similar to the contents of a bachelor's degree, along with professional and vocational knowledge. The qualifications provide a strengthening of the knowledge and skills obtained in a previous vocational or academic qualification. These are considered to be university level courses (NZQA, 2018a).

As mentioned in section 3.1 (see paragraphs six and seven), training content with regard to skills and knowledge learned and learning environment (i.e. classroom and workplace training) is comparable across the entire vocational system in New Zealand (VET and PET). Graduate certificates and diplomas have a larger academic component than other vocational courses (as many of these qualifications are offered at universities), and can therefore be expected to have a greater focus on classroom/lecture based teaching (NZQA, 2018a; Victoria University of Wellington, 2018). Collaboration within the system between government bodies and industry is also equivalent in both VET and PET. Regulation and overall quality, as well as the comparability to the Swiss vocational system is therefore covered in 3.1 for both VET and PET in New Zealand.

In the 2013 national census discussed in 3.1, it was reported that around 10 percent of New Zealanders had a level 4 certificate as their highest qualification, a slight decrease from the 2006 census. Just under 10 percent of individuals had a level 5 or 6 qualification as their highest qualification, slightly above the percentage in 2006. Finally, almost 15 percent of the population had a level 7 qualification, an increase from around 11 percent in 2006. This is however not restricted to vocational qualifications, as bachelor's degrees are included as a level 7 qualification. Furthermore, it was reported that 79 percent of adults in New Zealand had at least one formal qualification in 2013, a steady increase from 75 percent in the 2006 census and 72.3 percent in the 2001 census (StatsNZ, 2013).

A more recent report by the Ministry of Education stated that in 2016, 16 percent of individuals aged 15 and above had a diploma or certificate from levels 4 to 6 as their highest qualification.

This was down from 22 percent and 24 percent in 2011 and 2006 respectively. Much of this decrease may however be the result of more individuals holding a bachelor's degree or above, as the report also notes that the percentage of individuals with such a qualification or higher rose from 15 percent in 2006 to 24 percent in 2016. The report also shows that in 2016, 2.7 percent of the population had a level 1-3 certificate as their highest qualification, while 16 percent of the population had achieved a level 4-6 diploma or certificate (as their highest qualification) (Ministry of Education, 2016b).

3.3 Regulatory and Institutional Framework of the VPET System

3.3.1 Central Elements of VPET Legislation

VPET in New Zealand is regulated by the New Zealand Qualifications Authority (NZQA). The NZQA operates under two pieces of legislation, the 1989 Education Act and the 1992 Industry Training Act. The 1989 Education Act was a complete redesign of the entire education system, and is discussed in more detail in section 1.3.2. The 1992 Industry Training Act created provisions for industry representation (via Industry Training Organisations – ITOs, mentioned in 3.1), and the 2002 Industry Training Amendment Act aimed to improve the effectiveness of the overall system (UNESCO, 2011).

The role of the NZQA is to provide quality assurance in the tertiary education system, as well as recognise and ensure the standards of qualifications in New Zealand. It manages and develops the New Zealand Qualifications Framework, and promotes the international recognition of New Zealand qualifications. The NZQA also registers all post-schooling qualifications (except for university qualifications). The quality assurance aspect of the NZQA's role is comprised of four components, quality assurance of courses, accreditation of training providers, audits and regulation of assessment in relation to the standards of the New Zealand Qualifications Framework. This quality assurance applies to the entire national tertiary education system, as there is no separate regulation and quality assurance for VPET and other forms of tertiary education (UNESCO, 2012).

3.3.2 Key Actors

a) Vocational Education and Training

Government

The tertiary education sector (including VPET) in New Zealand is managed by three government entities; the Ministry of Education, the Tertiary Education Commission and the NZQA (discussed in 3.3.1).

The Ministry of Education is the main government body for all forms of education. In terms of the VPET, its role is to develop national strategy and policy regarding topics such as student loans and grants, quality assurance and funding and fees. It also has responsibilities related to the overall administration of the system, and provides research and analysis in relation to the vocational sector (UNESCO, 2012; Ministry of Education, 2018d).

The Tertiary Education Commission (TEC) is responsible for the management of the tertiary education sector (which includes all forms of post-school education and training). It also is responsible for government funding at the post-secondary level (the Ministry of Education manages funding at the primary and secondary level) (UNESCO, 2012). The TEC also advises on policy and works on policy implementation, and supports tertiary education providers (such as ITPs and universities) (Ministry of Education, 2018d). This support is provided via information, advice, as well as performance monitoring. The TEC collaborates with education and training providers, industry partners, community partners and other government agencies to improve outcomes in the tertiary sector. In terms of funding, the TEC invests almost NZ\$2.8 billion into tertiary education in general each year, and funds more than 700 tertiary education providers (ITPs, private training providers, universities and wānanga) (TEC, 2018c). The responsibilities of the TEC are defined in the 1989 Education Act, and more recently in accordance with the 2014-2019 Tertiary Education Strategy (Ministry of Education, 2018d).

The final government body, the NZQA, provides regulation and quality assurance to the VPET system, as well as management of the New Zealand Qualifications Framework. It's role and responsibilities are discussed in more detail in 3.3.1.

Representation and advisory bodies

CareersNZ is a government run advisory body, focussing on both education and employment. The organisation provides advice on career and education options, and cooperates with partners in industry, trade unions, government agencies and training providers (UNESCO, 2012). As a result of a 2017 Education Amendment Act (which took effect on July 1st 2017), the staff and functions of CareersNZ became part of the Tertiary Education Commission. CareersNZ currently maintains its name, website and products etc. in a transition period, while the TEC reorganises its governance regarding the absorption of the career agency. This move was made in order to streamline cooperation between the two agencies, as well as to facilitate the provision of better careers and education partnerships and information (TEC, 2018d).

Industry Training Organisations (ITOs) are another form of advisory body in the vocational education system. ITOs are private industry originations formally recognised under the 1992 Industry Training and Apprenticeships Act. They have various responsibilities within their

individual sectors, such as national skills standards (industry specific), the provision of information and advice to employers, training providers and potential trainees, as well as monitoring quality and assessment of training (NZQA, 2018h). ITOs work with training providers to organise delivery of training (i.e. courses and other programs) (School Leaver, 2018). ITOs receive some funding from the government, under the expectations that they create clear qualification pathways for trainees, as well as maintain a strong support network for the industries they are responsible for. There are currently 11 funded and officially recognised ITOs in New Zealand. A large consolidation period which saw the merging of a number of organisations reduced the total from 40 in 2011, to 11 in 2018 (TEC, 2018d). The Industry Training Federation is a national council for ITOs, representing all of New Zealand's recognised Industry Training Organisations (ITF, 2018).

Education and training providers

As previously discussed, VPET in New Zealand is provided by institutes of technology and polytechnics (ITPs), private training providers and Wānanga. VET courses are also provided in schools at the secondary level alongside the normal curriculum. As PET is considered a form of tertiary education in New Zealand, many courses at this level are also provided by universities. There are 16 ITPs, 8 universities and around 550 (formally recognised) private training providers in New Zealand. More detailed information on training providers can be found in sections 2.4 (universities), 3.1 (VET) and 3.2 (PET).

3.4 Educational Finance of the VPET System

As previously mentioned in section 2.4, all forms of post-secondary education are funded by the Tertiary Education Commission (TEC). Since VPET is considered a form of tertiary education in New Zealand, the VPET system is funded in the same way as the higher education system. The TEC spends around NZ\$2.8 billion on post-secondary education funding every year (TEC, 2018e).

TEC funding is guided by the Tertiary Education Strategy, which lays out the government's directions for tertiary education provision. This strategy was established in 2014, and is designed to improve educational outcomes for learners and employers, as well as improve links with industry, community and the world economy. The strategy sets out six areas of priority that should shape the decision making and investment/funding in tertiary education. These priorities are as follows (TEC, 2018f):

- Delivering skills for industry
- Getting at-risk young people into a career

- Boosting achievement of Māori
- Boosting achievement of Pasifika
- Improving adult literacy and numeracy
- Strengthening research-based institutions
- Growing international linkages

TEC funding is provided mostly through “Investment Plans” with education providers (universities, ITPs etc.). These are funding plans which describe how a provider will receive funding from the TEC, sometimes with funding conditions related to the TEC’s priorities for tertiary education (i.e. the Tertiary Education Strategy). These plans are negotiated between the TEC and each institution on an individual basis, based on a variety of factors dependent on the funding types (explained in detail below included in the plan). Different types of funding (with different eligibility and conditions) are provided by the TEC. Some apply only to certain institutions such as universities or wānanga, while others are available to all training institutions and providers (even private training establishments in some cases) (TEC, 2018e).

Since VPET is provided predominantly by ITPs, wānanga and private training establishments (and university and school funding is explained in chapter 2), only funding methods which pertain to these providers will be discussed.

The vast majority of funding to training providers comes in the form of “teaching and learning” funding, in the form of Student Achievement Component (SAC) funding. SAC funding is government funding for direct teaching costs and other costs related to student numbers. Allocation is decided by the Tertiary Education Commission (TEC). Only institutions who offer qualifications that are part of the New Zealand Qualifications Framework are eligible for SAC funding (TEC, 2018g). A training/education provider that receives SAC funding must comply with the requirements of the 1989 education act as well as other conditions. Total funding is set by the government’s annual budget process and amount of funding granted to a training provider is decided by the TEC, taking several factors into consideration. These factors include the nature of the qualifications offered, the geographical region of the provider and the past performance of the training provider (TEC, 2018h).

The other notable form of funding is Performance Based Research Funding (PBRF). PBRF funding relates to the research performance of an education institution. Education providers are assessed on their quality of research and then allocated funding accordingly by the TEC (TEC, 2018a). This is far more predominant in a university’s funding, and usually makes up only a very small part of the funding of a VPET training provider.

The 18 Institutes of Technology and Polytechnics in New Zealand received NZ\$594 million of government funding in 2013, which accounted for 22 percent of the government's total tertiary education expenditure for that year. 99 percent of this funding came from teaching and learning funding, while 1 percent was provided through research funding (TEC, 2013a).

Wānanga training providers received NZ\$158.6 million in government funding in 2013, 6 percent of total TEC funding for that year. While this is much smaller than the funding for ITPs, the Wānanga sector is much smaller as it is focussed on Māori and Pasifika cultural studies. As with ITPs, 99 percent of funding came from teaching and learning funding, while 1 percent was provided through research funding (TEC, 2013b).

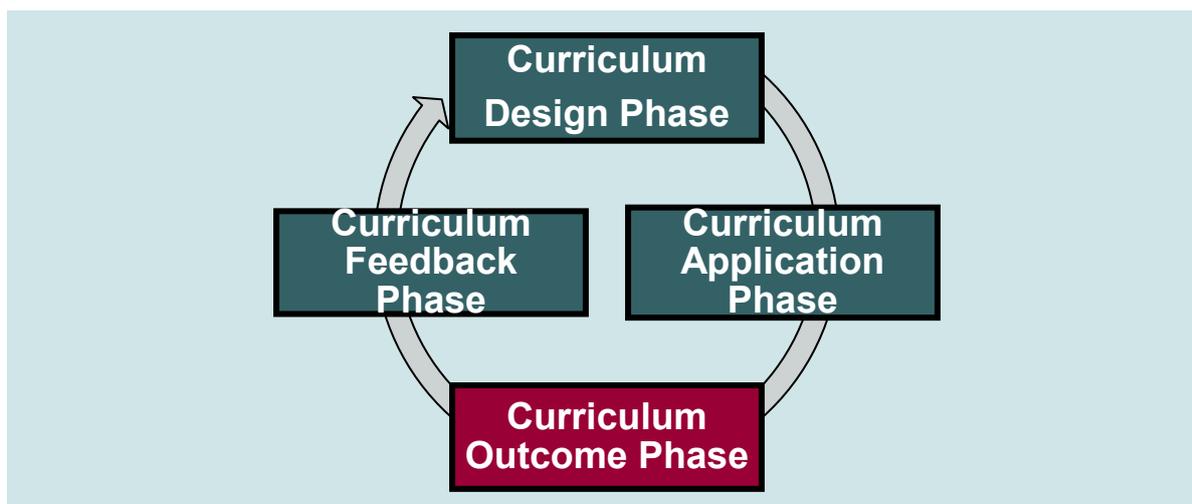
Private training establishments also receive government funding from the TEC. 339 private training providers received NZ\$324.7 million in 2013, accounting for 12 percent of total government funding for tertiary education providers. 100 percent of this funding was granted through SAC funding, which is a part of teaching and learning funding (TEC, 2013c).

Industry Training Organisations (ITOs), although private entities, receive some government funding for their activities. 20 ITOs were granted NZ\$157.4 million by the TEC in 2013, 6 percent of the total TEC spending for that year (TEC, 2013d).

3.5 Curriculum Development

The curriculum is a central element for the functioning of a VPET system by defining the framework and the (quality) standards for the education system. The development of a curriculum can be decomposed into a three-step process with a curriculum design, a curriculum application and a curriculum feedback phase. This theoretical concept is called the Curriculum Value Chain and is depicted in the picture below (CVC; for more details see (Bolli, et al., 2016)).

Figure 7: Curriculum Value Chain (CVC)



Source: Bolli et al. (2016).

In the curriculum design phase, VET curriculum content and qualification standards are decided upon by the relevant actors. Therefore, the discussion in the respective subchapter below focuses on the degree and the amount of stakeholder participation concerning curriculum design in New Zealand. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ heavily across countries—especially with respect to the prevalence of workplace learning—the curriculum application phase subchapter in this factbook focuses those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase. This evaluation process is important as it may render a more refined curriculum design than was possible in the first place.

3.5.1 Curriculum Design Phase

The design phase is crucial for the whole curriculum process. In order to ensure that the skills taught in the VPET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning contents of the curricula.

Nationally recognised and accredited qualifications follow an approval process set out by the NZQA in order to be listed on the New Zealand Qualifications Framework. Qualifications developers that wish to have a qualification approved must seek approval from either Universities New Zealand or the NZQA depending on the type of qualification they develop. Universities New Zealand is the quality assurance body which approves qualifications developed by universities (some PET qualifications, i.e. graduate certificates and diplomas,

are offered by universities) while the NZQA approves all non-university qualifications listed on the NZQF (NZQA, 2018i).

Qualifications developers must be legal entities and recognised as a developer by the NZQA. ITOs, ITPs, universities and wānanga are automatically recognised, while PTEs can apply for recognition from the NZQA (NZQA, 2018j).

An NZQA document sets out the guidelines for the design of a nationally recognised qualification. It states that qualifications must be based on four main areas: needs, outcomes, flexibility and collaboration. “Needs” refers to the idea that the value and relevance of a qualification should be closely related to the skills and workforce needs of learners, industry and community. A qualifications developer must provide evidence that the qualification will meet these skill needs. Qualifications must also be outcomes focused, i.e. explicitly show what graduates capabilities are after completion of a qualification, indicating clear pathways to employment, further education or community contribution. Flexibility means that qualifications can be obtained in a variety of settings, i.e. in classrooms or in industry training, allowing learners to achieve their educational goals in a way that is most suited to them. Finally, the NZQA states that qualifications should be developed in a collaborative manner between stakeholders, in order to develop the best possible qualifications (NZQA, 2014).

Qualifications developers must adhere to a two-stage process to have a qualification listed on the NZQF, based on the aforementioned design guidelines.

The **first stage** is the “approval to develop” a qualification, in which a developer must identify and justify the distinct need for this new qualification. This is an initial assessment of the potential of a new qualification and is based on the following evaluation question from the NZQA:

How well do the qualification’s strategic purpose and outcome statement match the identified needs of employers, industry and/or communities (i.e. relevant stakeholders)?

Along with various forms and administrative requirements, this first stage of qualification design has several main components. The first of these components is the establishment of a need for the qualification. This is provided via an analysis based on clear and robust evidence that a qualification will meet the needs of learners and industry. It contains information from industry and community stakeholders as well as supply and demand analysis for the qualification, identification of skill gaps and potential strategic benefits (NZQA, 2014). Two statements, a strategic purpose statement and an outcome statement, are also included in a qualification development application. A strategic purpose statement outlines why a qualification should be listed on the national framework and states the relevance of the qualification to learners,

industry and the community. An outcomes statement describes the skills and knowledge a graduate of this qualification will have upon completion. This is used as information for employers as well as training providers, and a tool to compare qualifications. Included in this statement is a profile of the capabilities of a graduate, as well as descriptions of potential employment and education pathways a graduate might take (NZQA, 2016). Finally, also included in stage one is an outline of the involvement of relevant stakeholders in the development of the qualification. This stakeholder profile ensures that relevant stakeholders have a chance to participate, and that the appropriate industry voices are represented in the development of the qualification (NZQA, 2014).

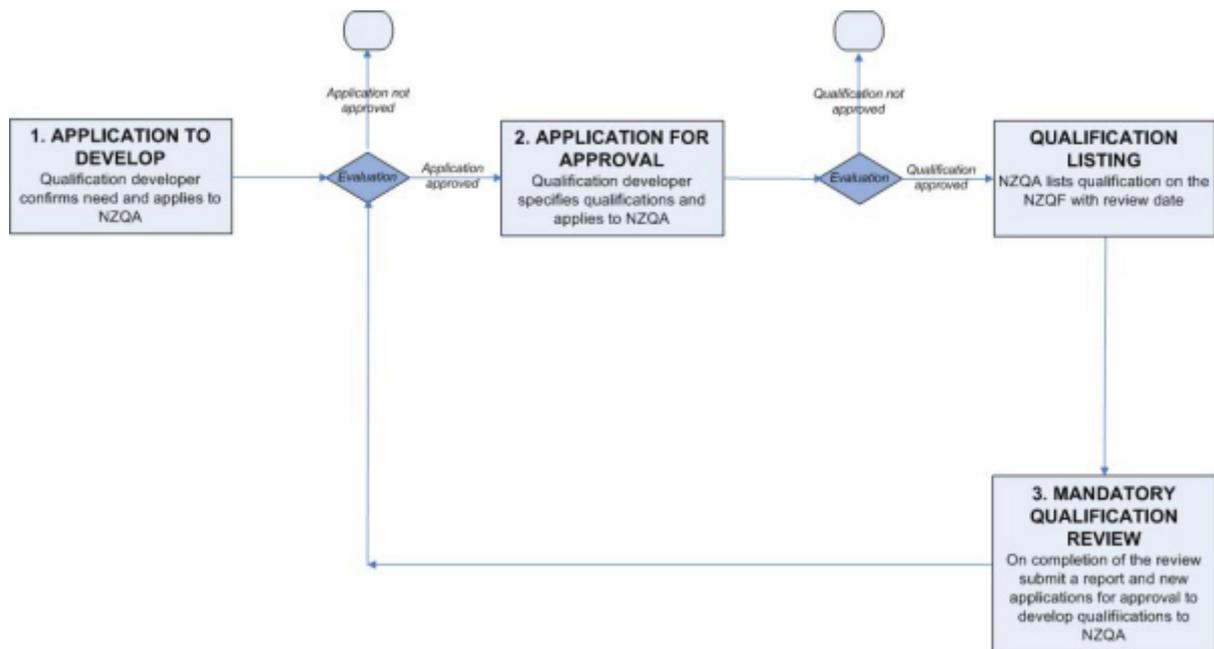
The **second stage** of the listing process is the “approval to list” stage. This stage occurs after a qualification has been developed, and assesses whether the qualification meets the guidelines and principles of the NZQA. This stage is based on the following evaluation question from the NZQA:

How well does the qualification meet the overall requirements for listing on the NZQF?

Once approved by the NZQA, a qualification may be listed on the NZQF and offered by training providers. As in the first stage, several documents such as a strategic purpose statement, graduate profile, employment and education pathways and a stakeholder profile are included in the submission for approval (NZQA, 2014).

The entire qualification development process (including listing and post-development review) is shown in the following diagram provided by the NZQA.

Figure 8: Lifecycle of a Qualification on the NZQF



Source: NZQA (2018k).

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented—especially with respect to learning environments—is important to achieve the intended learning outcome.

As described in sections 3.1 and 3.2, VPET programs in New Zealand have both a school and a work-based component. As mentioned in the curriculum design phase, training providers base their training programs on the relevant qualification listed on the NZQF. When a qualification is developed it sets out the skills and knowledge outcomes a trainee should have upon graduation, but does not necessarily specify something like the exact split between classroom and workplace training (if there is a split at all) within the program. For example, the level 4 certificate in aeronautical engineering at Nelson Marlborough Institute of Technology (a state owned ITP) is a two-year course which grants a graduate two level 4 qualifications upon completion: a Certificate in Aeronautical Engineering (Specialist Support/General Aviation) and a Certificate in Aeronautical Engineering (Workplace Introductory Skills). Industry based learning is introduced in the second year of the programme. Trainees receive 240 hours of workplace training (about 8 full weeks) throughout the year (NMIT, 2018). Another example is the level 6 diploma in animation offered by the Southern Institute of Technology (another state owned ITP). This is a one-year diploma that has no workplace training component apart from an applied research project which involves an unspecified amount of time spent in a workplace setting (SIT, 2018b).

There will also be differences in examination and teacher provision across programs and training providers. Industry involvement in examination (both practical and otherwise) is facilitated through the qualification development process described in section 3.5.1. Industry partners can communicate to qualification developers (through the stakeholder involvement process of qualification development) the skills and knowledge they believe are necessary for employment in their field.

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase deals with the question, whether and how educational outcomes are analysed. Based on this, the curriculum could be re-worked and improved.

Curriculum feedback in New Zealand's VPET system builds on the curriculum design process discussed in section 3.5.1 and is a part of the qualification lifecycle shown in Figure 7. This part of curriculum development is known as "Mandatory Qualification Review". The key actors in curriculum feedback are the NZQA (the entire system's quality assurance body and the authority for qualification review), industry stakeholders/partners and the qualifications developer itself. This "Mandatory Qualification Review" is in place to ensure that a qualification continues to meet the needs of learners and industry stakeholders, and gives a qualifications developer the opportunity to evaluate whether a qualification requires any revision (NZQA, 2016).

The first review of a new qualification is required to be completed no later than five years after the qualification is listed on the NZQF (after the second stage of the qualification development phase). Each subsequent review must come no later than five years after the last review. This however is only an absolute minimum, as each qualification has its own review period based on a variety of factors. These factors include the size of the qualification as well as the approximated rate of change of the industry the qualification is purposed for. A "period of review" document describing these factors and the subsequent suggested review period must be submitted as part of the "approval to list" stage (second stage of the qualification development process) described in section 3.5.1. There are four guidelines set out by the NZQF associated with this "period of review" document. They are as follows (NZQA, 2014):

1. All qualifications on the NZQF must be reviewed periodically to ensure that they remain useful and relevant and continue to meet the needs of the learners, industry and stakeholders for which they were initially developed.

2. A review provides an opportunity for the qualification developer and relevant stakeholders to reassess the need for the qualification, to determine whether it is still fit-for-purpose.
3. The review must be completed within a period of no longer than five years after listing the qualification on the NZQF or the previous review. Factors to be considered in determining the review period include the rate of change in the industry and the size of the qualification.
4. NZQA will use the review period to determine the date for review once the qualification is approved and publish this date on the NZQF.

The NZQA has the authority to assign different review periods when it believes that circumstances require a change in the review period. The qualification's developer is responsible for the submission of a review of the qualification to the NZQF. A qualification under review is once again subject to the same rules, guidelines and criteria as it was during its initial development. This information can be found in detail in section 3.5.1 (NZQA, 2014).

3.6 Supplying Personnel for the VPET System (Teacher Education)

Individuals wishing to become VPET teachers in New Zealand are not necessarily required to have any kind of teaching qualification. The vast majority of VPET teachers (especially teachers at ITPs) however do at least have a Certificate of Adult and Tertiary Teaching (CAT) as well as experience and qualification(s) (which is always required) in their field (UNESCO, 2012).

The CAT is a vocational qualification located on level 5 of the NZQF. It is a program designed specifically for those interested in a career in adult teaching or vocational education teaching. It is designed for individuals who have already completed a qualification and have experience in their trade/field (NZQA, 2018l). The qualification typically takes a year to complete and costs around NZ\$5,000 in fees, around NZ\$3,000 of which is subsidised by the government (CareersNZ, 2018c).

After completion of the level 5 CAT certificate, graduates may choose to go on to a further adult/vocational teaching qualification, the level 6 diploma in Adult and Tertiary Teaching. This is a more advanced VPET teaching qualification which is designed for VPET teachers wishing to take on a "leadership role" in adult/vocational education. This includes more senior positions at a VPET provider, such as a programme leader, lead teacher, learning and development

department manager or a strategic leader in education (as suggested by the NZQA). Individuals wishing to enter this course are required to have completed the level 5 CAT certificate, and a qualification/knowledge and skills in their relevant field (NZQA, 2018m). The level 6 diploma in Adult and Tertiary Teaching also generally takes one year to complete (CareersNZ, 2018d).

As with all other NZQF listed qualifications, the level 5 and 6 adult and tertiary teaching qualifications are regulated and quality assured by the NZQA. In terms of recognition and accreditation of teachers, many VPET teachers are registered with the New Zealand Teachers Council (NZTC). Unlike early childhood, primary and secondary teachers, it is not mandatory for VPET teachers to do so (UNESCO, 2012).

4. Major Reforms in the Past and Challenges for the Future

4.1 Major reforms

Historically, the three largest reforms related to the VPET system of New Zealand were the *1992 Industry Training Act*, the *2002 Industry Training Amendment Act* and the *2002 Education Amendment Act*.

The *1992 Industry Training Act* established the new government policy on the VPET system. It allowed for the establishment of Industry Training Organisations – ITOs (see 3.1 and 3.3.2) for industry representation and training organisation (UNESCO, 2011). This act described the roles of these new ITOs, which were to set national skills standards (specific to each ITO's industry) and to assist in the monitoring and assessment of trainees. Not specified in the act were how ITOs should be governed or organised (Ministry of Education, 2015b). The 1992 act was amended in 2002 (*2002 Industry Training Amendment Act*) in order to improve the “effectiveness and responsiveness” of the VPET system (UNESCO, 2011).

The second piece of reform in 2002 was the *Education (Tertiary Reform) Amendment Act*, which came into effect at the beginning of 2003. This was an amendment to the *1989 Education Act* specifically related to the tertiary sector in New Zealand (which includes VPET). Its purpose was to redesign the tertiary system in order to make better use of its resources, and establish better coordination between different parties of the tertiary sector. This amendment established the Tertiary Education Commission (see sections 1.3.2 and 3.3), which is the government body responsible for the management and funding of the tertiary education sector. In addition, the amendment introduced a new approach for funding for tertiary education. It also allowed the NZQA to define conditions for the registration of private training providers and approving and accrediting courses, while also allowing the NZQA to enforce these conditions (UNESCO, 2011).

Other less major but more recent VPET related reforms are listed below in chronological order:

- *Trades Academies* (2009): This policy initiative was designed to offer secondary students interested in trades/technology a pathway into vocational education in school, via collaboration with ITPs, ITOs, schools and employers (OECD, 2013).
- *The Youth Guarantee* (2010): This reform was an effort to offer secondary school students more of a chance to obtain vocational skills in school. More vocational pathways were to be offered in school as a transition into employment or further vocational education (OECD, *ibid*).

- *The Tertiary Education Strategy (2010-2015)*: This strategy lays out the government's direction for tertiary education provision. This strategy was established in 2014, and is designed to improve educational outcomes for learners and employers, as well as improve links with industry, community and the world economy. The government also sets out a strategy to innovate and improve the tertiary sector, as well as support quality research in order to drive this innovation (TEC, 2018f).

4.2 Major challenges

Despite all its aforementioned strengths (see 3.1 & 3.2), New Zealand's VPET does face its share of challenges going forward.

Education Counts, a Ministry of Education information website, identifies recent concerns from VPET stakeholders. One such concern is the lack of clarity with regard to the relationship between the NCEA (national school leaving certificate completed in final three years of secondary school, see section 2.3) and vocational pathways for students moving forward with vocational education, particularly at foundational levels. Also noted is the lack of a "shared language" between the Ministry of Education, ITOs and ITPs when discussing vocational education (Education Counts, 2018c).

Another challenge affecting the VPET system (outlined by the OECD report "Skills Beyond School") are the possible distortions to competition in the tertiary sector as a whole. The funding strategy of the Student Component of TEC funding (see section 3.4) has favoured enrolment numbers over quality of courses and qualifications offered. This may incentivise cost minimisation for tertiary institutions (particularly private training providers) and can also lead to conflict between a training provider's financial viability (offering high demand courses to increase student numbers) and its identity (offering courses related to the "profile" of the institution). This challenge leads to distortions to competition between private providers and ITPs. Private providers, given the lack of requirements on range of course offerings, concentrate provision on courses with larger profit margins. Representatives of ITPs have complained to the Ministry of Education about this in the past, as they are required to offer a larger variety of programs, often times in "less profitable" fields and subjects (OECD, 2008). The above being said, the fact that private providers tend to be more "niche" in terms of the areas in which they offer courses (see 3.1), as well as usually being far smaller than ITPs, means that the above issue may not be as concerning as it initially seems.

Other funding related challenges to the system include the lack of predictability associated with the annual funding a tertiary institution receives. An institution's funding plan is negotiated with the TEC on a yearly basis. This makes long term planning related to funding difficult for tertiary

institutions. Furthermore, it has been debated whether funding for part-time students (which feature prominently at vocational providers such as ITPs) is covered fairly. Fixed costs such as laboratories and technical equipment may not be fairly funded in this case (OECD, 2008).

The OECD report also notes the possible ethnicity related challenges associated with tertiary education (and therefore the VPET system as well). There is a heavy emphasis on equality of Māori in society (including in education) in New Zealand. While this can only be seen as a positive aspect, the OECD notes that this could potentially lead to a “danger of developing from ony one perspective and not valuing the other parts of what life has to offer in New Zealand for all of its citizens” (OECD, *ibid*). Despite this emphasis, Māoris (as well as the Pasifika people) have lower tertiary completion rates and a higher rate of students who leave education with few or no qualifications. This is without doubt an area for improvement within the tertiary and VPET sectors in New Zealand (OECD, *ibid*).

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