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Financing TVET:
A comparative analysis in six Asian countries -
Korean Case Study

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Summary

Over the last years, technical and vocational education and training (TVET) has been rising in the political agenda of both the international community and many governments around the world. In the new Agenda for Sustainable Development, which will guide the actions of the international community for the next fifteen years, TVET is expected to address multiple demands by helping young people and adults develop the skills they need for employment, decent work and entrepreneurship, promoting equitable, inclusive and sustainable economic growth, and supporting transitions to green economies and environmental sustainability. Yet the question of how to finance this priority is still insufficiently explored.

In order to improve their ability to provide sound, evidence-based analysis and advice to their constituents, the French Development Agency (Agence Française de Développement, AFD) and UNESCO launched a regional comparative study on TVET financing approaches. Looking into the example of six Asian countries (Laos, Malaysia, the Philippines, Republic of Korea, Thailand and Viet Nam) and benchmarking them against international practices in Europe, Latin America, Africa and other Asian countries, the study raises issues and explores ways to respond to the challenge of TVET funding. This report presents the Korean Case Study.

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Acronyms

ADB	Asian Development Bank
EIF	Employment Insurance Fund
EIS	Employment Insurance System
FDI	foreign direct investment
GDP	gross domestic product
HEI	Higher education institution
HRD	Human Resource Development
IBRD	International Bank for Reconstruction and Development
IT	Information technology
KCCI	Korea Chamber of Commerce and Industry
KEDI	Korean Educational Development Institute
KLI	Korea Labour Institute
KRIVET	Korea Research Institute of Vocational Education and Training
LOE	Local office of education
MoE	Ministry of Education
MoEL	Ministry of Employment and Labour
MoL	Ministry of Labour
NCS	National Competency Standards
NGO	Non-governmental Organization
OECD	Organisation for Economic Co-Operation and Development
OJT	On-the-job training

Introduction

The international community has set an ambitious 2030 Agenda for Sustainable Development. Education and training are central to the achievement of this Agenda. Sustainable Development Goal 4.4[1] relates specifically to technical and vocational education and training (TVET), targeting a substantial increase in 'the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship'.

TVET is therefore expected to address multiple demands (economic, social and environmental) by helping young people and adults develop the skills they need for employment, decent work and entrepreneurship, promoting equitable, inclusive and sustainable economic growth, and supporting transitions to green economies and environmental sustainability.

Mobilising the means to fulfil such an ambitious skills agenda is crucial, and industry will play a key role in its success. The Third International Congress on TVET, organized in Shanghai in 2012, considered that 'scaling up existing models of TVET provision to include more young people and adults is not the solution; it also involves a paradigm shift that includes the active involvement of relevant actors, such as industry'.

In this context, the French Development Agency (AFD) and UNESCO have been analysing how TVET financing is organized (e. g. public funding, contribution of companies through general or specific taxation, contribution of families and trainees), to understand the potential contribution of industry in financing TVET, and how TVET financing systems are designed and used as operational tools for the implementation of public policies.

Both AFD and UNESCO then proposed to jointly explore these issues through a comparative study on TVET financing approaches in six Asian countries representing a diversity of economic contexts and of TVET financing strategies (Laos, Malaysia, the Philippines, Republic of Korea, Thailand and Viet Nam). The results of the study will feed into AFD and UNESCO TVET strategies.

[1] See: https://sustainabledevelopment.un.org/sdg4

Box 1. UNESCO and AFD strategies for TVET

In the context of overseas development assistance (ODA) financing of TVET projects, AFD is analysing and comparing the different mechanisms – particularly training funds – in order to better understand the pros and cons of each system depending on local economic and institutional contexts and approaches to skills development. An earlier comparative study of training funds was published by AFD in 2014, covering Latin American, South African and other sub-Saharan funds. AFD is also supporting the reform of financing systems and several training funds in different countries in the Mediterranean region, sub-Saharan Africa and Latin America.

The Executive Board of UNESCO adopted a new Strategy for TVET in April 2016, which sets out key policy areas and actions for the period 2016 to 2021. The Strategy supports the efforts of Member States to increase the relevance of their TVET systems and to equip all young people and adults with the skills required for employment, decent work, entrepreneurship and lifelong learning, and to contribute to the implementation of the 2030 Agenda for Sustainable Development as a whole. In its support to policy review and policy development, and in order to ensure the availability of stable and sustainable resources for TVET, the Strategy emphasises the importance of encouraging Member States to design efficient and effective funding strategies and target TVET investments in projects and programmes that are cost-effective for individuals, enterprises and society at large. This will include identifying good practices in the design, governance and management of TVET funding mechanisms and options for financing TVET expansion, equity and quality.

Six country reports have thus been drafted for the purpose of this comparative study, covering:

- the socio-economic context of each country and particular issues that the TVET system needs to address (in terms of skills development needs, labour force analysis, or specific target groups in remote regions); and
- how the TVET system is organized and financed (public and private financing, existence of a training fund, etc.).

The present report offers a case study of the context of the Republic of Korea.

I. Country Context

1. Introduction

The Republic of Korea (hereafter Korea), which has an area of 99,720 km^2 and is located in Eastern Asia, was liberated from 36 years of a Japanese colonial regime in 1945. After three years of US military rule, Korea established its own government in 1948, and the nation started to be rebuilt through its own efforts. The Korean War (1950–53) devastated the Korean peninsula, however. After the war, the Korean government successfully universalized primary education in the late 1950s by implementing a five-year Plan for Completing Primary Education (1954–59), investing around 80 per cent of the Ministry of Education (MoE) budget, education tax and local education grant. After universalizing primary education, the government shifted its investment focus to secondary education in the 1960s and 1970s, and then to higher education in the 1980s and 1990s. This sequential strategy for expanding educational provision was matched by the implementation of a series of five-year national economic development plans. For example, the universalization of primary education in the 1950s made it possible to supply quality manual workers to labour-intensive light manufacturing industry in the 1960s. The expansion of secondary education contributed to supplying skilled workers to heavy and chemical industries in the 1970s. Realizing that the academic education system alone could not supply the labour needed to implement the economic development plans, the government introduced a vocational training system in 1967 and a training levy system in 1976. The training levy system was replaced by an Employment Insurance System (EIS) in 1995 to meet the demand for lifelong learning. The two systems of education and vocational training have played a crucial role in Korea's skills development.

2. Economic context

The 'New Normal' economic paradigm, characterized by low interest rates, low growth rates and high debt, was apparent in most of the global economy after the economic crisis of 2008. Korea is no exception. As **Table 1** shows, the gross domestic product (GDP) growth rate decreased below the 3 per cent level that had been expected previously. In that context, overall unemployment and youth unemployment have risen steadily, causing serious social and economic problems. About 88 per cent of the Korean labour force work in small and medium-sized enterprises (SMEs), in which labour productivity has not improved. To boost the national economy, the Korean government has tried several policy measures, such as the provision of financial and administrative support to start-ups, the acceleration of technology innovation, and the promotion of SME employee training.

Table 1 Major indicators for the economy of Korea

	2010	2011	2012	2013	2014	2015
GDP (US$ billion)	1,094.5	1,202.7	1,222.8	1,305.6	1,411.3	1,377.9
GDP growth rate (annual %)	6.5	3.7	2.3	2.9	3.3	2.6
GDP per capita	22,151.2	24,156.8	24,454.0	25,997.0	27,989.4	27,221.5
Agriculture value added (as % of GDP)	2.5	2.5	2.5	2.3	2.3	2.3
Foreign direct investment (FDI) (US$ billion)	18.8	19.9	21.1	15.6	18.8	22.6
Unemployment rate (% of total labour force)	3.1	3.4	3.2	3.1	3.5	3.6
Youth unemployment rate (15–29 years)*	8.0	7.6	7.5	8.0	9.1	9.2
Male labour force participation rate (15–64)*	77.1	77.4	77.6	77.6	78.6	78.6
Female labour force participation rate (15–64)*	54.5	54.9	55.2	55.6	57.0	57.9
Employment rate (15–64 years)*	-	-	-	64.4	65.3	65.7
Percentage of SMEs in all companies* Total number of companies (1,000s)	99.9 3,125	99.9 3,235	99.9 3,354	99.9 3,419	99.9 3,545	-
Percentage of SME employees in total number of employees* Total number of employees (1,000s)	86.8 14,135	86.9 14,534	87.7 14,891	87.5 15,345	87.9 15,963	-
Internet users (per 100 persons)	83.7	83.8	84.1	84.8	84.3	-

Sources: * - http:// www.index.go.kr, otherwise http://databank.worldbank.org (accessed 28 September 2016).

In Korea, the majority of employees work in the service sector, as shown in **Table 2**. It should be pointed out that the productivity of the service sector is lower than that of other sectors because the majority of workers in the service sector are concentrated in restaurants, hotels, wholesale and retail sales enterprises, all of which are characterized by low productivity and low value added. The importance of the service sector to the national economy is continuing to increase, so Korea needs to enhance service sector productivity.

Table 2 Employment ratios by industrial sector

	2011	2012	2013	2014	2015
Agriculture, forestry and fisheries	6.4	6.2	6.1	5.7	5.2
Manufacturing and mining	16.9	16.7	16.8	17.0	17.4
Services	76.7	77.1	77.2	77.4	77.5

Rounding errors mean that not all annual totals are 100%.

Source: http://kostat.go.kr (accessed 28 September 2016).

Table 3 Percentage of GDP contributed by each sector

	2010	2011	2012	2013	2014	2015
Primary industries (agriculture, fisheries, forestry)	2.5	2.5	2.5	2.3	2.3	2.3
Secondary industries (mining, manufacturing, construction, electricity, gas)	38.3	38.4	38.6	38.4	38.1	38.0
Tertiary industry	59.3	59.1	59.5	59.3	59.6	59.7

Rounding errors mean that not all annual totals are 100%.

Source: www.index.go.kr (accessed 28 September 2016).

3. Country-specific issues

In recent years, Korea has experienced much slower growth with lower productivity than most other countries in the Organisation for Economic Co-Operation and Development (OECD). Annual GDP growth rate has kept decreasing from 4.25 per cent over the period 2001–11 to 2.75 per cent since 2011. Owing to ever-intensifying competition in the world market, Korea has struggled to expand its market share. Domestic demand has been constrained by high household debt and the low productivity of SMEs (OECD, 2015, pp. 1–2). In addition, Korea has experienced a rapid ageing of the population, which is expected to continue and together with the low fertility rate[2], has caused a sharp decline in the percentage of the population that is of working age. These changes in policy environment create an urgent need for Korea to enhance the productivity of workers to maintain the national economy in a sustainable manner. In that sense, it is critical for Korea to improve the effectiveness of the national general education and technical and vocational education and training (TVET) systems to provide lifelong education and training opportunities to workers. TVET in particular needs to develop closer links with industry, to help ensure that its graduates have the skills needed by employers.

4. Main features of the education system

Korea has a 6–3–3–4 schooling system (that is, six years of primary education, followed by three years each at lower and upper secondary level, and four years for higher education), as shown in **Figure 1**. Primary and secondary education are universally available. The enrolment rate for higher education reached at 71 per cent in 2011 and has since tended to decrease slightly. Vocational education is provided from the high school level onwards. The employment rate for university graduates has been between 52 and 55 per cent, which is relatively low. The main reasons for this low rate are oversupply and skill mismatches.

[2] The fertility rate of Korea has kept decreasing from 4.5 in 1970 to 1.2 in 2014. The percentage of the population older than 65 is expected to increase from 15 per cent in 2010 to 36 per cent in 2030 (McKinsey Global Institute, 2013).

Table 4 Enrolment rates* by schooling level (per cent)

	2000	2010	2011	2012	2013	2014
Kindergarten	26.2	40.2	40.9	44.0	47.4	47.3
Elementary school	97.2	99.2	99.1	98.6	97.2	96.4
Middle school	95.0	97.0	96.7	96.1	96.2	97.7
High school	89.4	91.5	91.9	92.6	93.6	93.7
Higher education institutions (HEIs)	52.5	70.1	71.0	68.4	69.0	68.2

Note: * defined as the proportion of the total school population at each level.

Source: KEDI (2014, p. 13).

Table 5 Advancement rates* to higher level of school (per cent)

		2000	2010	2011	2012	2013	2014
Elementary to middle		99.9	99.9	99.9	99.9	99.9	99.9
Middle to high		99.6	99.7	99.7	99.7	99.7	99.7
High to HEI	Total	62.0	75.4	72.5	71.3	70.7	70.9
	Academic high	83.9	81.5	75.2	76.2	77.5	n/a
	Vocational high	42.0	71.1	63.7	54.4	46.8	n/a

Note: * defined as the percentage of graduates from each level advancing to the next level. n/a = not available.

Source: KEDI (2014, p. 14).

Table 6 Employment rates by level of education (per cent)

		2000	2010	2011	2012	2013	2014
High School	Total	55.6	22.1	23.3	29.3	30.2	33.5
	Academic	15.5	4.9	4.4	4.5	4.9	-
	Vocational	88.8	67.7	66.0	74.1	68.2	-
HEIs:		-	55.0	58.6	59.5	59.3	58.6
university		-	51.9	54.5	56.2	55.6	54.8
junior college		-	55.6	60.7	60.8	61.2	61.4
general graduate school		-	70.7	72.1	69.7	68.9	67.2

Note: * defined as number of employed graduates from each level / number of graduates available for employment (excluding students going on to a higher level of education, drop-outs and those called up for military service).

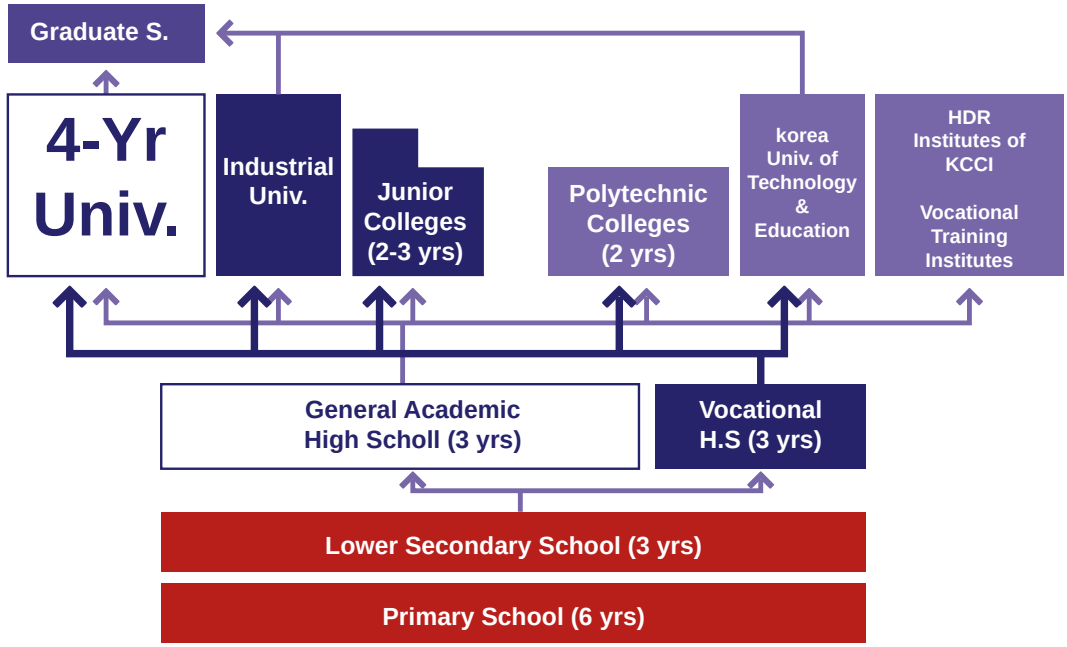
Source: KEDI (2014, p. 15).

Table 7 Drop-out rates by educational level (per cent)

	2000	2009	2010	2011	2012	2013
Elementary school	0.4	0.3	0.6	0.6	0.6	0.6
Middle school	1.0	0.8	1.0	0.9	0.9	0.8
High school	2.5	1.8	2.0	1.9	1.8	1.6
HEIs:	6.1	6.5	6.7	6.4	6.7	6.6
university	3.9	4.0	4.0	4.0	4.0	4.0
junior college	5.5	7.3	7.4	7.1	7.7	7.6

Source: KEDI (2014, p. 16).

Figure 1 The education system in Korea



KCCI = Korea Chamber of Commerce and Industry.

II. Overview of the Korean TVET System

1. The vocational education system

Korea established a basic framework for its vocational education and vocational training systems (the two are separate) during the 1960s and 1970s. Regarding the vocational education system, in 1963 the MoE introduced a national curriculum for vocational education at high school level, which was designed to systematically train and supply the skilled workers needed to implement the five-year national economic development plans. It created three types of vocational high school: specialized vocational high schools, Meister high schools, and comprehensive schools with both vocational and general education tracks. The number of vocational high schools increased from 312 (44.5 per cent of all high schools) in 1965 to 764 (39.0 per cent) in 2000.

In 2010, the MoE launched a vocational high school restructuring policy, which recategorized these three groups into two, specialized vocational high schools and Meister high schools, and aimed to reduce vocational high school numbers from 691 in 2010 to 400 (including 50 Meister high schools) by 2015. This policy did not succeed in these objectives: in 2015 there were 538 vocational high schools including 41 Meister high schools.

In the same year, the government also established nine vocational schools designed to provide five-year courses, one each in nine different regions, each tailored to the industrial characteristics of its region. These provided the first non-university vocational education in Korea. They offered three-year vocational high school courses and two-year vocational junior college courses, and had a special mission to train technicians for sectors such as engineering, agriculture, forestry, marine and fisheries. Between 1970 and 1976, the government restructured these schools to create vocational junior colleges offering two-year programmes in engineering, agriculture, forestry, marine, fisheries, medical science, pharmacy and nursing.

Junior colleges in Korea perform three main functions. They train mid/high-level technicians; they make higher education accessible to high school graduates (who can go to junior college first then transfer to a four-year university course), and they provide training to adults (who might pursue general/liberal arts/cultural studies or retrain to upgrade their vocational skills and knowledge), enabling lifelong learning.

In 1979, the government merged two-year non-vocational junior colleges and vocational junior colleges to create a general category of junior college, offering a new form of short-term HEI. The number of junior colleges increased from 127 (56.7 per cent of all HEIs) in 1979 to 158 (46.2 per cent) in 2005, then decreased to 138 (40.7 per cent) in 2015. In addition, a new type of university, industrial universities, was introduced in 1982. Their main objective was to provide higher education opportunities to graduates from high schools and junior colleges. The number of industrial universities increased from six in 1990 to nineteen in 2003 and decreased

to two in 2012,[3] reflecting a decrease in demand and a trend for them to be transformed into regular four-year academic universities.

To summarize, in 2015 there were 538 vocational high schools functioning as vocational education institutes under the governance of local offices of education, and 138 junior colleges and two industrial universities under the administrative guidance of the MoE.

2. The vocational training system

As was outlined above, Korea's vocational education and training systems were closely linked to the country's economic development plans. During the period of the first five-year economic development plan (1962–66), Korea experienced a severe shortage of skilled workers and technicians. In 1965 444,974 skilled workers and 87,739 technicians were estimated to be needed, while there were only 172,436 vocational high school and 23,159 vocational school graduates (Suh, 2002, p. 48). There was an evident need for an alternative system that had flexibility and efficiency in designing curricula, recruiting trainers, selecting trainees and providing training programmes so that it could promptly supply the required skilled labour at right time. In addition, the government recognized that Korea needed an institutional mechanism that would involve employers in training their employees (mainly new entrants). Thus the Ministry of Labour (MoL) introduced a vocational training system in parallel with the education system, through the Vocational Training Act of 1967. The main purposes of this new system were to supply the skilled labour needed for industrialization and enhance the employability of individuals. The Vocational Training Act specified the establishment of public vocational training institutes (VTIs) and in-company training facilities, qualifications and training for vocational training instructors, provision of public training and the funding of training institutes and training.

The Korean Government continuously established public training institutes throughout the nation with foreign assistance in the 1970s. These were funded by the government and from aid from advanced countries such as the United States of America, Germany, Belgium and Japan, and international organizations such as the International Bank for Reconstruction and Development (IBRD) and the Asian Development Bank (ADB). Advanced countries and international organizations provided not only loans for vocational training equipment and facilities, but also technical assistance, for example in training trainers. Public training institutes played a crucial role in supplying skilled labour for the machinery, steel manufacturing and shipbuilding industries.

As the labour shortage problem persisted because of the successful implementation of the economic development plans, a construction boom in the domestic housing market and the Middle East, and employers' reluctance to train employees[4] in the 1970s, the government mandated employers to provide new employees with vocational training by enacting the

[4] At that time, employers provided training on a voluntary basis. Employers tended to poach skilled workers from other companies instead of investing in training.

Special Act for Vocational Training in 1974. In 1976 a stronger legal base was created by integrating the Vocational Training Act and the Special Act for Vocational Training into a Basic Law of Vocational Training. This law required private firms with 300 employees or more to provide in-plant training. The target firms were expanded to those with 200 or more employees in 1989, and firms with 150 or more in 1992. This compulsory vocational training system with a focus on initial training contributed to remedying the shortage of skilled labour (Lee, 2007, pp. 55–6). During the Fourth Five-Year Economic Development Plan period (1977-81), 68.1 per cent of trainees were trained by their employers, as shown in **Table 8**.

Table 8 Number of trainees by training type for the Fourth Five-Year Economic Development Plan period

	Total	1977	1978	1979	1980	1981
Total	495,616 (100.0%)	83,027	100,425	129,297	104,502	78,365
Public training*	119,994 (24.2%)	14,878	19,201	28,488	31,153	26,274
In-plant training	337,388 (68.1%)	58,739	73,038	90,992	66,213	48,406
Authorized training institutes**	38,234 (7.7%)	9,410	8,186	9,817	7,136	3,685

Notes: * Public training includes training provided by public corporations, government agencies such as the Central Vocational Training Institute, and local governments.

** Authorized training institutes are private training institutes recognized by the MoL to provide training within the framework of the Vocational Training Promotion Fund system.

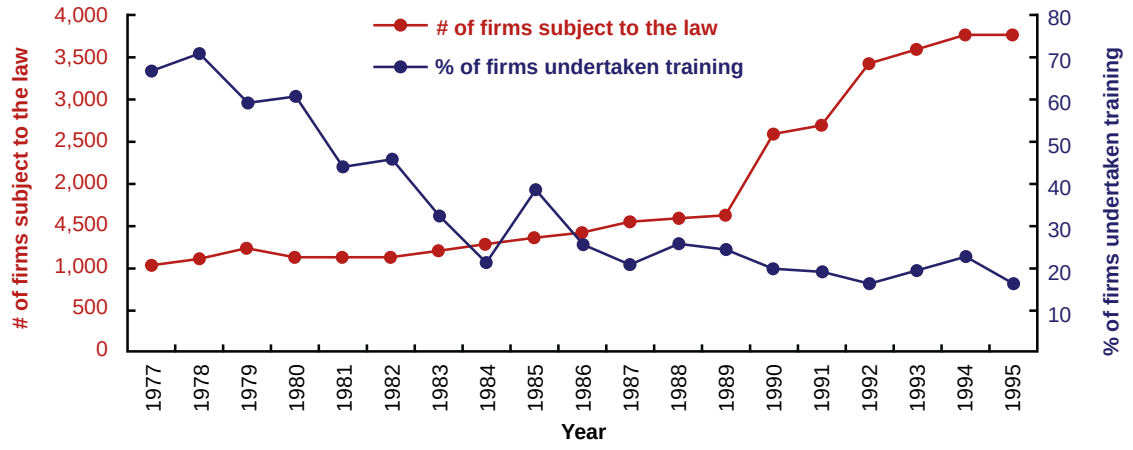
Source: Ra and Kang (2012, p. 33).

The Vocational Training Promotion Fund Act also came into law in 1976. It provided a budget for the training of workers and trainees; curriculum development, instructor training and research; the operation of the Korea Manpower Agency (which is now known as HRDKorea, and conducts research on vocational training, develops vocational standards and qualification standards, and provides training); and loans for equipment and facilities to firms.

At the same time, a levy system[5] was introduced, which means that employers could either pay into a Vocational Training Promotion Fund or provide in-plant training to employees. In 1978 more than 70 per cent of companies covered by the Basic Law for Vocational Training provided training, while the rest chose to pay the levy. However, the percentage of companies that undertook in-plant training kept decreasing after 1978, until 1995 when the Employment Insurance System (EIS) was introduced, as shown in Figure 2 Most companies estimated the levy amount to be smaller than the actual cost of in-plant training, so they preferred to pay the levy. The Vocational Training Promotion Fund, which administered the levy, contributed to providing public vocational training.

[5] The levy amount was specified as the standard training cost per trainee per month and the proportion of trainees imposed by the government until 1986, and as a fixed percentage of the total wage bill from 1987 to 1998.

Figure 2 Implementation results of the compulsory training and levy system



Source: Paik (2014a).

Following on the introduction of vocational training system, the government enacted the National Technical Qualification Law in 1973. This was designed to officially test and recognize vocational education and training results, improve the socio-economic status of workers by granting nationally recognized certificates, and provide a market signal of skills demand to the TVET system.

In the 1990s, Korea again suffered from a chronic shortage of quality labour because of the decrease in the youth population, ageing, and rapid technological advancement, so a further need was perceived for upgrading the skills of workers. In this urgent policy context, in 1995 Korea introduced the Employment Insurance System (EIS), which became the backbone of the nation's continuing TVET system. With the new EIS, Korea shifted its vocational training focus from initial training to retraining of the workforce, through a Vocational Competency Development Programme (VCDP). Currently the Ministry of Employment and Labour (MoEL) manages the vocational training system, which is financed from its general budget and the Employment Insurance Fund (EIF).

3. The current TVET system in Korea

As explained above, TVET in Korea is now administered mainly by two ministries, MoE and MoEL. MoE takes charge of providing vocational education at secondary and tertiary education level through vocational high schools, junior colleges and industrial universities.

MoEL is responsible for managing the vocational training system for new entrants to the labour market, workers currently employed, and the unemployed. This training system provides pre-employment training opportunities to school drop-outs and school graduates[6]; continuing training for employees; training for the unemployed; and training for disadvantaged groups such as multicultural families and defectors from North Korea. The major providers are polytechnic colleges, Human Resources Development (HRD) institutes of Korea Chamber of

[6] This pre-employment training provided by polytechnic colleges and other institutions is more focused on practical skills and knowledge that can readily be used in the workplace than is the MoE's vocational education system.

Commerce and Industry (KCCI), Korea University of Technology and Education (KoreaTech), and private VTIs.

Table 9 The vocational education and training system in Korea in 2015

	Vocational education	Vocational training
Central Government	MoE	MoEL
Local government	Offices of Education	Offices of Labour
Institutes	Vocational high schools Junior colleges Industrial universities Corporate universities*	Polytechnic colleges** HRD institutes (KCCI) In-plant vocational training Vocational Training Institute of Local Government Private VTIs
Finance	About 60% of budget from private sources***	Budget mainly from private sources – Employment Insurance Fund
Period of VET	2 to 4 years (vocational high schools, 3 years; junior college, 2–3 years; university, 4 years)	6 months to 4 years

Notes: * Universities established by enterprises to provide higher education to their employees. Corporate universities are recognized by the Lifelong Learning Law. On graduation, employees receive a BA or Associate BA degree.

** Polytechnic colleges originated as public training institutes that provided high-school level vocational training and were managed by the Korea Manpower Agency (now HRDKorea) under the MoL. As demand for workers with high-school level skills decreased through progress towards the knowledge economy, the MoL transformed public VTIs into polytechnic colleges. They are mainly funded through the EIS and MoEL budget.

*** Vocational high schools, whether public or private, are publicly funded. However, the main revenue source of private junior colleges (129 out of 138 junior colleges are private) is student tuition and fees.

Source: Paik (2014b, p.7).

Table 10 Types of TVET institute in Korea in 2015

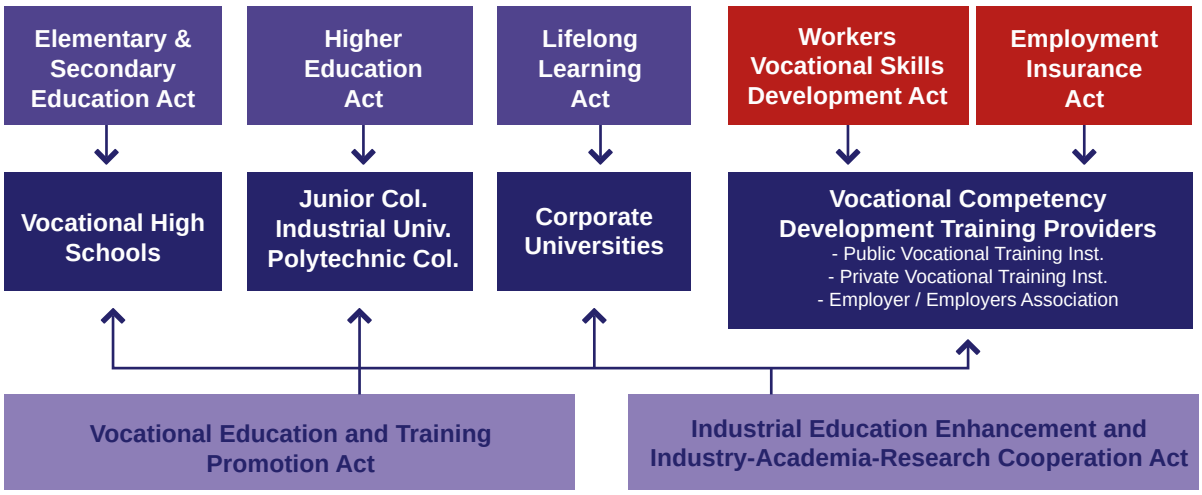
	Public	Private
A. Vocational education		
1. Secondary		
1.1. Lower secondary	n/a	n/a
1.2. Upper secondary (538)	Vocational high schools (277) Meister high schools (35)	Vocational high schools (221) Meister high schools (5)
2. Post-secondary		
2.1. Junior college (138)	2–3 year junior colleges (9)	2–3 year junior colleges (129)
2.2. University (2)	n/a	Industrial universities (2)
B. Vocational training		
1. Secondary	n/a	Vocational training institutes
2. Post-secondary	Polytechnic colleges (11) KoreaTech (1)	HRD Institutes (8) under KCCI VTIs

Source: http://kess.kedi.re.kr/index (accessed 17 September 2016).

4. The legal framework

The vocational education system and its operations are regulated by the Elementary and Secondary Education Act, Higher Education Act and Lifelong Learning Act. For specific vocational education policies and strategies, the Vocational Education and Training Promotion Law and the Law for Promoting Industrial Education and Industry-School-Research Institute Collaboration are applied.

Figure 3 Legal framework of TVET in Korea



The main objective of the Vocational Education and Training Promotion Act is to contribute to national economic development and improve living standards through providing diverse vocational education and training opportunities tailored to individual talents and aptitudes, and enhance the efficiency and quality of vocational education and training by specifying the requirements for TVET. This act specifies (i) national and local government responsibilities for providing financial and administrative support for facilities and equipment for experiments and practical training, and the provision of pre- and in-service training of trainers, internship training,[7] and distance TVET;[8] (ii) the establishment of the Basic Plan for National Vocational Education and Training and its implementation; (iii) coordination and collaboration among TVET providers; (iv) training and retraining of TVET trainers; (v) the establishment and operation of local government committees for vocational education and training; and (vi) evaluation of TVET providers and information disclosure.[9]

The main purpose of the Industrial Education Enhancement and Industry–Academia–Research Cooperation Promotion Act is to contribute to national and local community development by training creative workers, establishing efficient research and development

[7] According to the law, a student or trainee who is planning to undertake internship training should contract with the company that will provide training.

[8] The law states that a TVET provider should try to (i) establish an effective distance training system that utilizes uses high-tech information and communication media, and (ii) develop and use vocational education and training media such as multi-media learning materials.

[9] Vocational Education and Training Promotion Law, www.law.go.kr/lsEfInfoP.do?lsiSeq=113838# (accessed 17 September 2016).

(R&D) systems, and developing, disseminating and commercializing new knowledge and skills necessary for industrial development through promoting industrial education and industry–school–research institute collaboration. This act covers high schools and HEIs established on a legal basis to provide vocational education. It specifies (i) national and local government responsibility to fund the installation and operation of facilities and equipment for TVET; (ii) the establishment and management of the School-Industry Collaboration Corporation, school enterprises and technology holding companies; and (iii) sharing R&D facilities and equipment with other schools, R&D institutes and enterprises.[10] These two acts provide the legal framework for detailed programmes and policies for TVET, including school–industry collaboration.

For vocational training, the Workers Vocational Skills Development Act specifies the basic structure of the system and its operation. The main purpose of this act is to contribute to improving workers' employment security and socio-economic status, productivity and national social and economic development by promoting and supporting vocational competency development throughout a working life, training the technicians and skilled workers needed for industry, and implementing projects on school–industry collaboration. The act specifies (i) national and local government responsibilities for promoting and supporting vocational competency development projects conducted by employers, employers' associations and trade unions, and vocational competency development training that individual workers undertake voluntarily; (ii) the establishment and operation of the Basic Plan for Vocational Competency Development by MoEL; (iii) the development and management of the information network that covers workers' vocational competency development experience, the links between vocational competency development and qualifications, and other related information; (iv) the vocational training contract between employers and employees (that is, rights and obligations); (v) public vocational competency development projects; (vi) financial resources for implementing the vocational competency development projects from the MoEL general account and the EIF; (vii) support for individuals' voluntary vocational competency development, including the provision of vocational competency development accounts; (viii) support for employers' and employer associations' vocational competency development projects; (ix) the establishment of vocational competency development foundations and institutes, trainer qualification and training, and the collection of training costs by training institutes; (x) the establishment and operation of polytechnic colleges; and (xi) evaluation of vocational competency development projects.[11]

The Employment Insurance Act provides the legal framework for financing continuing vocational training. Its main objective is to contribute to national economic and social development by preventing unemployment, promoting employment and workers' vocational competency development, strengthening employment services, and providing a basic income

[10] Law for Promoting Industrial Education and Industry-School Collaboration, www.law.go.kr/lsInfoP.do?lsiSeq=148826#0000 (accessed 17 September 2016).

[11] Workers Vocational Competency Development Law, www.law.go.kr (accessed 17 September 2016).

for the unemployed and promoting their re-employment. This act specifies (i) functions of the Employment Insurance Committee (revision of EI institutions and programmes, decisions on EI fee rates, evaluation on the performance of the EI programmes, and so on);[12] (ii) rights of the insured; (iii) job security and vocational competency development programmes (which encompasses financial support to employers' vocational competency development training, insured workers undergoing this training, facilities of vocational competency development, employment information provision, and local governments and non-governmental organizations' (NGOs') vocational competency development activities), (iv) unemployment benefits, (v) family responsibilities benefits; and (vi) the Employment Insurance Fund (EIF) (its establishment and management, purposes, operation plan and so on).[13]

The Workers Vocational Skills Development Act provides the legal framework for the government vocational competency development programmes and policies, while the Employment Insurance Act is the legal framework for financial support to each VCDP.

5. Main TVET strategies and policies

Korea takes a demand-driven/market-oriented approach to TVET, which means that the Korean Government tries to fully utilize the advantages of market mechanisms that promote choice and competition, and inputs from industry, when designing and implementing TVET policies.

- *The EIS VCDP*

The government changed the paradigm of the previous compulsory training system when it introduced the EIS and VCDPs in 1995. In the late 1980s and early 1990s when the knowledge-based economy was progressing rapidly in Korea, the government recognized the need for a lifelong learning system to enable workers to upgrade their skills to match the demand for different and higher-level skills. The aim was to develop a comprehensive and active labour market policy that encompassed not only unemployment benefits but also vocational training and job security. The EIS, introduced under the Employment Insurance Law 1995, has three components: an employment security programme, the VCDP, and unemployment benefits. Employers pay into the EIF (see also page 00), which funds all three components.

The employment security programme includes projects to help keep people in work through providing a financial subsidy to firms that employ the elderly, the handicapped and those in socially disadvantaged groups, and provide child-care facilities. The unemployment benefits programme provides those out of work with a basic income to meet living expenses and

[12] According to the act, the Vice Minister of Employment and Labour is the chair of the committee. The committee consists of the same number of representatives of (i) workers, (ii) employers, and (iii) the government, and (iv) someone who can represent the 'public good'. The total number of committee members including the chair person will be approximately 20.

[13] Employment Insurance Act, www.law.go.kr/%EB%B2%95%EB%A0%B9/%EA%B3%A0%EC%9A%A9%EB%B3%B4%ED%97%98%EB%B2%95 (accessed 17 September 2016).

expenses for job searches and applications, and moving to take up a new job (MoEL, 2015, pp. 85–6, 156–61, 254–6).

The VCDP provides financial assistance to employers that provide vocational training to both their own employees and the unemployed. Before 1995, vocational training was designed and provided mainly by the government and public training institutes. The training market was closed: that is, only public training institutes and a small number of private institutes recognized by the government could access the Vocational Training Promotion Fund. Initial training was provided mainly for the manufacturing sector, and targeted young people who lacked employable skills. This system was not able to meet rapidly changing skill demands in all sectors and occupations in the era of the knowledge-based economy.

Table 11 Reform of the vocational training system: a paradigm shift

	Compulsory training system (1977–98)	VCDP (1995–present)
Law	Basic Law for Vocational Training (1976)	Employment Insurance Law (1995) Workers Vocational Training Promotion Act (1997) → Workers Vocational Competency Development Act (2004)
Financial source	Training levy	Employment insurance
Fund used	Vocational Training Promotion Fund	Employment Insurance Fund
Operational mode	Government-controlled* Supply-oriented**	Demand-driven/market-oriented/ incentive system
Training market	Closed	Open to private training institutes
Target industry	Manufacturing sector focused	All industries and occupations
Main training	Initial training	Continuing training
Target groups	Young people without skills	General workforce and unemployed

Notes: * In the compulsory training system, the government decided the number of workers who would get training by sector annually, considering the demand for skilled labour.

** VTIs decided training subjects and contents.

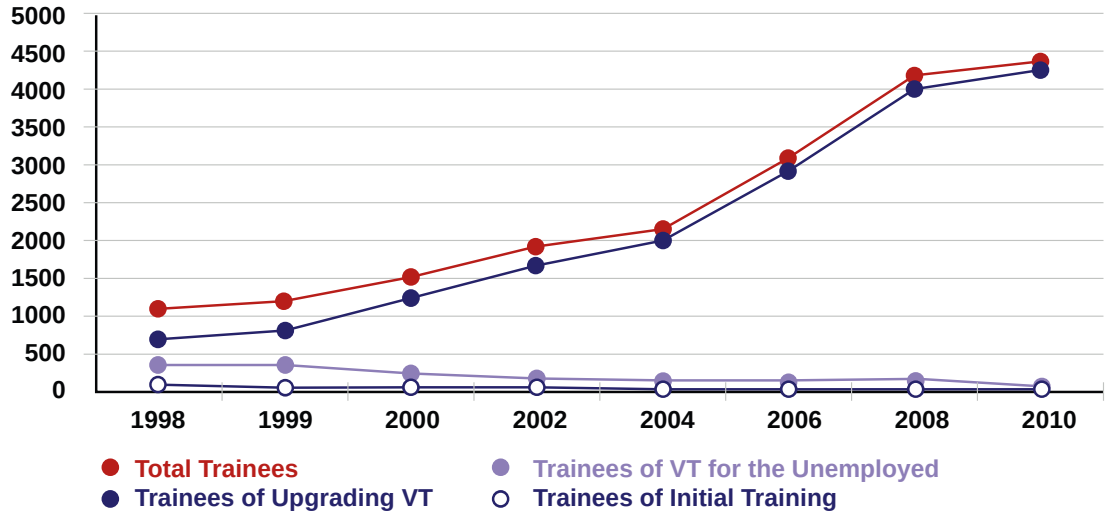
Contrary to the old system, the new system is designed for the continuing training of those in work and the unemployed. More importantly, the new system adopted a market mechanism where employers, employees, and the unemployed can make decisions on what training they require and which institute to train at, based on their own training needs. Expenses for taking training programmes are reimbursed from the EIF (see also **Section 4**). This mechanism functions as an incentive to encourage employers, employees and the unemployed to participate actively in lifelong vocational training. Because the system is based on choice, TVET providers compete against each other to attract more trainees, which should eventually lead to higher quality of vocational training programmes and consequently higher productivity. To this end, the government allowed all private institutes including junior colleges and universities to join the training market. In addition, the government conducts evaluation studies on the performance of VTIs and programmes, and makes the results public on a regular

basis.[14] Employers, employees and the unemployed can make informed decisions on TVET providers and training programmes based on the government evaluations. In contrast to the old system, the EIS (VCDP) covers all economic sectors, and focuses on providing continuing training for workers and the unemployed.

To integrate the new VCDP with the existing compulsory training system and establish a new framework for vocational training, the government abolished the Basic Law for Vocational Training and introduced a Workers Vocational Training Promotion Act in 1997 (it came into force in 1999).[15] In 2004 the Workers Vocational Training Promotion Act was replaced by the Workers Vocational Skills Development Act. This new law was designed to provide more equitable vocational training opportunities for SMEs and the disadvantaged (including the elderly, women, young people and the unemployed) and promote collaboration with labour unions. In the new system, the general and special account of MoEL supports vocational training for female family heads, young unemployed people, the self-employed and defectors from North Korea, while the EIF supports employers, employees and the unemployed[16] through VCDP.

Figure 4 Changes in number of VCDP trainees, 1998–2010

(unit: 1,000 persons)



Overall the VCDP contributed to increasing training opportunities for workers, as shown in **Figure 4** This was made possible by securing a sufficient budget to provide financial support to employers, employees and the unemployed by mobilizing the EIF, expanding the training market to all private and public TVET providers, and differentiating the payments by firm size

[14] The results of the evaluation studies on the performance of the vocational training institutes and programmes are uploaded to the government website (www.hrd.go.kr/).

[15] Between 1995 and 1998, there was a transition period when both old and new systems were active.

[16] Specifically, those who were once employed by a company that paid employment insurance fees.

(for example, a relatively small insurance fee is applied to SMEs, while they receive a relatively high refund).

- *Promoting vocational training in SMEs*

In 2002, MoEL launched a new programme specifically designed for SMEs. This met the objection that SMEs did not get as much benefit from their EIS contribution as large firms, because they typically lacked the financial and human resources, information and organizational capacity to provide vocational training to their employees. This new programme included three components. First, it offered support to SMEs that joined a training consortium comprising other SMEs in the same industry and vocational training providers. Consortia were required to appoint a training master to carry out job analysis, draw training plans and contracts, and provide monitoring and evaluation. Second, it supported the learning activities and infrastructure-building of SMEs that were developing as learning organizations (systematically collecting and utilizing knowledge, experience and know-how). Collaboration with labour unions was encouraged. Third, it offered free advanced training courses that it was uneconomic for SMEs to provide.

- *Strengthening school–industry links*

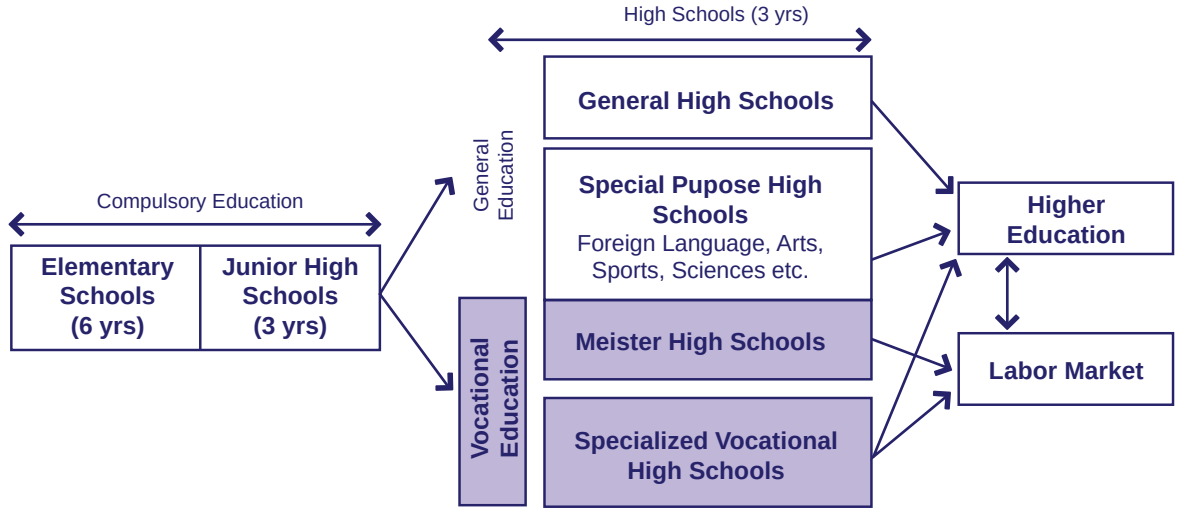
Demand for vocational school graduates decreased considerably in the 2000s, but there was still a requirement for mid-level skilled workers, although the type and level of skills required changed. Vocational high schools, however, failed to revise their curricula to encompass new skills such as webhandling, e-business and information processing. SMEs had a particularly chronic problem of skills shortages, because most vocational high school graduates were progressing to colleges and universities and not going into immediate employment.[17] At the same time, college and university graduates suffered from high unemployment rates. The government needed to tackle these imbalances, and also to prepare for the sharp decrease in the size of the high school age cohort that was anticipated over the next 20 years.

In 2010 the government began to implement its new policy of restructuring the vocational high school system and downsizing vocational high schools. The government categorized vocational high schools into two groups – specialized vocational high schools and Meister high schools, as described in **Figure 5** – and planned to reduce the number of vocational high schools from 691 in 2010 to 400 by 2015 (to produce 350 specialized and 50 Meister schools). 'Specialized' means that the curriculum and vocational education programmes are specifically designed for one or two vocational areas, such as electrical engineering, electronics, the internet, animation or cookery. A Meister high school is a special-purpose high school designed to train and supply young Meisters.[18]

[17] In 2010, 71 per cent of vocational high school graduates went to junior colleges and universities.

[18] The term Meister derives from the German word Meister, which means 'Master', a professional who has achieved a high level of expertise [in] his filed. 'Meister' as used in Meister high school can be interpreted as referring to a 'Junior Meister' or 'Meister candidate who has great potential to become a Meister'.

Figure 5 The vocational high school system in Korea



Source: Park (2011, p. 31).

MoE tried to diversify supervision of specialized vocational high schools and Meister schools by inviting other ministries and bodies including the Ministry of Defence, Ministry of Culture, Ministry of Agriculture and Forestry, and Small and Medium Business Association to participate. It also introduced an employment-oriented and competency-based curriculum. Along with the government's policy focus on strengthening school–industry linkages, the new curriculum developed based on National Competency Standards is now applied to Meister high schools[19] and vocational high schools.

The government also introduced a campaign called 'Get Employed First, Then Study While Working', and is continuing to support it. In the interests of providing employment-focused education, it offers a full tuition fee waiver to vocational high school students, tailor-made curricula, internship programmes, teachers with industrial experience, career guidance and job search services, and tax incentives to companies. For continuous education, the government encourages universities to establish separate BA programmes for workers with high school diplomas, provides financial subsidies to university departments contracted with SMEs, and is trying to expand student loans through the EIF.

[19] Meister schools provide customized classes. In the first year, students take a basic vocational competency programme. When they advance to the second year, they make an employment contract with a company. In the second and third years, they attend customized classes after their regular classes and participate in work-based training during vacations. On graduation, they are employed by the companies to which they have been contracted. One key purpose in restructuring vocational high schools in Korea was to make vocational high schools responsive to the changes in labour market skill needs.

For junior colleges and universities, the government has been trying since 2000 to change the school–industry linkage paradigm. In the past, most of the government policy for school–industry links was supply-based, approached from the perspective of colleges and universities and the government, not from that of industry.[20] The government provided project-based or department-based partial support so that only trainers and students participating in a project could obtain benefits. Most of the government projects were focused on R&D and theory-based education. **Table 12** summarizes the paradigm shift that is occurring. The major changes are a shift in perspective to that of industry, and a shift in strategy from project-based and partial to college-based and comprehensive.

Table 12 A paradigm shift in school–industry cooperation

	Old paradigm	New paradigm
Approach	Supply-based from the perspective of training institutions and the government)	Demand-oriented (from the perspective of industry)
Support strategy	Project-based/department-based partial support	College-based comprehensive support (college system change)
Scope	Partial participation (based on individual projects and trainers)	Comprehensive (students, trainers and the firm's employees)
Focus	R&D focused	Commercialization-focused/start-up
Education	Theory/research-based	Practical job skills training

With this paradigm shift, the government introduced 'Industry-College Cooperation Corporations' to promote a virtuous cycle of R&D / HRD leading to commercialization of ideas, starting-up enterprises and increasing employment. For example, the Corporation helps to establish start-ups by using the intellectual property (in the form of patents) developed in junior colleges and reinvesting any profit in education and R&D. The main functions of Corporations include contracting for industry–college cooperation projects and supporting their implementation, account management, acquisition and management of intellectual property rights, support of college facilities and equipment management, technology transfer and commercialization, and rewards to technology providers and researchers. The government has encouraged junior colleges and universities to establish Corporations, based on the Industrial Education Enhancement and Industry–Academia–Research Cooperation Promotion Act, since 2003. In addition the government has implemented related policies and projects including a Project for Developing Industry–College Cooperation-Centred Junior Colleges (2005–12) and a Leader in Industry–College Cooperation award (2012–16).

[20] In the past, individual trainers contacted private companies on a project basis. In other words, there was no systematic approach to school–industry collaboration at the institutional level and on the basis of the common interests of training institutions and employers.

Table 13 Major policies and laws related to the TVET system in Korea

	Economic and social background	Major policies and laws	
		Education	Vocational training
Early 1960s	Korea Launched the First Five-Year Economic Development Plan (1962–66). Shortage of skilled workers and technicians. Increase in demand for secondary education.	Introduced separate national curriculum for vocational education at high school and five-year vocational schools (1963). Enacted the Industrial Education Promotion Act (operational from 1963–2003).	Government discussed the necessity of introducing a vocational training system to solve the problem of an anticipated skilled labour shortage.
Mid-1960s–1970s	Promoted economic growth with a focus on light industry through an export promotion strategy. Developed heavy and chemical industries.	Expanded the secondary education system including vocational high schools. Restructured five-year vocational schools into two-year vocational junior colleges (1970–76) and expanded them. Merged two-year junior colleges and vocational junior colleges into junior colleges (1979).	Enacted a Vocational Training Act (operational 1967–76). Strengthened the skills certification system through a National Technical Qualification Law (1973–present). Enacted a Basic Law for Vocational Training (1976–97) and Vocational Training Promotion Fund Act, and introduced a compulsory training system (1976–97).
1980s	Structural change from labour-intensive industries to technology-intensive industries and from mass production mode to small-scale production of diverse commodities	Expanded higher education.	
1990s	Transformation of industrial structure into advanced level. Growth of service industry. Unemployment increased by a foreign currency crisis.	Introduced a 50:50 policy to increase vocational high school enrolment up to 50 per cent of total high school students (1991–98). Enacted the Vocational Education and Training Promotion Act (operational 1997–present).	Enacted the Employment Insurance Act (1993– present). Introduced VCDP within the framework of EIS (1995 present) Enacted Workers Vocational Training Promotion Law (operational 1997–2004) Enacted Basic Law on Qualification (1997–present)
2000s-2010s	High value-added technology innovation. Low growth, less employment and polarization. Low fertility and rapid ageing of population. ICT era.	Amended Industrial Education Promotion Act to Industrial Education Enhancement and Industry-Academia-Research Cooperation Act (2003–present). Restructured vocational high school system (2010).	Introduced SME Training Consortium Programme (2002). Revised Workers Vocational Skills Development Act (2004). Restructured 24 polytechnic colleges and 21 VTIs of HRDKorea into 9 polytechnic colleges (2006).

- *Role of the stakeholders in the training system*

As explained in the discussion on the TVET paradigm shift above, the role of employers continues to increase in school–industry links and the provision of vocational training to their employees. Considering the very rapid changes in the level and type of skills demanded in the labour market, it is necessary for the government and TVET providers to invite employers to help design and revise TVET curricula and programmes, and improve the government policies on providing financial and administrative support to the EIS, including the VCDP. The Workers Vocational Skills Development Act specifies that employers should provide vocational training to their employees, encourage workers to participate in vocational training, allow leave of absence for vocational training and appoint vocational training staff, and take the necessary steps to identify skill demands by industry sector to ensure that vocational competency development training meets industry needs.[21]

Contrary to the role of employers, trade unions do not play any significant role in providing lifelong learning opportunities. A few clauses in the Workers Vocational Skills Development Act mention 'workers' organizations', but it does not specifically define the role of trade unions in providing vocational training to employees.[22] Trade unions are nevertheless involved in the governance of the training system through industry skills councils, whose main roles include the analysis of labour demand and supply, and the development of the National Competency Standards and qualification standards, as well as regional councils, which are in charge of analysing changes in skills demand in the local labour market and making regional HRD plans.

Within the limitations of their budget and their vocational training capacity, local governments have played a role in developing and providing vocational training programmes to respond to skill demands from their local labour markets. A key issue is how to coordinate local government and central government policy, considering that MoEL has its own local offices (six regional offices of employment and labour and eighty-eight employment welfare centres).

- *The main challenges that TVET needs to address*

The most fundamental challenge facing Korea is to cope with the constant decrease in the number of young people caused by a low fertility rate. This will be an issue for at least the next twenty years, as is shown in **Figure 6** This will affect student numbers in vocational high schools and junior colleges, and in technology-related university departments. The demand for workers skilled to high school diploma level is expected to remain constant, while the demand for technicians and engineers will rise according to MoEL. This indicates that Korea's

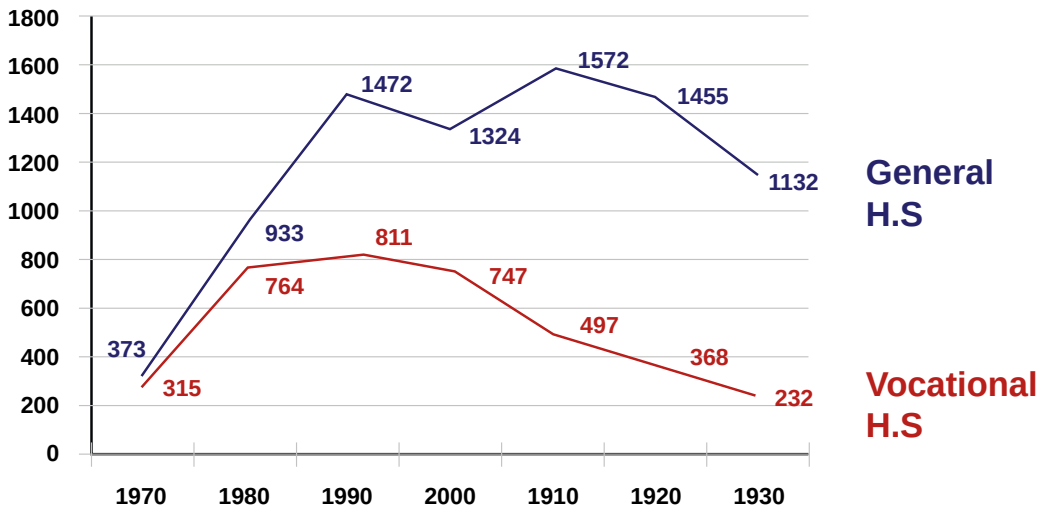
[21] The Workers Vocational Skills Development Law article 4 www.law.go.kr/lsInfoP.do?lsiSeq=154053&ancYd=20140520&ancNo=12627&efYd=20140621&nwJoYnInfo=N&efGubun=Y&chrClsCd=010202 (accessed 21 October 2016).

[22] Regarding the role of trade unions (the law uses the phrase 'workers' organizations'), the Workers Vocational Skills Development Act states that vocational competency development training should be based on cooperation between workers and employers, and that employers' organizations, workers' organizations and sector HRD councils should take necessary steps to identify skill demands by industry sector to ensure that vocational competency development training meets industry needs.

TVET system faces a very urgent need to provide higher-quality vocational education and training to improve the productivity of workers and thus industries. This sense of urgency should be recognized by both TVET providers and industry (employers). Both also need to have a strong sense of ownership of TVET (generating and disseminating data and information on the demand for and supply of skills and jobs, the roles and responsibilities of each actor, and TVET investment).

It is necessary to strengthen institutions that link skill demand and supply, skill demand and TVET, students and TVET programmes, and job-seekers (graduates) and employers. This assumes that all the actors involved share responsibilities and perform their roles and responsibilities in mobilizing financial resources, developing TVET programmes, and providing employment services. In that sense, it is crucial to integrate the TVET and employment service activities now implemented separately in metropolitan cities and provinces[23] into an integrated and comprehensive system for each local government area, to achieve synergy and improve their efficiency and effectiveness.

Figure 6 Past and projected student enrolment in high school, 1970–2030 (1,000 persons)



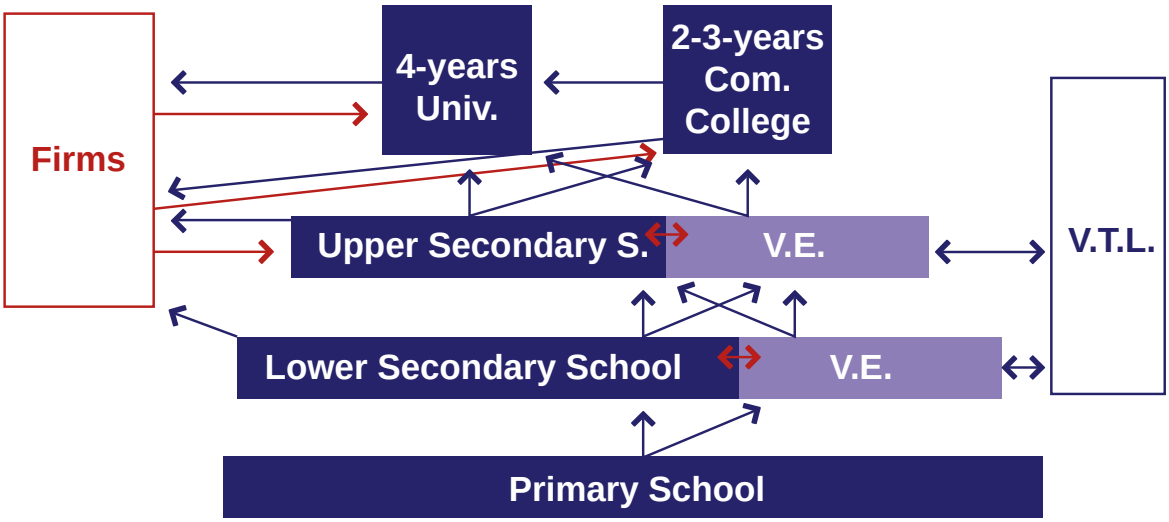
Source: Park (2011, p. 31).

It is critical to establish and utilize a virtuous cycle of school-to-work and work-to-school transition that can be applied whenever and wherever it is needed in this post knowledge-based economy era, when we are experiencing the advent of the fourth industrial revolution. Schools need to equip students with the right set of skills and knowledge that can directly be applied to the real world of work, so that graduates can smoothly obtain jobs and perform their roles from the moment of their employment. Employees should be able to access training opportunities whenever they need to do so. In other words, further education and training

[23] There are three main actors in TVET in local government: the MoE through its seventeen local offices of education, MoEL through its six regional offices of employment and labour, and local government bodies. Each has its own TVET policy. Their policy efforts need to be integrated to increase efficiency and effectiveness.

opportunities should be guaranteed to everyone within a national policy framework of lifelong learning. To promote smooth transitions from school to work and work to school, horizontal and vertical permeability should be guaranteed. For this, the government, TVET providers and the private sector need to make efforts to provide more systematic curricular links between schools and the labour market and between schools with different levels, more flexible admission policies for HEIs, and active employer support.

Figure 7 Horizontal and vertical permeability



It is crucial to involve employers actively in policy-making and implementation. As pointed out above, employers are key to responding promptly to rapid changes in skills demands and preparing for the future because they are in the best position to notice change in skills demands, champion new skills and technology, and can provide quality TVET and employment opportunities to students, trainees and employees. The Korean Government has tried to involve employers in TVET as a major actor since the early 2000s, when it introduced sector HRD councils (now called sector councils) benchmarking England's sector skills councils. Major policies on TVET such as school–industry links, developing National Competency Standards and the Employed First, Then Study While Working campaign require employers' contributions. More than in the past, employers in general seem to recognize the significance of their role in TVET. More active participation of employers is needed, however.

Sector HRD councils

In the early 2000s, the Korean Government recognized the necessity for industry to participate actively in vocational competency development to tackle the serious problems of the mismatch between supply of and demand for skills, in both quality and quantity. In 2003, the Ministry of Industry, MoL and MoE proposed a pilot project of forming three sector HRD councils (for mechanics, information technology (IT) and electronics). After the revision of the Industrial Development Act, these first three sector HRD councils, drawing representatives from industrial associations, enterprises, research institutes and experts, were introduced in 2004. In 2015 seventeen sector HRD councils were operating, covering mechanics, electronics, IT business, shipbuilding, steel, textiles, semiconductors, display, biotechnology, nanotechnology, robotics, automobiles, software, medical equipment, design, renewable energy and root industry.

The main roles of the sector councils include analysis of demands for labour and TVET, development of and suggestions for qualification standards and vocational competency standards, and development of TVET programmes. Sector councils share information on the demand for skills with TVET providers and local governments, and participate in the projects of providing vocational training programmes tailored to skill demand and career guidance in collaboration with the regional HRD councils. The Ministry of Industry appoints new sector councils based on recommendations from the related ministry and a review process, and provides financial support to the sector councils annually (KRW3.4 billion in 2015 for the seventeen councils) after assessing their performance in previous years and future plans.

Sector councils currently in operation do not cover all major industry sectors and lack expertise in fulfilling these main functions. The Ministry of Industry plans to implement counter measures such as introducing new sector councils in sectors not yet covered and making best-practice cases for training professional workers for local industries.

In 2015 MoEL introduced industry skills councils with representatives from employers' organizations, enterprises and workers' organizations, based on the Workers Vocational Skills Development Act (article 22). Their main roles include surveying and analysing labour demand and supply, and developing National Competency Standards and qualification standards. In 2016 thirteen industry skills councils were in operation (covering IT/business management, business administration/accounting, finance/insurance, design/cultural contents, shipbuilding/maritime, mechanics, metal processing/welding, materials, chemistry, textile/fashion, electricity/energy/resources, electronics, broadcast/communication technology). Collaboration between the Ministry of Industry and MoEL is required.

Sources: Ministry of Industry (2015), HRDKorea (2016), Industrial Development Act and Workers Vocational Skills Development Act, www.law.go.kr/ (accessed 21 October 2016).

6. Analysis of the training offer and training beneficiaries

Initial TVET is provided mainly by vocational high schools, junior colleges, industrial universities, polytechnic colleges, KoreaTech, HRD institutes of KCCI, and other VTIs as described in **Table 9.**

- *Vocational high schools*

As of 2016, there were two types of vocational high school in Korea, specialized vocational high schools and Meister high schools. Specialized vocational high schools can be defined as high schools designed to train high-quality skilled workers for specific industrial and occupational areas. The specialized vocational high school curriculum consists of four components: (i) general academic subjects (60 units out of total 204 units), (ii) specialized subjects for vocational training (86 units), (iii) autonomous programmes designed by the school according to students' aptitude, future career plans and skill demands from industry (34 units), and (iv) programmes for promoting students' creativity (24 units).[24] Each school provides students with practical training in workplaces in collaboration with firms during the second semester of their third year. This activity is based on the Vocational Education and Training Promotion Act and the Industrial Education Enhancement and Industry–Academia–Research Cooperation Promotion Act. All specialized vocational high schools are publicly financed. Tuition fees are either waived or supported by scholarships. In 2015 there were 297,701 students in 498 specialized vocational high schools (158,129 in 277 public institutions and 139,572 in 221 private institutions).[25]

Meister high schools are defined as 'special purpose high schools' that provide high-level professional vocational education in strategic areas through close school–industry collaboration. Meister schools provide customized classes.

A key purpose in restructuring vocational high schools in Korea was to make vocational high schools responsive to the changes in skill needs of the labour market. Meister schools are expected to function as benchmarks for specialized vocational high schools. Like the specialized vocational high schools, all Meister high schools are publicly financed. In 2015 there were forty-one Meister high schools (thirty-six public and five private) in twenty-three strategic industry areas such as mechanics, new media, mobile, bio-industry, semiconductors, energy, automobile, electronics, shipbuilding, steel, aerospace engineering, robotics, plants, software, food processing, marine, logistics, and medical equipment.[26] In 2015 Meister schools had education and employment contracts for 8,597 students with 3,645 companies.[27]

[24] Press release on the curriculum of specialized vocational high schools, Ministry of Education, Science and Technology (December 2012). The curriculum structure is also applied to Meister high schools.
[25] http://kess.kedi.re.kr/index (accessed 17 September 2016).
[26] www.meister.go.kr/index.jsp (accessed 16 September 2016).
[27] www.meister.go.kr/index.jsp (accessed 16 September 2016).

- *Junior colleges*

Junior colleges, as short-term HEIs, provide two or three-year vocational education programmes leading to an associate bachelor's degree. The main objective of junior college education is to train and supply mid and high-level technicians. Junior colleges also offer enrichment courses which upgrade job skills and lead to BA degrees. Graduates from junior colleges can transfer to a university to continue their study. Among the subjects offered are social sciences, humanities, natural sciences, agriculture, fisheries, engineering, arts, home economics, physical education and teaching. Private junior colleges have played a great role in expanding educational opportunities, as shown in **Table 14**.

Table 14 Changes in junior colleges, 1985–2015

	No. of junior colleges (and % private)	No. of students	Student–teacher ratio
1985	120 (85.8)	242,117	37.8
1990	117 (86.3)	323,825	43.9
1995	145 (94.5)	569,820	54.9
2000	158 (89.9)	913,273	78.1
2005	158 (91.1)	853,089	70.9
2010	145 (93.8)	767,087	61.2
2015	138 (93.5)	720,466	55.4

Sources: MOE and HRD Statistical Yearbook of Education for each year, http://kess.kedi.re.kr/index (accessed 17 September 2016).

For junior colleges, there is no nationally guided curriculum. Individual colleges and departments develop their own curricula in collaboration with firms, according to the National Competency Standards and the skills demand from industry. The government promotes industry–college cooperation through financial support policies such as LINK (Leaders in Industry–College Cooperation) and the SCK (Specialized College of Korea) project (MoE, 2014, 2016). The main revenue source for private junior colleges is tuition fees,[28] which creates severe budget constraints, so the government's financial subsidy plays a crucial role in enhancing and maintaining their education and research capacities.

- *Industrial universities*

The government introduced a new type of four-year HEI called 'industrial university' in 1982. The main objective was to provide those already in the workforce who possessed a high school diploma or associate bachelor's degree with the opportunity to continue their education up to bachelor's degree level. The number of industrial universities increased to eighteen in 2007, ten of which were private, then decreased to two in 2016. Although the government tried to persuade them to admit more applicants with vocational high school diplomas, national

[28] Students in private junior colleges pay KRW5.5–6.5 million annually (approx. €4,440–5,250), while those in public junior college paid around KRW2.7 million (approx. €2,180) in 2015.

technical certificates and industry experience, the number of such applicants decreased and most industrial universities wanted to transform themselves into four-year regular academic universities.

- *Polytechnic colleges*

As the enrolment rates to high schools reached more than 95 per cent and those of higher education institutions kept increasing, the number of applicants to VTIs decreased. In 2006 the government decided to restructure VTIs by integrating nineteen public institutes managed by HRDKorea and twenty-four polytechnic colleges under the Korea Foundation of Polytechnic Colleges into eleven polytechnic colleges (four of which were specialized in biotechnology, aviation, textile and fashion, while the remaining seven were regional colleges). Polytechnic colleges provide various training programmes in diverse industry areas (see **Table 15**). Their practical training programmes are tailored to the skill needs of industry or even of specific firms (in the Workplace Practical Skill-focused Factory Learning System),[29] with the result that their graduate employment rate is 85.8 per cent, compared with 61.4 per cent for junior colleges and 54.8 per cent for four-year universities in 2015.[30]

Table 15 Vocational training programmes offered in polytechnic colleges

Programme	Entry qualification	Training period	No. of trainees in 2015
Intensified major course for BA degree	Technical college graduates with a year or more of experience in related fields. Work-to-school curriculum	2 years	500
Industrial associate degree programme	High school graduate or higher Programme for training multi-task technicians	2 years	15,980
Master technician course	Industrial engineers, technicians, and workers with more than eight years of experience in related fields Tuition free Programme for training master	1–2 years	325
Vocational training programme	Age 15 or older seeking employment Programme for training technicians	6 months to 1 year	7,280
Upgrading training for those in employment	Workers Employer-initiated training	varies	51,000
Restart training	Disadvantaged groups	varies	3,135
Total			78,220

Source: www.kopo.ac.kr/sub.html?menu=2517 (accessed 17 September 2016).

[29] www.kopo.ac.kr/content.do?menu=110 (accessed 21 October 2016).
[30] www.kopo.ac.kr/content.do?menu=108 (accessed 21 October 2016).

The main revenue sources of polytechnic colleges are government subsidy and tuition fees (totalling approximately KRW2.2 million in 2015,[31] at a rate less than half as high as junior college tuition fees).

- *HRD Institutes of KCCI*

KCCI has provided vocational training programmes in eight HRD institutes in different metropolitan areas and provinces. The main purpose of these institutes is to train and supply technical workers to SMEs and provide vocational competency development opportunities to workers and young people looking for jobs. HRD institutes analyse TVET demands and the competencies required for jobs, identify occupations that need vocational training and curriculum development, and provide employment services to trainees.[32]

Table 16 Vocational training programmes in KCCI's HRD institutes

Programme	Entry qualification	Training period
Programme for training in professional skills	Unemployed aged 15 +. Employment-oriented curriculum. Tuition free + allowance of KRW200,000 + free accommodation.	3 months–1 year
Commissioned programme for third year of general academic high school	General academic high school students looking to progress to the third year. Tuition free + allowance of KRW100– 200,000 + free accommodation.	1 year
Employee training for local industry	Workers covered by Employment Insurance. Trains skilled labour for SMEs.	varies
Employer-initiated training	Workers covered by Employment Insurance.	varies
Training to maintain worker's employment status	Workers. EIS Job Security Programme.	varies
Paid-leave training	Employees of priority support enterprises or companies with 150 employees or fewer.	varies

Source: www.korchamhrd.net/cms/cmsDetail.do?rootMenuId=12&menuId=1505&cms_id=29 (accessed 21 October 2016).

[31] http://khei-khei.tistory.com/1038 (accessed 21 October 2016).
[32] www.korchamhrd.net/cms/cmsDetail.do?rootMenuId=44&menuId=48&cms_id=9 (accessed 17 September 2016).

- *Korean University of Technology and Education (KoreaTech)*

In 1991, MoL established KoreaTech to supply vocational training trainers and HRD experts who can teach and conduct research on industrial technology development. This institute offers undergraduate and graduate programmes that cover mechatronics, engineering, industrial design, computer science, materials and chemical engineering, energy, techno HRD, industrial management, and similar subjects.[33]

In addition to the TVET providers mentioned above, local governments and central government agencies also operate VTIs.

Table 17 Summary of vocational education and training institutes

Training institute	Entry level	Length of training	Certification obtained	Delivery mode/link with industry	Finance
Vocational high school	Middle school graduate	3 years	High school diploma	School-based + practical training in workplace	Publicly supported
Junior college	High school graduate	2–3 years	Associate BA	School-based + practical training in workplace	Mainly student tuition + government support
Industrial university	High school or junior college graduate	2–4 years	BA		Tuition fees for private institutions
Polytechnic college	High school graduates Workers Unemployed	Degree programmes: 2 years Non-degree programmes: varies	Associate BA	School-based + practical training in work place	Mainly by the government
KCCI HRD Institute	Third year of academic high school Workers	To access third year of academic high school: 1 year Other courses vary	Technical certificate	Institute-based	Government
KoreaTech	High school graduate	4 years	BA	School-based	Mainly by the government

[33] www.koreatech.ac.kr/eng/sub04_05.do (accessed 18 September 2016).

- *Continuing training offers*

Continuing training is provided mainly by polytechnic colleges, KCCI HRD institutes, employers, employer organizations and private vocational training institutes.[34] In the present vocational training system, any institutes, whether public or private, can apply approval to provide vocational training to MoEL. Once its vocational training programme is approved, the institute can join the training market and compete against other training institutes.

According to the Report on the Analysis of Enterprise Vocational Training in 2015,35 48.5 per cent of enterprises participating in a survey provided group training and/or distance training to their employees, and 85.2 per cent of them commissioned training from other TVET providers including employer organizations. When enterprises used other TVET providers, 15.3 per cent of them checked the MoEL's performance evaluation before making a final choice. Of all enterprises surveyed, 65.0 per cent provided on-the-job training (OJT), and they demanded government support for supplying systematic OJT programmes; 7.0 per cent provided financial and administrative support to individual employees for their self-promoted training and development; and 90.5 per cent of enterprises recognized the VCDP, while 43.1 per cent used it.

[34] Private training institutes include privately owned training institutes, in-company training centres, training centres in diverse types of school and others.

[35] MoEL (2015*c*). MoEL sampled 4,500 enterprises with 10 employees or more in a survey on the current status of vocational training provided by enterprises.

III. The TVET Financing System

1. Vocational education

The MoE budget in 2015 was KRW 55,132.2 billion (approx. €44.5 billion[36]), which represented 3.5 per cent of GDP and 14.7 per cent of the national budget. The proportions of the MoE budget to GDP and the national budget had been maintained for the previous three years, as **Table 18** shows.

Table 18 GDP, government budget and Ministry of Education budget in Korea, 2013–15

	GDP (A)	Government budget (B)	MoE budget (C)	B/A	C/A	C/B
2013	1,429,445.4	348,988.3	53,492.3	24.4	3.7	15.3
2014	1,486,079.3	355,805.0	54,248.1	23.9	3.7	15.2
2015	1,558,591.6	375,400.0	55,132.2	24.1	3.5	14.7

Sources: http://kosis.kr/ (accessed 18 September 2016) and Ministry of Education, Budget Plan for each year.

In Korea, education including vocational education has four different funding sources: MoE, local governments, private school foundations, and parents and students. As of 2015, MoE transferred 71.7 per cent of its budget (KRW39,520.6 billion out of KRW55,132.2 billion) to seventeen local offices of education[37] as a local education grant,[38] which means that the local education grant is the major source of local government education budgets, and KRW563.3 billion of national subsidy to vocational education in high schools (MoE, 2014*b,* pp. 18–19). In other words, more than 70 per cent of the budget of the local offices of education comes from MoE as a block grant (Gu, 2015, p. 94). The rest of the local education budget is appropriated by a transfer from the general account for local administration, tuition and other financial demands.[39]

For vocational education at higher education level, MoE meets general operating expenses including salaries of faculty and staff for national institutes, but not private institutes. For the private institutes, the ministry provides a financial subsidy for implementing its own policies such as the Leader in Industry–College Cooperation and the Specialized Colleges of Korea Project. The revenue budget of junior colleges in 2015 was KRW 5,060.9 billion (approx.

[36] Using an exchange rate of KRW1,000 = €0.807925 as of 4 October 2016.

[37] Local offices of education are decentralized and autonomous local government bodies. The superintendent of each LOE is elected by people in the relevant area. MoE has a working relationship with all seventeen LOEs. Although MoE provides large sums to LOEs, LOEs have autonomy in making their own budget plans and implementing them.

[38] The local education grant consists of general and special grants. Sources of the general grant are 96/100 of 20.27 per cent of internal tax revenue, plus a national education tax (a special tax to improve the educational environment, which is collected as a form of surtax on existing taxes such as property and automobile taxes). This block grant is transferred to the LOEs, which supervise kindergarten, elementary and secondary education, and lifelong learning for adults. The LOEs have autonomy to manage their general grant. The amount of the general grant to each LOE is decided based on the difference between standard fiscal revenue and standard fiscal demand.

[39] In Korea the local education budget is managed by the special account for local education. Local education grants from MoE and other finance from the general account of local government are transferred to the special account for local education. The superintendent is responsible for making and implementing an education budget plan.

€4,088 billion), 99.7 per cent of which was for private junior colleges. These colleges received 58.0 per cent of their income from tuition and other fees (KRW 2,928.5 billion, approx. €2,366 billion) and 19.5 per cent from national subsidy (KRW 985.3 billion, approx. €796 billion).[40] This indicates that junior colleges in Korea are heavily dependent on students' tuition fees and the government provides relatively little financial support to them.

2. Vocational training

MoEL is responsible for providing vocational training to employees and the unemployed. The cost is met through the MoEL general account and the EIF. In 2015, the MoEL allocated KRW 375,777 million (approx. €30,359 million) for vocational training in its general account budget (which totalled KRW 1,897,785 million). This covered (i) vocational training of both unemployed young people not covered by the EIS (KRW63,209 million, approx. €51.068 million) and out-of-school young people at risk (KRW2,227 million, approx. €1.799 million); (ii) financial support for HRDKorea (KRW93,505 million, approx. €75.545 million), Korea polytechnic colleges (KRW171,430 million, approx. €138.502 million), and KoreaTech (KRW 45,270 million, approx. €36.675 million); and (iii) the management of national and private qualifications (KRW136 million, approx. €0.109 million) (MoE, 2014*b*, pp. 15, 22–3). In 2014, MoEL spent KRW315,507 million (approx. €254.906 million) for vocational training in its general account budget (of KRW1,970,024 million, approx. €1,591.6 million).

In addition to its general budget, the MoEL provides financial support to employers, employees and the unemployed through the EIF (see also **Section 4**). In 2015, the EIF budget for vocational training was KRW 1,621,675 million (€1,310 million) (MoEL, 2014, pp. 43-9). In 2014, the MoEL spent 1,459,653 million KW (€1,179 million) (MoEL, 2014, pp.40-5).

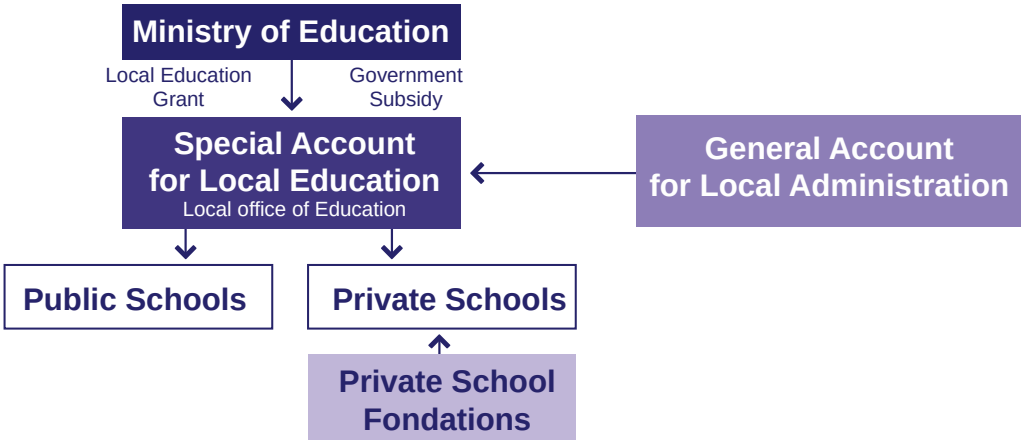
3. Governance of public expenditure for TVET

- *Vocational high schools*

For vocational education in secondary schools, superintendents (heads of LOEs) allocate budgets to schools on the basis of unit cost per school, class and student, by level and type of school. In other words, the LOEs use an input-based allocation method. In addition to the local education grant, MoE provides a financial subsidy to implement the ministry's own policies. For this, it reviews project proposals submitted by LOEs, and selects projects to fund based on their score.

[40] http://kess.kedi.re.kr/index (accessed 1 October 2016).

Figure 8 Local education budget flow from the Ministry of Education to schools



- *Junior colleges: the Specialized Colleges of Korea (SCK) project*

As has been shown, the government does not provide the recurrent operating budget to junior colleges, whose major revenue source is tuition fees, most of which are spent to maintain routine school operations. This means that most junior colleges do not have enough funding to develop new innovative curricula and programmes promptly to respond to the rapid changes in skills demands from industry. The government's financial subsidy plays a crucial role in enhancing and maintaining their education and research capacities. Several policies have been implemented, including a Project for Developing Industry–College Cooperation-Centred Junior Colleges (2015–12) and Leader in Industry–College Cooperation (2012–16).

In 2014, MoE introduced a new financial support policy, the Specialized Colleges of Korea (SCK), to induce junior colleges to restructure their departments, programmes and curricula to focus on specialized major areas in which they have a comparative advantage through their links with industry sectors, and thus to train high-quality technicians with the core skills required in workplaces. The budget for the SCK policy was KRW 246.0 billion for seventy-eight junior colleges in 2014 and KRW 296.9 billion for eighty-six junior colleges in 2015. In 2016, KRW 291.9 billion was allocated for ninety junior colleges. MoE selects junior colleges for the project through reviewing their proposals, which include details of their institutional capacity and restructuring plan. Those selected receive a financial subsidy initially for two years, after which there is a mid-term evaluation, and those that pass receive a further three years of subsidy. In other words, the SCK project adopts a performance-based finance mechanism designed to maximize its cost-effectiveness.

The amount of subsidy allocated to each junior college is based on the number of students, the level of restructuring towards specialized major areas (measured by changes in the number of students in specialized major areas), and college evaluation results. These are measured by basic capacity (35 points) – covering overall employment index, the ratio of the number of students registered to the enrolment quota, the ratio of tuition to education expenditure, the number of professors required by the law, and score on the industry–college cooperation capacity index; the plan for specializing college programmes (50 points) – covering the plan for specialization in links with local and national industry sectors and labour development, the

plan for design and application of a National Competency Standards (NCS)-based curriculum, the plan for building infrastructure for the NCS-based curriculum, the plan to evaluate student job competencies, and the performance management system for specialized programmes; and the capacity of specialized major areas (15 points) – covering the employment index in specialized major areas, the ratio of students to the enrolment quota in specialized major areas, the rate of completing practical training in a workplace for students in specialized major areas, the ratio of professors to turnover in specialized major areas, and the entrepreneurship education index in specialized major areas. The subsidy takes the form of a block grant (MoE, 2014*c*, 2015, 2016).

Although it is too early to assess the effect of the SCK policy, the mid-term evaluation done in 2016[41] showed that the policy plays a positive role in enhancing major performance indicators such as employment rate (a 19.7 per cent point increase), entrepreneurship education index in specialized major areas (a 3.7 per cent point increase), the rate of completing practical training in workplaces (a 13.3 per cent point increase), and the proportion of the curriculum that is NCS-based (a 12.3 per cent point increase).[42]

4. Students and their families

Large numbers of students and trainees have their tuition waived or paid by the government. The government has paid full tuition costs for all students in all public and private specialized vocational high schools[43] since 2011. The aim was to provide better learning environments where students can focus on their training without worrying about financial problems, because most of them are from low-income families. For all students in Meister high schools, whether public or private, the government provides full tuition and accommodation fees. The unemployed who receive training in training institutes use a training voucher that is provided by the government.

Students in private junior colleges must pay tuition, in the range of KRW5.5–6.5 million in 2015 (approx. €4,440–5,250), while those in public junior college pay around KRW2.7 million (approx. €2,180) per year. Tuition fees in polytechnic colleges range from KRW2.0–2.4 million (approx. €1,600–1,940), which is much lower (Korea Higher Education Research Institute, 2016) because the MoEL subsidizes the polytechnic colleges. Tuition at KoreaTech ranges from KRW3.3 million (approx. €2,660) for humanity and social science courses to KRW 4.75 million (€3,840) for engineering courses.[44]

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[41] Mid-term evaluation measures the progress in (i) core performance indicators (employment, the ratio of students number to enrolment quota, system of assessing the level of job skills and company's satisfaction, entrepreneurship education), (ii) the implementation of the college plan (the relevance of specialized major areas to industry, the appropriateness of budget management, overall performance of college plan), (iii) the NCS-based curriculum (development and application of the NCS-based curriculum) and (iv) the soundness of college budget management (mobilization of revenue from external sources, the ratio of tuition to education expenditure, scholarship).

[42] MoE press release on the Mid-term Evaluation Results of the SCK Project (June 2016).

[43] Students who have already received other types of scholarship or financial subsidy are excluded.

[44] http://univ.hayani.net/100162.html (accessed 29 September 2016).

5. The Employment Insurance Fund and its main features

• *The EIF as a comprehensive social insurance tool*

The Korean Government enacted the Employment Insurance Act in 1993 and introduced the Employment Insurance System (EIS) in July 1995. EIS is a comprehensive social insurance which combines employment security, VCDP and unemployment benefit. While unemployment insurance is a passive means of providing financial support to the unemployed, employment insurance is a preparatory and active labour market policy tool in that it aims to prevent unemployment and promote reemployment by providing vocational training (MoEL, 2015*b*, p. 74). EIS manages the Employment Insurance Fund (EIF) which was established under the Employment Insurance Act. Its main purpose is to finance the EIS activities. EIS has been applied to every workplace with one worker or more since October 1998. In 2014 this encompassed more than 1.9 million workplaces, and 11.9 million workers are in the EIS (MoEL, 2015*b*, pp. 60–1). The EIF plays a critical role in promoting and providing vocational training for workers and the unemployed, which represents a major part of the national skills strategy, as indicated in **Table 19**.

Table 19 Workplaces and workers in the Employment Insurance System

	2002	2005	2010	2011	2012	2013	2014
Workplaces (1,000s)	826	1,148	1,408	1,508	1,611	1,748	1,935
Workers insured (1,000s)	7,171	7,966	10,131	10,675	11,152	11,571	11,931

Source: MoEL (2015b, p. 61).

EIF for VCDP covers all industry sectors and occupations. It is used to provide financial support to employers for training their employees, and to individual employees and the unemployed to help meet the costs of their vocational training. MoEL is responsible for collecting and managing EIF, the legal base of which is the National Finance Act (MoEL, 2015*b*, pp. 324–6).

• *Governance*

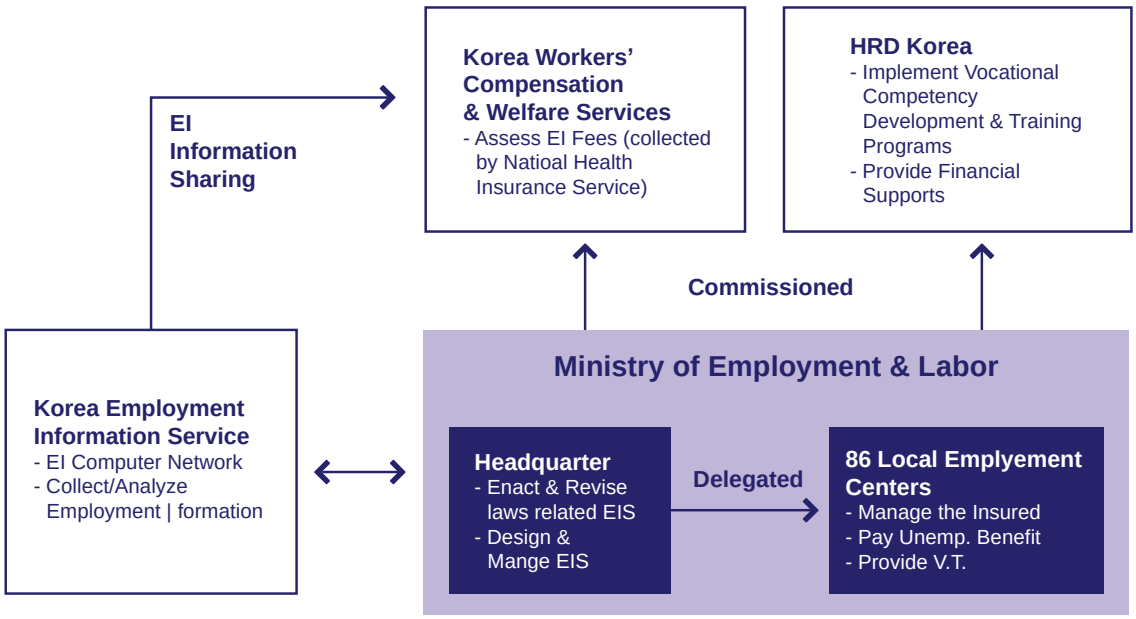
Following the National Finance Act, the Minister of Employment and Labour draws up an EIF plan, which is reviewed by the EI Committee,[45] and submits it to the Ministry of Strategy and Finance every year (by 20 June). The Minister of Strategy and Finance fits it into the overall national budget plan through consultation with the Minister of Employment and Labour, it is reviewed by the Cabinet, and once it receives the president's endorsement it is submitted to Congress (at least 120 days before the start of the fiscal year). The EIF plan is finalized through the review and approval of Congress. The Minister of Employment and Labour submits a settlement report to the Minister of Strategy and Finance by February of the following year.

[45] Representatives of workers and someone who represents the 'public good' can participate in the process of reviewing the EIF plan in the EI Committee meeting.

After a review by the Cabinet, the Minister of Strategy and Finance submits it to the head of the Board of Audit and Inspection of Korea by 10 April that year. The administration should report the EIF settlement results to Congress by 31 May of the subsequent year (MoEL, 2015*b*, pp. 327–8).

The government has conducted a study to assess EIF management, enhance its transparency and efficiency, and improve it annually since 2000, according to the National Finance Law. For the evaluation of EIF programmes, MoEL conducts a self-evaluation first and the Ministry of Strategy and Finance checks its results. For EIF investment, a separate evaluation (on investment strategy and policy, risk and performance management, profits, the decision-making process, and organization) is implemented by the Fund Investment Evaluation Committee (MoEL, 2015*b*, pp. 329–32).

Figure 9 Employment Insurance management flow



Source: MoEL (2015b, p. 341).

MoEL is responsible for making major decisions and planning the operation of the EIS, while the six regional offices of employment and labour implement the scheme. The Employment Insurance Committee, which consists of representatives of employers, workers, and the government and a representative of the 'public good', discuss and decide the details of the EI institutions and programmes.

- *Collection methods*

Sources of EIF funding include employment insurance fees collected from employers and employees based on each individual worker's average monthly earnings, instalment savings

(prepared for massive unemployment),[46] profits from fund investment (interest from deposits in banks, and profits on the purchase of stocks, bonds and real estate), and other minor sources such as additional dues, arrearage, and fines for default.

For the VCDP, employers pay insurance fees to the fund as a proportion of their total wage bill determined by the government (see **Table 20**). Target companies for VCDP were enterprises with seventy workers in 1995, and expanded to all enterprises in 1998 (public owned companies and services included). For VCDP and employment security, employers pay employment insurance fees in advance and are entitled to refunds after providing training.

Table 20 Employment insurance fee rates

		Employee % of pay	Employer % of payroll
Employment Security and VCDP	Enterprises with 1–149 employees	-	0.25
	Priority support enterprises with 150 employees or more	-	0.45
	Enterprises with 150–999 employees excluding priority support enterprises	-	0.65
	Enterprises with 1,000 employees+	-	0.85
Unemployment benefit		0.65	0.65

The Korea Workers' Compensation and Welfare Service assesses EI fees for employers and employees, and the National Health Insurance Service collects EI fees according to the Employment Insurance and Industry Calamity Insurance Fee Collection Law (article 16-2).

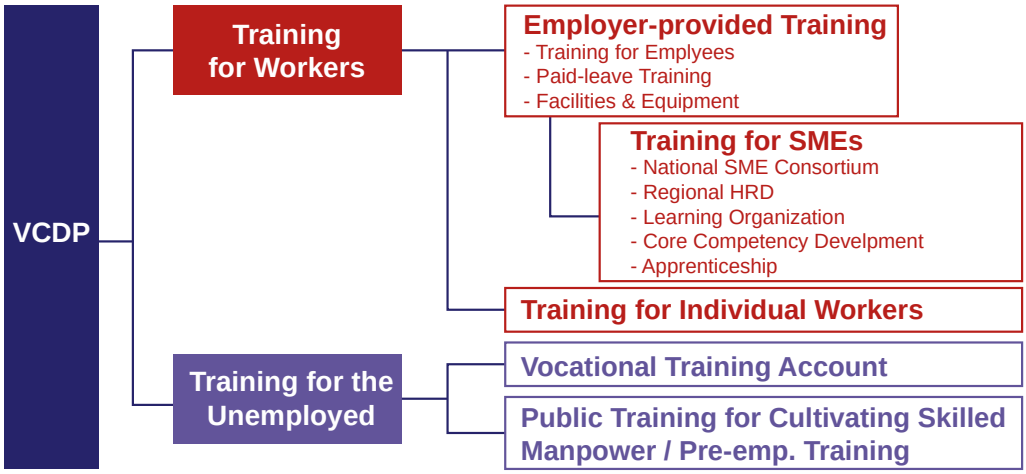
6. The Vocational Competency Development Programme financed by the Fund

The EIF for employment security and the VCDP are the main sources of finance for vocational training to workers including the unemployed. The VCDP has two categories of training, one for workers (employees) and one for the unemployed, including those in pre-employment training. In other words, the current VCDP covers continuing training, pre-employment training and training of the unemployed.[47]

[46] Under the Employment Insurance Act, the Minister of Employment and Labour should secure part of the EI fees collected for 'installment saving'. This proportion should amount to less than 1.5 times of the expenditure for employment security and VCDP and 1.5–2.0 times the expenditure for unemployment benefit.

[47] EIS covers the unemployed who were once employed in firms that pay employment insurance fees for the VCDP. For the unemployed with disadvantages (e.g. defectors from North Korea, foreigners who immigrate due to marriage, the poor self-employed, daily workers in construction, and people who live on less than the minimum living expenses), the MoEL budget covers training costs.

Figure 10 The Vocational Competency Development Programme



Source: MoEL (2015a, p. 3).

- *Financial support to employers*

A. Support for employer-provided vocational training

MoEL reimburses part of training costs to employers that have insured their employees with the EI when they provide vocational training approved by the Minister of Employment and Labour to their own employees, workers they expect to employ, and job-seekers.[48] Employers either provide in-plant vocational training themselves or commission training from external TVET providers. Vocational training can take the form of group training, workplace-based training, distance training (via the internet or mail)[49] or blended training. In order to be reimbursed employers should provide training of more than 16 hours/two days (or for priority-support enterprises,[50] 8 hours/one day). The reimbursement is formula-based: for the priority-support enterprises, training unit cost by occupation x adjustment index x training hours x number of trainees who completed training x 120%; and for large companies, training unit cost by occupation x adjustment index x training hours x number of trainees who completed training x 80% (for companies with 1,000 employees or more, 50%) (MoEL, 2015*b*, pp. 4–5).

HRDKorea handles the reimbursements. The employer must obtain approval for the training course in advance (seven days before training starts for commissioned training and five days before for in-company training) by submitting a form to an HRDKorea regional office. They must then submit a list of trainees, and after the training is complete make a completion report within fourteen days and request reimbursement within thirty days.[51]

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[48] MoEL manages the EIF via HRDKorea, which is responsible for receiving and reviewing refund requests from employers and reimbursing training costs, as described in Figure 4.1.

[49] Distance learning is not popular in Korea as it is perceived to be vulnerable to unfair practices or cheating.

[50] The priority-support enterprises include companies with 300 employees or fewer in mining, construction, transport and communications; companies with 500 employees or fewer in manufacturing; and companies with 100 employees or fewer.

[51] www.hrdkorea.or.kr/3/1/3/1 (accessed 14 September 2016).

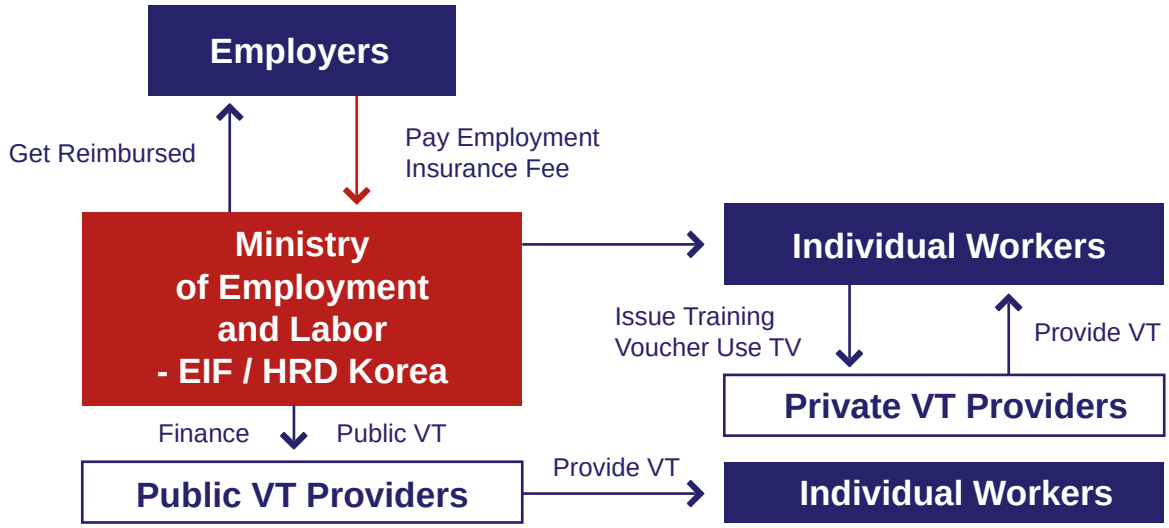
B. Support for paid-leave vocational training

MoEL also provides financial support to employers who allow paid leave to employees for mid-term and long-term vocational training. For priority support enterprises and enterprises with fewer than 150 regular employees, MoEL covers part of the training cost and trainees' wages when employers allow paid leave of longer than seven days for training of more than 30 hours, and part of substitute workers' wages (in addition to the training cost and trainee's wages) when employers allow paid leave of longer than 30 days for training of more than 120 hours and employ substitute workers. For other enterprises, MoEL supports part of the training cost and trainees' wages when employers allow paid leave of longer than 60 days to employees who have worked more than a year, for training of more than 180 hours. Employers request reimbursement from the HRDKorea local office (MoEL, 2015*b*, pp. 6–7).

C. Loans for vocational training facilities and equipment

MoEL provides loans to employers, employer organizations, worker organizations, training foundations and designated VTIs for installing vocational training facilities and equipment. Loans can be up to KRW6 billion (approx. €4,848 million) (up to KRW2 billion,' approx. €1,616 million, per year, and up to 90 per cent of the total cost), on condition that the loan is repaid in five years following a five-year grace period. Borrowers pay interest of 1–3 per cent. Loan requests are made to HRDKorea local offices (MoEL, 2015*b*, p. 7).

Figure 11 Flow of EIF funds for the Vocational Competency Development Programme



- *Financial support to individual workers*

A. Worker training vouchers

MoEL provides worker training vouchers to individual employees who are insured by the EIS for vocational training they have chosen to undertake. These are available to insured workers in priority-support enterprises, short-term contracted workers, employees scheduled to leave

their job within 180 days, insured individuals who have been enrolled in the EIS more than three years and never previously received support for either employer-provided training or training they have chosen, workers on maternity or paternity leave, employees who have agreed to take unpaid leave because of business difficulties, and self-employed individuals who have consistently paid their insurance. Employment centres under HRDKorea issue training vouchers to these employees on request. The vouchers are valid for training courses from TVET providers that offer programmes recognized by MoEL.[52] The TVET providers receive training expenses from MoEL. MoEL supports training expenses up to KRW2 million per employee per year (covering from 50–100 per cent of the actual training cost, with a ceiling of KRW5 million over five years) (MoEL, 2015*b*, p. 9).

B. Support to workers' vocational competency development

MoEL financially subsidizes insured workers in priority support enterprises, short-term contracted workers, and the insured self-employed when they take training courses at their own expense. Individual workers request payment from an employment centre after completing their training, and can obtain a subsidy of up to 80 per cent of training tuition for general training courses, 60 per cent for foreign language courses and 100 per cent for internet courses. The ceiling for each individual worker is KRW1 million per year and KRW3 million over five years (MoEL, 2015*b*, p. 230).[53]

- *Financial support to SMEs*

A. National HRD Consortium

After VCDP was implemented, it was pointed out that the smaller the firm size, the lower the rate of benefit from contributions to the EIF. Small firms lack financial and human resources, information and organizational capacity, so they carry out in-house training less frequently. The government introduced the National HRD Consortium Project, designed for SMEs (as a part of its financial support to employers), in 2001. The SME Training Consortium Project was proposed in the *Knowledge-Based Economy Development Strategy (2000.4)* by the Ministry of Finance and Economy and the Ministry of Labour, and the *Three-year Plan for Vocational Competency Development (2000.12)* by the Ministry of Labour, in 2000. In 2011 the project was expanded and redesigned to create a National HRD Consortium by integrating eleven training projects from six other ministries (MoEL, 2015*b*, p. 230).

The main objective of this scheme is to provide customized vocational training (both initial and continuing) to employees of SMEs through a contract between HRDKorea and enterprises, employers' organizations and HEIs (they form a 'joint training centre') which form a consortium with SMEs. It works as follows: HRDKorea makes a public announcement of a National Consortium project. Joint training centres (comprising enterprises and employers'

[52] The training need not necessarily relate directly to the worker's employment.

[53] MOEL intended to merge the two forms of financial support to individual workers (training vouchers and direct subsidy) into one in 2016.

organizations) apply by submitting project proposals. A review committee selects joint training centres based on the quality of their proposal, and HRDKorea makes a contract and provides a subsidy. HRDKorea monitors and evaluates each project, and obtains a final audit by an external accounting firm.[54]

HRDKorea provides expenses for facilities and equipment up to KRW1.5 billion (approx. €1.2 million) per year, to a maximum of 80 per cent of total expenses. The joint training centre is required to carry at least 20 per cent of the expense as matching funding. It refunds the costs of personnel and operation up to KRW 0.4 billion (approx. €323,170) per year, and of developing training programmes up to KRW0.1 billion (approx. €80,793) per year) (MoEL, 2015*b*, p. 11).

B. Regional HRD tailored to the local economy and industry

(This section draws on MoEL, 2015*b*, pp. 11–12.) To establish new industry-initiated HRD systems based on regional labour demand, MoEL provides financial support to vocational training programmes designed and implemented by regional councils,[55] which comprise representatives from regional Chambers of Commerce and Industry, the Korea Employers Federation, local offices of employment and labour, the Small and Medium Business Administration, and local offices of education. Regional councils analyse changes in the demand for skills in the local labour market, make regional HRD plans and obtain approval for subsidy from HRDKorea. Training is provided in joint training centres and through employment services in collaboration with regional employment centres. After completion of the training, HRDKorea evaluates the results.

MoEL grants subsidies for personnel expenses, labour demand analysis costs and management costs to the regional councils up to KRW600 million per year. MoEL also provide financial support to regional joint training centres for the installation of training facilities and equipment up to KRW1.5 billion (the joint training centre must provide at least 20 per cent matched funding), the provision of training (following the reimbursement procedures for employer-provided training), the management of the regional HRD plan up to KRW300 million (for personnel expenses, 20 per cent matched funding is required), and training programme development up to KRW200 million.

C. Making SMEs learning organizations

MoEL supports SMEs' learning activities and the establishment of learning infrastructure, so that SMEs can accumulate and disseminate job-related knowledge, experience and know-how internally in a systematic way. MoEL provides subsidies to employers of priority-support enterprises that carry out the necessary activities to become learning organizations, such as forming learning networks, supporting learning club activities, recognizing exemplary learning

[54] www.hrdkorea.or.kr/3/1/3/2 (accessed 14 September 2016).

[55] By 2015, sixteen regional councils were functioning. Each regional council consists of representatives of the local chamber of commerce and employers' organizations, workers' organizations, the local office of labour, Small & Medium Business Agency, and the local office of education.

activities, providing consultancy and coaching services, and preparing a learning space and equipment (MoEL, 2015*b*, pp. 13–14).

The financial support is for learning team activities (KRW300,000 per team per month for team activities, KRW2 million per company for learning organization education, and up to KRW200,000 per month for leaders' activities); the promotion of learning activities (up to KRW2 million for exemplary learning activities and up to KRW3 million for competition prizes); and learning networks (up to KRW1 million per company) (MoEL, 2015*b*, p. 216).

D. Support for core-competency training programmes

The private training market in Korea did not provide sufficient vocational training programmes to meet the demand from the SMEs. Most training programmes were oriented to large firms. Thus the Ministry of Labour introduced this project to induce private TVET providers to design and supply vocational training programmes for the SMEs and thus to strengthen the capabilities of SME workers (MoEL, 2015*b*, p. 218). MoEL provides subsidies to SME employers and workers so that they can take core job-competency development programmes selected by HRDKorea, which might otherwise have been ruled out because of the high cost. The entire training cost is subsidized (up to KRW30,000, approx. €24, per hour) (MoEL, 2015*a*, p. 14).

E. Apprenticeship training programme

In 2013, the government introduced an apprenticeship training system[56] in which companies hire job-seeking young people as 'learning workers' and provide systematic and long-term vocational education and training in workplaces or HEIs to equip them with the practical job competencies required; and the government or industry evaluates the job competencies of trainees and grants an appropriate qualification (a technical certificate or degree).[57]

MoEL supports companies that participate in this government-initiated apprenticeship training programme, and employees in these companies who take up apprenticeships of between six months and four years. MoEL provides financial subsidies for (i) developing education and training programmes for the apprenticeship training system, (ii) establishing training infrastructure, and (iii) providing education and training programmes (this covers compensation for trainers,[58] a trainee allowance,[59] and costs of both on-the-job and off-the-job training[60]) (MoEL, 2015*a*, p. 10).

[56] The government benchmarked the apprenticeship training systems in Swiss and Germany and customized them to the Korean situation.

[57] www.hrdkorea.or.kr/3/8/2 (accessed 20 September 2016).

[58] Total amount for each firm: KRW4–16 million for firms with fewer than 1,000 employees; there is no support for firms with 1,000 employees or more.

[59] Up to KRW400,000 per month for firms with fewer than 1,000 employees; no support for firms with 1,000 employees or more.

[60] The subsidy is based on this formula: unit cost by occupation x adjustment index x number of trainees x number of training hours.

- *Support for the unemployed*

MoEL also funds vocational training for job-seekers via its vocational training account. Their training needs need to be approved through consultation with an employment centre.[61] The account is designed to support job-seekers' systematic vocational competency development by providing training subsidies and managing information on individual training histories. Through this account, the MoEL pays training costs up to KRW2 million (approx. €1,600) per year (a contribution of 20–50 per cent is required from the trainee) and a training incentive if trainees attend more than 80 per cent of training days (MoEL, 2015*b*, pp. 15–16). The EIS finances the unemployed who had previously worked in companies that paid EI, while the MoEL budget covers other disadvantaged unemployed individuals.

- *Public training for cultivating skilled labour*

MoEL supports vocational training courses provided by the Korea Polytechnic Colleges for multi-skilled technicians and skilled workers. These colleges offer both two-year associate degree courses for high school graduates, and one year or short-term courses for training the unemployed older than 15 years or academic high school students who completed their third year but did not then attend college (MoEL, 2015*b*, p. 20).

7. Budget

- *Revenue of the Employment Insurance Fund*

As the numbers of workplaces and workers insured steadily increased (see **Table 19**), the amount of the EI collected also gradually increased, as shown in **Table 21.** In 2014 KRW 8,039.7 billion (approx. €6.5 billion) was collected in total. This comprised KRW 2,281.1 billion (28.4 per cent of the total) for the Employment Security Programme and the VCDP, and KRW 5,758.6 billion for the Unemployment Benefit Programme (71.6 per cent). The proportion of the fund allocated to unemployment benefit kept increasing between 2010 and 2014, because employees as well as employers pay insurance for unemployment benefit (see **Table 20**). MoEL has managed both unemployment benefit and VCDP using the same financial resources since 2006.

The funds collected for unemployment benefit, employment security and VCDP are not fungible (that is, resources collected for unemployment benefit cannot be used to fund employment security and VCDP). The resources collected under VCDP are allocated flexibly to its schemes according to need.

[61] In 2016, MoEL controlled eighty-eight employment centres.

Table 21 Amount of insurance fees collected, 2010–14

(in KRW billion and %)

	2010		2011		2012		2013		2014	
	Fees	Annual variation (Δ)	Fees	Δ	Fees	Δ	Fees	Δ	Fees	Δ
Total	4,247.8 (100.0)	0.7	5,071.7 (100.0)	19.4	6,328.1 (100.)	24.8	6,989.4 (100.0)	10.5	8,039.7 (100.0)	15.0
Unemployment benefit	2,736.2 (64.4)	0.8	3,416.3 (67.4)	24.9	4,298.4 (67.9)	25.8	4,864.1 (69.6)	13.2	5,758.6 (71.6)	18.4
Employment security	1,511.6 (35.6)	0.6	1,655.5 (32.6)	9.5	2,029.6 (32.1)	22.6	2,125.3 (30.4)	4.7	2,281.1 (28.4)	7.3
VCDP										
Collection rate	94.0		94.8		94.8		94.0		93.8	

Source: MoEL (2015b, pp. 112, 114).

Note: collection rate is the ratio of money actually collected to the estimated amount due.

- *Provision of subsidy by the EIF*

In 2014, KRW 1,207.5 billion was spent providing the VCDP, out of which KRW697.4 billion (57.8 per cent of the total subsidy) was for training workers (3,674,000 trainees), KRW430.2 billion (35.6 per cent) was for training the unemployed (284,000 trainees), and KRW79.9 billion KW (6.6 per cent) for public training (37,000 trainees), as shown in **Table 22.** Of the training for workers, KRW350 billion (29.0 per cent of the total) was to support employer-provided training and KRW244.8 billion (20.3 per cent) to support training for SMEs. The proportion of subsidy for SME training increased between 2012 and 2014, while that for training of individual workers decreased between 2013 and 2014. This indicates that SME training was prioritized.

In 2014, 3,674,000 workers received training support from the EIF: this was 30.8 per cent of the total workers insured (11,931,000), as shown in **Table 23.** The proportion of workers supported by the EIF decreased by 2.8 percentage points from 33.6 per cent in 2012 to 30.8 per cent in 2014. The subsidy provided by the EIF amounted to KRW697.4 billion in 2014. The proportion of the subsidy to the insurance fee collected increased from 29.9 per cent in 2012 to 31.5 per cent in 2013, then slightly decreased to 30.6 per cent in 2014.

VCDP provides financial subsidy for training in all economic sectors. In 2014, 31.1 per cent of trainees receiving employer-provided training (including paid-leave training) were in the manufacturing sector, 31.7 per cent in the education services, 11.2 per cent in the finance, insurance and real estate sector, and 8.1 per cent in wholesale and retail sales, transport, hotels and restaurants, as shown in **Table 24.**

Table 22 Number of trainees and subsidy for the VCDP, 2012–14

(units: 1,000 persons, KWR billion and %)

	2012		2013		2014	
	Trainees	Subsidy	Trainees	Subsidy	Trainees	Subsidy
Total	4,120 (100.0)	1,073.4 (100.0)	4,326 (100.0)	1,212.2 (100.0)	3,995 (100.0)	1,207.5 (100.0)
Training for workers	3,749 (91.0)	606.8 (56.5)	3,839 (88.7)	669.0 (55.2)	3,674 (92.0)	697.4 (57.8)
* Support to employers except paid-leave training	3,180 (77.2)	312.6 (29.1)	3,284 (75.9)	321.3 (26.5)	3,102 (77.6)	350 (29.0)
* Paid-leave training	11	10	10	9.5	10	9.8
* Facilities and equipment loan	-	5	-	6.3	-	11.2
* Support to workers	248 (6.0)	118.3 (11.0)	279 (6.4)	134.6 (11.1)	287 (7.2)	81.8 (6.8)
Subsidy for worker VCD	165	30.4	212	54.2	209	57.7
Worker training voucher	65	18.7	51	18	34	12.4
Tuition loan/support to individual workers	18	69.2	16	62.4	44	11.7
* Support to SMEs	310 (7.5)	160.9 (15.0)	266 (6.1)	197.3 (16.3)	275 (6.9)	244.8 (20.3)
National HRD Consortium	272	139.7	223	170.4	209	208.6
Learning organization	-	5.5	-	4.9	-	5.1
Core competency development	38	15.7	43	22	66	31.1
Training for the unemployed	338 (8.2)	401.8 (37.4)	451 (10.4)	471 (38.9)	284 (7.1)	430.2 (35.6)
Public training	33 (0.8)	64.8 (6.0)	36 (0.8)	72.2 (6.0)	37 (0.9)	79.9 (6.6)

Note: public training includes multi-skilled technician training, skilled worker training, training of trainers and HRD staff training provided by the Polytechnic Colleges and KoreaTech.

Sources: MoEL (2015b, p. 59; 2015a, pp. 204–33).

Table 23 Workplaces, workers and subsidy supported by the EIF, 2012–14

(units: places, 1,000 persons, KRW billion, %)

	Employment insurance			Supported by EIF			C/A	D/B
	Workplaces	Workers insured (A)	Insurance fee collected (B)	Workplaces	Workers (C)	Subsidy (D)		
2014	1,935,302	11,931	2,281. 1	291,779	3,674	697.4	30.8	30.6
2013	1,747,928	11,571	2,125.3	303,970	3,839	669.0	33.2	31.5
2012	1,610,713	11,152	2,029.6	223,451	3,749	606.8	33.6	29.9

Sources: Table 20, 22, and 23; MoEL (2015a, p. 60).

Table 24 Proportion of trainees in employer-provided training, including paid-leave training, by sector, 2012–14

(units: persons, %)

	2012	2013	2014
Number of trainees	3,190,400 (100.0)	3,294,864 (100.0)	3,112,312 (100.0)
Agriculture, marine, fisheries, forestry, mining	3,356 (0.1)	3,241 (0.1)	3,098 (0.1)
Manufacturing	1,160,653 (36.4)	1,063,619 (32.3)	966,657 (31.1)
Electricity, gas, water supply, sewage	53,151 (1.7)	37,260 (1.1)	29,882 (1.0)
Construction	122,126 (3.8)	98,167 (3.0)	86,966 (2.8)
Wholesale and retail sales, hotels, restaurants	290,778 (9.1)	263,009 (8.0)	252,620 (8.1)
Publishing, media, communication, broadcasting, information services	326,080 (10.2)	240,553 (7.3)	174,602 (5.6)
Finance, insurance, real estate	399,066 (12.5)	353,311 (10.7)	349,270 (11.2)
Science and technology services, business facilities and support services	217,021 (6.8)	222,449 (6.8)	227,698 (7.3)
Public administration, national defence, social welfare administration	37,928 (1.2)	40,645 (1.2)	36,025 (1.2)
Education services and others*	580,241 (18.2)	972,610 (29.5)	985,459 (31.7)
Unable to categorize	0 (0.0)	0 (0.0)	5 (0.0)

Note: * in both public and private training institutions.

Source: MoEL (2015b, p. 199).

8. Monitoring and evaluation, and efficiency in the use of resources

As explained earlier, VCDP works on the principle of market mechanisms. The main role of the government is to produce and disseminate information on the performance of TVET providers and their programmes so that employers, employees and the unemployed can make informed choices of TVET providers and programmes. TVET providers compete to attract more trainees by providing quality programmes. However, market mechanisms cannot guarantee the efficiency and effectiveness of the VCDP.

However, EIS lacked systematic evaluation and did not perform as expected. Since 2007, MoEL has designated either the Korea Labour Institute (KLI), Korea Research Institute of Vocational Education and Training (KRIVET), KoreaTech, or the consortium of the government-funded research institutes and private institutes (such as universities) as the EIF Evaluation Centre. Since 2013, KLI took this role. The main functions of the centre are to conduct comprehensive evaluations on the performance of the EIS considering the changes in policy environment such as those caused by the low fertility rate and rapid ageing of the workforce, and studies on how to revise the system; to monitor and evaluate the objectives, implementation and results of individual EIS programmes; and to make proposals to improve their efficiency and effectiveness (MoEL, 2015*b*, pp. 294–6).

With respect to the VCDP provided in 2010–11, the centre identified needs to provide training matched with enterprises' labour demands and training needs, solve the problem of mismatch

between training supply and demand within regions, introduce a new policy to support SME hiring of substitute labour to induce more SMEs to participate in the VCDP, control the number of training vouchers issued for the unemployed to make the training supply and demand mechanism function properly, and increase investment in training and information infrastructure (MoEL, 2015*b*, pp. 299–303). As countermeasures, MoEL introduced projects for a national HRD consortium in 2011, regional HRD tailored to local economy and industry in 2013, and strengthening SME training including apprenticeship training in 2013.

IV. Evidence of the impact of the main financing schemes

- *Vocational education*

In 2010, MoE reformed the vocational high school system as described earlier in this paper, provided financial support to Meister high schools, waived tuition fees for all vocational high school students, and launched a campaign called Employed First, Then Study While Working. Through these policies the employment ratio of vocational high school graduates increased from 19.2 per cent in 2010 to 35.4 per cent in 2013. This combination of financing and reform appears to have been effective.

However it was pointed out that the cost-effectiveness of the vocational education investment at the secondary school level needs careful review, especially for Meister high schools. One study argued that Meister high school education was less cost-effective than both specialized vocational high schools and general high schools, mainly because of its high cost (Lee et al., 2016). The government needs to conduct more in-depth analysis of the short-term and long-term effects of vocational high school investment on employment, in terms of both quantity and quality.

Regarding vocational education in junior colleges, the SCK project seems to have had a positive effect on restructuring college department composition, programmes and curricula, and thus increasing the employment rate in specialized major areas. Considering that the government financial subsidy plays a critical role in developing and operating new programmes that can meet skill needs from industries, the budget of the SCK project needs to be further expanded.

- *Vocational Training: VCDP*

A. Employer-provided training

For the employer-provided training, between 2010 and 2014 the average numbers of training hours per trainee in SMEs were considerably lower than for those in large firms, as shown in **Table 25.** This suggests that the SMEs still have difficulties in providing training to their employees despite the government's efforts (discussed in previous sections). When supported by VCDP, companies provided many more training hours than when their training was not subsidized (Kang et al., 2015, p. 23).

Table 25 Average number of training hours per trainee in employer-provided training, 2010–13

		Companies with fewer than 300 employees	Companies with 300 employees or more	All companies
2010	Total	8.2	16.2	12.4
	Supported	9.9	17.4	14.7
	Not supported	6.3	6.7	6.4
2011	Total	7.5	17.4	11.2
	Supported	9.5	18.6	14.4
	Not supported	5.7	7.2	5.9
2012	Total	11.7	15.2	13.7
	Supported	13.2	12.9	13
	Not supported	10.4	21.4	14.8
2013	Total	16.2	17.6	16.7
	Supported	9.2	19.2	14.3
	Not supported	20	9.4	19
2014	Total	3.6	10.2	5.2
	Supported	5.6	11.6	7.9
	Not supported	2.1	4.7	2.4

Note: The number in 'All companies' is the average number of training hours for all companies.
Source: Kang et al. (2015, p.23).

Table 26 Training cost per trainee for employer-provided training, 2010–14 (KRW 1,000s)

		Companies with fewer than 300 employees	Companies with 300 employees or more	Total
2010	Total	52	277	169
	Supported	76	296	218
	Not supported	25	119	44
2011	Total	44	284	137
	Supported	63	305	195
	Not supported	27	120	38
2012	Total	41	507	308
	Supported	54	284	211
	Not supported	30	1116	465
2013	Total	46	251	109
	Supported	89	273	183
	Not supported	23	138	34
2014	Total	32	147	66
	Supported	58	166	107

	Not supported	13	47	16

Source: Kang et al. (2015, p. 25).

Training costs per trainee in companies with 300 employees or more were four to five times higher than those in companies with fewer than 300 employees between 2010 and 2014, which could be expected from **Table 25**. Training costs in companies supported by the EIS were four to six times greater than those in companies not supported, except in 2012. The training cost per trainee in companies with 300 employees or more and supported by the EIS tended to decrease globally after 2010. The training costs in small companies showed a similar pattern except for 2013. Training costs in companies not supported increased until 2012 then decreased to 2014.

B. Training vouchers for individual workers

According to a survey of 300 employees who used training vouchers between July 2013 and June 2014,[62] voucher users participated in training to acquire and improve job competencies and skills related to their jobs (42.7 per cent), obtain technical certificates (22.0 per cent), pursue self-development although their training programmes were not directly related to their current job, and prepare for transfers to better jobs and companies (1.7 per cent). Of these trainees, 61.7 per cent participated in training for professional job competencies, 44.7 per cent for foreign languages, 40.7 per cent for technical certificates, 20.7 per cent for general administration, 19.0 per cent for leadership skills, 17.3 per cent for basic competencies and knowledge, 17.0 per cent for information utilization, and 4 per cent for quality control and production.[63]

Vocational training was thought necessary by 82.3 per cent of voucher users, while 80.3 per cent were satisfied with the programmes they had taken. Regarding relevance, 75.7 per cent responded that programmes were available on the topics they wanted, and 68.7 per cent considered the programmes they took were relevant to their current jobs, with 65.3 per cent finding the content helpful in performing their jobs. The level of satisfaction with training programmes supported by voucher reached 80.3 per cent. However, most voucher users responded that their participation in training did not have any effect on promotion (91.7 per cent), wages (88.3 per cent), placements (95.3 per cent), employment status change to permanent staff (96.7 per cent), or a move to another company (84.3 per cent). This implies that company training policies for individual workers are not well integrated with wider personnel management. Regarding cost, 75.3 per cent of voucher users agreed that they would not have been able to train if they had not received a voucher.

[62] This survey was conducted between 9 February 2015 and 29 May 2015 by email and fax (Kang et al. (2015, pp. 28–40).

[63] Results of multiple choices (three priority areas).

C. Support to SMEs

According to the results of focus group interviews with participants in the programme to support SME training in 2014 (Kang et al., 2015, pp. 4756), there was high overall satisfaction with the programmes for learning organizations, the national HRD consortium programme, and core-competency training programmes. However respondents pointed out that it was difficult to maintain companies as learning organizations in a sustainable manner because the support lasted for only six months and there was frequent change of personnel; it was difficult to set the appropriate level of difficulty in training programmes, and standards for training content and facilities and equipment, because several SMEs with very different characteristics participated in each programme; and there was a lack of willingness to participate in the core competency training programmes.

D. Support for the unemployed

According to the analysis of unemployed job-seekers with vocational training accounts (Kang et al., 2015, p. 67), the percentage of those completing a course who obtained employment within three months decreased from 25.9 per cent in 2012 to 19.7 per cent in 2013, then increased to 34.8 per cent in 2014, while the proportion employed within six months increased from 34.1 per cent to 54.8 per cent during the same period, as shown in **Table 27**. Overall the employment ratios of male trainees tended to be slightly higher than for females, although the difference reduced over this period. The younger the trainees, the higher the ratio of employment. The employment ratio of trainees with higher education tended to be higher than for trainees with high school education or less, while there was not much difference between junior college graduates and four-year university graduates except in 2013. The employment ratio of trainees who had been insured by the EI when employed tended to be higher than that of trainees with no experience of EI participation. However, the lack of a control group who has not received training makes it difficult to say what impact the training programme had on trainees' subsequent employment.

Table 27 Proportion of unemployed voucher users subsequently gaining employment, 2012–14

		2014		2013		2012	
		Within 3 months	Within 6 months	Within 3 months	Within 6 months	Within 3 months	Within 6 months
Gender	Female	34.8	54.1	18.0	32.9	24.7	32.1
	Male	34.6	56.6	23.5	38.5	24.8	38.4
Age	18 and under	43.0	64.8	15.3	27.1		
	19–29			24.4	42.7	31.6	42.0
	30–39	30.4	59.7	17.8	31.2	23.5	30.9
	40–49	31.3	47.8	18.0	31.1	23.6	30.4
	50 and over	28.1	51.2	16.6	30.4	21.2	28.7
Schooling	High school or less	32.8	50.5	23.1	43.1	24.2	31.6
	Junior college	37.3	58.9	21.3	37.5	29.2	38.7
	University	35.7	57.8	43.9	71.9	28.4	37.6
Unemployment insurance history	Insured previously	36.2	57.0	21.7	37.5	29.2	38.1
	Never insured	27.8	44.4	13.1	24.8	16.2	22.3
Total		34.8	54.8	19.7	34.7	25.9	34.1

Source: Kang et al. (2015, p. 67).

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