
Localization of TVET Governance in Korea

Abstract

This paper examines the process through which the Korean TVET system has been moving toward a decentralized skills development system, and explains what roles major stakeholders have played in this transition. Special attention is given to the roles played by the central government, which for the last few decades has been in charge of administration and delivery of TVET programs across the nation. The Korean TVET system, inclusive of technical vocational education and vocational training, has been widely appreciated for its great achievements in terms of effectiveness and efficiency by the international community. However, recent developments of technological innovation and employment strain have put great pressure on the long-established system, setting the scene for the reform of its governance. Among many initiatives that have been brought forward for the last few years one significant model aims to set up local-based TVET governance via the establishment of regional HRD committees as well as industry/skills councils. The RC and ISC signal a devolution of TVET governance as the two committees take charge of drafting HRD plans, administering personnel and skills surveys, and delivering TVET programs in their own areas. This paper summarizes the main challenges that the new TVET governance confronts, and puts forward policy suggestions. The new system has yet to develop innovative solutions to maintain employers' involvement in financing TVET programs, as well as securing commitment from municipalities in order to strike a balance between sustainability and accountability.

Key words: *Technical and vocational education and training (TVET), Korea, decentralization, governance*

1 Introduction

The purpose of this paper is to examine the process through which the Korean TVET system has moved toward a decentralized system, which departs from its long-standing central government driven model. For the last few decades, the Korean system has shown its merits in terms of effectiveness and efficiency, for which it has received wide recognition by the international TVET community (Park & Jang 2014; Ryu & Moon 2015).

Since the late 1990s, the Korean system has, however, began to confront significant pressures in terms of increasing needs for reform, as technological changes and increasing competition with foreign countries put much strain on its skills development system. The Korean government launched some initiatives in TVET so as to make its system more responsive to the needs of business and to bring more flexibility in implementation and delivery of TVET programs. The following paper delineates recent reform efforts by the Korean government and analyzes what implications these reforms have cast into the Korean TVET system.

2 The Korean TVET System in Brief

The Korean TVET system is mainly administered by the Ministry of Education and the Ministry of Employment and Labor: the former takes charge of initial education, mainly general education oriented toward higher education, while the latter deals with continuing education and training for which labor market entry is of primary interest. In terms of educational tracking, there is no early tracking occurring up to the age of 15 when students finish lower secondary education, which is mandatory in Korea. At the upper secondary level, general education is delivered at general high schools and special-purpose high schools that teach special courses such as foreign languages, arts, sports, and science. Vocational education schools include Meister high schools and specialized high schools.

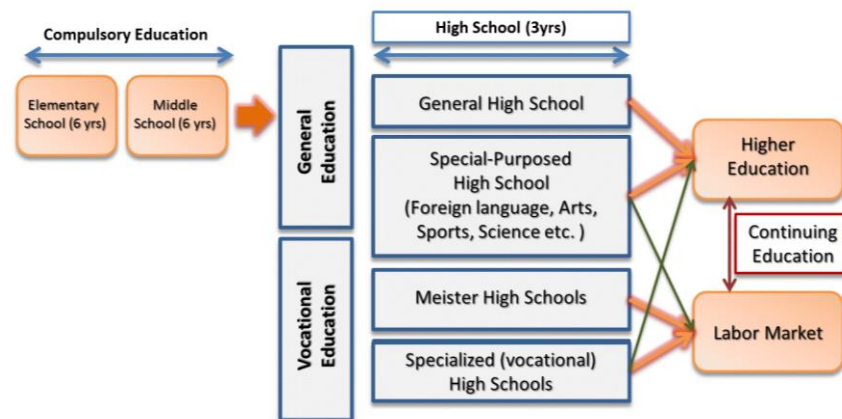


Figure 1: Korean Education and Training System (Park & Jang 2014, 43)

In Figure 1 above, the Korean TVET consists of two pillars: vocational education and vocational training. For the vocational education, vocational high schools, junior vocational colleges, open universities, and lifelong education institutions are main providers, while vocational skills training facilities, polytechnic colleges, and other institutions provide vocational training programs of various sorts and duration. In addition, in-plant institutions and other authorized vocational institutions cover a significant portion of programs. However, the distinction between vocational education and training have become blurred, as the locus, orientation, and targets of the two streams of VET provision are converging gradually, which calls for new career pathways for students at various stages of learning.

2.1 Financing TVET in Korea

Financial streams are mainly derived from general tax revenues and employers' contributions to the Employment Insurance yFund (EIS hereafter). General tax revenues for vocational training are public in nature, while contributions to vocational skills development projects of the Employment Insurance Fund are collected as portion of payroll tax depending on the size of employers. As of 2014, the latter covers about 80% of total expenditure in vocational training provision.

Table 1: **Expenditure in Vocational Training (Hundred million won)**
 Ministry of Education & Ministry of Employment and Labor (2014a).

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Employment Insurance Fund (A)	6,424	7,268	9,269	11,406	11,788	12,086	12,589	12,713	13,427
General Tax Revenue (B)	2,361	2,484	1,314	2565	2707	3123	2987	3,454	3,410
Total (C)	8,584	9,752	11,583	13,971	14,494	15,209	15,576	16,167	16,837
% EIS (A/C)	74.84	74.53	80.02	81.64	81.33	79.47	80.82	78.64	79.75

Notes: 1 million WON approximates 880 US dollars as of 2016

For the last decade, as shown in Table 1, total expenditure on training has gradually increased reaching up to 16.8 billion in 2013. Contributions to vocational skills development projects are born by employers, the proportion of which covered about 80% of total expenditure in training. In sum, financing vocational training has largely depended on the EIS funds rather than general tax revenues since the introduction of EIS in 1995. Due to these funding streams, the delivery and implementation of vocational training policy has relied on the contribution from the employer side in principle: the actual outcomes of the funding structure generating an equity issue, which have placed constraints on the Korean VET system. One of the concerns raised is that the EIS-funded vocational training system unexpectedly allowed large employers to better finance their own training, while employees in SMEs, self-employed, and disadvantaged groups who are not covered by the EIS have less access to training provision. As of 2013, 51.5 % of employees on regular contract take part in vocational training, while the rates for employees on non-regular contracts remain 37.3 % (Ministry of Employment and Labor 2014a).

Table 2: Modified from Ministry of Employment and Labor (2014a)

Targets/Goals of Training	Recipients of Financial Support	
	Employers	Individuals
Employees (Upgrade Training)	<ol style="list-style-type: none"> 1) Employer-Initiated Vocational Skills Development Training 2) SME-specific Training 3) Consortium for National HRD 	<ol style="list-style-type: none"> 1) Naeil Baeum Card for Employees (Vocational Skills Development Account System)
Unemployed (Initial Training)		<ol style="list-style-type: none"> 1) Naeil Baeum Card for the Unemployed (Vocational Skills Development Account System) 2) Training for National Basic and Strategic Industry
Public Training	Public Vocational Training (Polytechnic Colleges, Korea University of Technology and Education, The Korea Chamber of Commerce & Industry)	

Table 2 classifies vocational training in Korea by targets and goals, and by the recipients of financial support. Generally, the aim of vocational training is to develop new skills for job-seekers and labor market entrants, which refers to initial training. For currently employed, vocational training aims to upgrade their skills so as to improve workplace performance; which is often coined as upgrade training. Public or private institutions deliver public training, which is mainly funded by public resources. The goals of this training are more diverse, and include the provision of training for jobseekers or for the purpose of upgrading skills of those currently employed in the labor market. For the EIS-funded training, eligible employers provide recognized training either on-site or by contracting out. Individuals may take part in training programs that are either recognized by public agencies or provided by public institutions (Ryu & Moon 2015).

In terms of delivery and program implementation, training programs are managed and administered by the Ministry of Employment and Labor, with its delivery body, the HRD Korea taking charge of putting the programs into practice. In other words, voluntary contributions to the EIS by employers have not guaranteed strong engagement on the business side, which shaped the Korean training system as a central-government led, supply-driven system for many decades.

2.2 Classifying the Korean TVET Model

Countries can be classified as having respective TVET models according to their training market structure, delivery modes and financing schemes, and to the shape of public-private partnership available in each country. Previous research clusters current TVET systems in advanced economies as follows: the UK liberal market model, the French statist model, and

the German dual model. The three models differ from each other in terms of training market organization, qualification systems, training practices, training costs, and the linkage between education and training (Fawcett et al. 2014).

- A. Training market: the liberal market is characterized as private companies offering training programs based on market demand. Qualifications attained through training mainly reflect specific occupational skills needed by private companies. In terms of governance, sector councils play key roles in identifying skills needs, providing research, and estimating occupational skills needs. Meanwhile, the state has little authority in controlling training supply. In the French statist model, however, the state has authority in deciding training demand as well as in providing training via public vocational schools. Therefore, the content of training is largely political and theoretical in orientation, while sectoral councils are seldom visible. The German dual model is famous for combining theoretical courses at schools and hands-on knowledge and skills acquired on the job training, the content of which is mainly regulated by both the state and private companies. This model is known for involving strong public-private collaboration in delivering training programs. In Korea, provision of training has been largely determined by the central government, for which the state administers large scale surveys of labor demand, and generates estimates for supply for specific training attuned to the labor supply estimation. After that, committee for training course adjustment is to be held, in which decision for training provision at course level is made public.
- B. Qualifications; in the liberal model, firm and industry demands in the market generally define professional qualifications. Firms that need certain skills may refer to qualification to meet their demands. However, skills may not be standardized across firms, although the state makes great efforts to establish national skills frameworks or standards to support this matching process. A National Qualification Framework is established by the state as well. In the statist model, it is the state education system that sets the scene for the qualifications as the latter rely less on occupational demands by firms. Those who have obtained qualifications therefore usually show more command of abstract understating of their occupations, which may not be so relevant to workplace practices. In the dual model, qualifications are obtained through more work-based learning such as apprenticeship and vocational education. In so doing, students usually are employed as a worker on a contractual basis. They are mandated to attend vocational schools which follow general educational system. In Korea, qualifications were originally based on general education system, therefore having less relevance to the demands of firms or industries. However, as an effort to increase the relevance of learning to market demands, apprenticeship programs are being introduced both at upper secondary and at tertiary level, and new vocational qualifications have been established in various occupations, which complement the national qualification system.
- C. Training practices: again in the liberal approach, training occurs mainly at firm level, there exists little standardization in training provision, while each company and school applies their own structure and curriculum. Depending on the skills needed, training

varies by location, and the resulting certificates are also firm-specific, yielding few certificates acceptable across employers. In the French statist model, training schools are more oriented toward occupation and professions, where demands vary by the number of students seeking certificates. In order to enter into training programs, students need to present proof of academic records such as entrance exams. In the dual model, employers, trade unions, and the state body cooperate to set up training practices and curricula. In Korea, accreditation of training programs mainly applies to state agencies and some specific registration procedures for training organizations have just been established as a TVET reform measure.

- D. Costs of training: in the liberal market where the beneficiary pay principle applies, training costs are born by the trainees that need training. In addition, firms pay fees for the courses they provide to help finance training provision. For some marginalized groups such as youth, government subsidies may be given via training vouchers. In the statist model, the state bears most of training costs. Public schools limit the number of trainees every year, which limits access to training to certain groups. In the dual model, firms and the state share training costs, as the firm pay for the on-the-job portion of dual training, while the state supports public schools. In general, trainees receive training stipend from their employers during their apprenticeship or on-the-job training. The Korean system used to be labelled as a state-driven model, however, the government has been moving the system toward a dual model, for which costs for theoretical courses are born by general tax revenues, whilst the on-the-job training is mainly covered by Employment Insurance System, which is private in nature, but mainly managed by state agencies. Student employees receive earnings from the firms they have signed for, while the firm receives government subsidies for operating dual programs.
- E. Linkages of education and training: in the liberal model, the linkages between education and training are not straightforward and often blurry as the state runs public vocational schools, while private training providers and firms provide training according to their own demands. In the statist model, vocational education and trainings are provided in a school setting, where students adopt theoretical and practical knowledge without coherence. In the dual model, theoretical knowledge and practical training is combined, where the acquisition of each occurs both at school and in the work-based setting. Korea resembles that of the liberal model, as it is still at the early stage of establishing National Qualification Framework and Recognition of Prior Learning. Private qualifications have increased at a higher rate for the last 20 years, which leads to complications and inconsistency of learning outcomes among students and stakeholders.

Although it is more challenging to put the Korean TVET system in one of the models presented, it is reasonable to classify the Korean system as a hybrid model: the Korean TVET system has long contributed to bringing up a labor force required at each phase of economic development, to which central government has made significant contribution. However, since the late 1990s, reform has been in place to make the system more responsive to market demands and to allow for authority in terms of delivery and financing at the local level. The

outcomes of these reforms are yet to develop, but incentive and monitoring mechanisms have been introduced to bring some changes in the system. Despite these transitions, the Korean training market is still largely influenced by government regulation as well as decision regarding the size of supply at national level committees. However, business needs have just begun to be satisfied through the channels of sector skills councils as well as regional HRD committees. The roles of these two committees are still marginal as consultative bodies.

3 Recent Reforms of the Korean TVET System

Why is TVET decentralization happening across countries? The reasons are two-fold: firstly, decentralization helps to induce more employer engagement in TVET governance and financing in order to better provide human resources with skills needed in the labor market, which leads to a decline in skills mismatch. This will allow for firms to assure that skills being taught by TVET programs are the ones needed in the workplace. Secondly, decentralization gives more leeway for diversification of career pathways to increase mobility between academic and vocational education tracks via curriculum blending and career ladders. To facilitate this, many countries have developed a National Qualification Framework operating through public-private partnerships with business taking initiatives in this process.

To summarize, recent reform in TVET model consists of two phases: in the first phase, service delivery of TVET is decentralized or devolved to regional or local levels, including decentralization of the management of TVET institutions and decision making; in the second phase, TVET reforms aim to adapt the structure of TVET delivery to the needs of the market economy. Priority is given to the design of new curricula based on the needs of the demand-driven labor market and the creation of a new social partnership through the establishment of the dual system of TVET, and the continued progress in decentralization of management, budget, and financing is of necessity.

Table 3: **Four main objectives of reforms: decentralization, quality, participation, and relevance**

Decentralization	In order to set up a demand-driven system, it is urgent to reshape current TVET system into a decentralized system, which allows for flexibility in coordinating TVET provision at local levels. Partnership with the private sector also necessitates more decentralized TVET governance. To put in place work-based learning such as dual program, it is also of importance to take into account local autonomy and control over the curriculum, outplacement, and budget (Fawcett et al. 2014)
Quality of TVET	Much effort has been made to ensure quality of TVET programs, among which the establishment of NQF is most prominent. Once in place, NQF allows TVET providers to reshape their programs according to these standards. In general, NQF is supposed to guide the reform of the TVET system in regards to curriculum, teacher training, and linkages to the labor market (Choi 2015).

Partnership supporting TVET	Making partnerships with private sector stakeholders has emerged as a high priority during the TVET reform process, in which participation in TVET by private sector could increase at an incremental rate. Among those stakeholders are enterprises, labor unions, industry associations, university experts, as well as NGO and other civil society organizations.
Relevance of TVET	The primary purpose of TVET reform is to enhance the relevance of TVET, which promotes employment as well as productivity and efficiency in the labor market. It also helps reduce skills and mismatches of various sorts as TVET programs are better aligned to labor market demands.

In the section that follows, this paper first defines the characteristics of the Korean TVET system to be central government oriented model, and explains how recent reforms have been transforming the current system into a decentralized, industry-demand driven model. Special attention is given to vocational training segment of the TVET, as the Korean government has put much stress in making the skills development system more responsive to demands of industry. In contrast, the vocational education segment of the system still remains under charge of the Ministry of Education, which has shown few, if any, signals of decentralizing their functions or tasks in TVET fields.

3.1 From a government-centred, supply-driven model to a local-based, demand-driven TVET model

The two bodies tasked with establishing the public-private partnership in TVET include regional HRD committees (RC) and Industry Sector Councils (ISC). The main tasks of regional HRD committees are to conduct regional/local labor demand survey in cooperation with employer associations, sector/industry associations and co-operations; to administer local/regional VET and employment services surveys, in which information is collected on the programs that various vocational education and training institutions, public and private, provide; to draft a master plan for skills development via analysis of local level demand for and supply of personnel and training; and to designate joint training centers to provide quality training programs needed in the local labor market. The ISCs consist of operating committees that make crucial decisions on major human resources development within sectors and to strengthen representation and networking among businesses. The councils also perform personnel analysis to understand economic conditions and labor market trends and to investigate strategic areas in the local market. The ISCs help to develop National Competency Standards, to circulate these standards across sectors, and to provide consulting for firms in each sector. In addition, ISCs make a contribution to developing and supplementing new vocational qualifications based on the assessment of vocational competencies required in the workplace. The ISCs take part in government-led HRD projects such as the Korean-type dual programs, for which they recruit employers to join and develop education and training programs applicable for the dual system, and to provide consulting and promotion service for the

employers. In addition, the ISCs are supposed to run their own projects that take into account their own circumstances.

The establishment of two sorts of sectoral and regional committees gives a signal that Korean TVET governance has been on the move toward a decentralized system. What are the main differences and characteristics of this transition as compared to the long-standing system?

In Korea, sector councils (SCs hereafter), a forerunner of recently established ISCs, were established early in the 2000s, but the roles and capabilities of SCs were very restricted. Several research reports were published that shed light on the roles and functions of SCs. Uh et al. (2004) suggested that SCs should be designed to make a stepwise progression in their functions: at the 1st phase, SCs have to establish itself as a research and development body, in which they conduct analysis of labor demands and set up plans for human resources development; at the 2nd phase, it is necessary for SCs to play a regulatory role in developing and modernizing qualification and in establishing competency standards; at the 3rd phase, SCs can function as an implementation body, so that they recognize and certify training programs of providers in order to link prospective firms to education and training providers, and to operate education and training programs on their own. This research merits attention as it suggests a long-term plan for establishing and putting in place SCs across industries.

Recent research investigates the possibility for SCs to function as a main stakeholder in HRD. In detail, Chung J et al. (2014) advise that SCs pay attention to increase representation by employees as SCs mainly consist of business members, academic experts from universities and research institutions. They strongly recommend that employee participation would strengthen SCs visibility in government-led projects such as new vocational qualifications and the Korean type dual programs. In terms of capabilities, SCs largely depend on staff that work for industry associations, the size of which is 6.4 on average. In addition about 2 in 3 personnel are employed on a temporary contract due to budgetary constraint, which restricts capacity building and expertise development in the long run.

Building on Uh et al. (2004)'s classifications, Chung J. et al. (2014) regroup the current projects of existing SCs into three parts: the first part is SC enrichment projects, the second is to play a regulatory role to carry out National Competency Standards (hereafter NCS)¹ development and NCS-based qualifications, the third is to take up an implementation role to launch government-led HRD projects such as the Korean dual system, National HRD consortium projects, Youth Employment Academy projects etc.

¹ National Competency Standards (NCS) refer to occupational standards that classify knowledge, skills, and attitude that are needed to perform tasks on jobs by industries and sectors. For the last few years, the Korean government has taken initiatives to develop NCS and its learning modules in order to increase relevance of education and training programs as well as to strengthen school-to-work transitions for youth and jobseekers (Ryu & Moon 2015).

Table 4: **Budgetary Subsidies to SC (No. / Hundred million Won)** (Chung et al. 2014, 50)

Year	2009	2010	2011	2012	2013	2014
No. of SC	11	11	11	11	17	17
Government Subsidies	14.8	13.3	10.5	10.5	12.2	22

In regard to SCs vitalization projects, SCs are to collect information on labor/education and training demand by sector, and to outline HR development plans. To accomplish these tasks, SCs resort to the vitalization projects mentioned above, the outcomes of which have not been very promising thus far. It turns out that surveys of labor demands failed to reflect on-site demands of the business, and their deliverables were seldom distributed or used for making policy-related decisions. Chung et al. (2014) emphasize that SCs should make more effort to enlarge their network with other stakeholders in order to collect qualitative information on HRD, and to use the information to deliver career guidance or consulting services to students or trainees, and job seekers who have an interest in each sector.

SCs have been better equipped in developing NCS, which is a second role described above. To accomplish this task, SCs conduct pilot tests of NCS development and quality management, explores firms that can provide decent jobs using NCS, and promote utilization and circulation of NCS across sectors. Table 5 describes NCS and utilization package development projects by industry, showing main contents, budget, and project period in detail.

Table 5: **NCS and its utilization package development projects by Sector Councils**
Jung et al. (2015, 56-58)

SC	Contents	Budget	Period
Machinery SC	Industry Environmental Equipment Construction (2 Sectors)	74	2012. 1. ~ 2013. 4.
	Air-conditioning & Refrigerating Facilities (3 Sectors)	154	2013. 5. ~ 2013. 11.
	Program Design and Others (8 sectors)	307	2014. 5. ~ 2014. 10.
IT-business SC	17 Cultural Contents Production (17 Sectors) Appoint Experts in Business and Education and Facilitate Workshops and Meetings	780	2013. 4. ~ 2014. 12.
	Cultural Contents Production (Projection Sector) Appoint Experts in Business and Education and Facilitate Workshops and Meetings	43	2014. 6. ~ 2014. 11.
	Development of NCS-based Learning Modules in Video Production (6 Sectors) Development of Teaching Materials to be used in Curriculum at Higher Education Institutions Appoint Experts in Business and Education and Facilitate Workshops and Meetings	388	2014. 9. ~ 2014. 12.
Electronic SC	Electronics Sector (ICT devices, Electronic application devices, Industrial electronic devices)	614	2012 ~ 2014

Basic iron & steel SC	Sheeting and Coating Metals (2 sectors)	60	2012. 6. ~ 2012. 11.
	CO2-welding, Robots-welding (2 sectors)	108	2013. 6. ~ 2013. 11.
	Supplement and Develop NCS in 7 Sectors	270	2014. 5. ~ 2014. 11.
Display SC	Display Planning & Sales (2 sectors)	63	2012. 11. ~ 2013. 5.
	Display Customer Service (1 sector)	54	2013. 6. ~ 2013. 12.
	Parts for Display Equipment (1 sector) Display Equipment Development, Display Production (2 sectors)	128	2014. 5. ~ 2014. 11.
Shipbuilding industry SC	Shipbuilding	1,010	2009. 5. ~ 2014. 11.
Semiconductor SC	Semiconductor (planning/development/production/materials 4 sectors)	114	2012. 6. ~ 2012. 11.
	Semiconductor (development/production/equipment/materials 4 sectors)	178	2014. 5. ~ 2014. 11.
Robots SC	Robot NCS development (3 sectors)	140	2014. 5. ~ 2014. 11.
	Machine Assembly sector (4 sectors)	150	2014. 6. ~ 2014. 11.
Design Industry SC	Design Industry (Products/Visual/Environmental/Digital Design, 4 sectors)	205	2013. 5. ~ 2013. 11.
	Design Industry (User experience/Interior design, 2 sectors)	108	2014. 5. ~ 2014. 10.
Software SC	IT Industry (20 sectors)		2014. 5. ~ 2014. 11.
Tool and Die industry SC	Supplement and Develop Welding and Molding Sector NCS	455	2013. 6. ~ 2014. 11.
New regeneration energy SC	New Regeneration Energy (7 Sectors)	336	2014. 5. ~ 2014. 11.

Finally, SCs put in place government-led projects as an implementing body, which may apply to specific VET providers, employers, employees, and trainees. As of 2015, seven SCs take part in the Korean dual system in searching for participating firms, developing programs, and in operating joint training centres. These 7 SCs have successfully provided training opportunities for employees in SMEs, offering training course to about one thousand employees per year (Jung et al. 2015).

To summarize, SCs have not made stepwise progress as suggested in the earlier research, but they have been more successful in carrying out the role of an implementing body, while less proficient in completing a regulatory role in general. Although this is not a problem per se, it is still urgent that SCs should better equip themselves with regulatory functions in establishing industry-based skills standards as well as in monitoring their implementation by other stakeholders. If this function is well performed, it would give impetus to making the TVET governance more responsive to business demands. In order to make this change happen, it is advised that government shift a focus toward the service sectors and assist SCs in building up their staff capacity by means of education and internships, and self-help support. In addition,

SCs should focus on labor shortages in SMEs and strengthen their own capabilities by employing staff on regular contracts (Jung et al. 2015).

3.2 The Regional HRD Committees and Survey of Labor and Skills by Region

Introduced for the first time in 2013, the regional HRD committees have come to emerge as new governance for delivering TVET programs in the local labor market. As is addressed above, the Korean TVET policy have for a few decades been designed by central government and delivered by their own implementing agencies such as HRD Korea and public employment services. Basic information with regard to TVET plans and delivery were collected by large scale government administered surveys such as ‘Employer Laborforce Survey by Occupation’, which were then analyzed to determine the level of training provision by occupation across the nation. TVET institutions used to provide TVET programs within this predetermined quota following regulations regarding TVET provision. Performance management has been occasionally carried out with the guidance of central government as well.

However, as a vocational skills development account system was introduced in 2008, training provision has gradually been marketized, with the rights of training choice being given to trainees. During this TVET reform phase, many TVET programs such as National Basic and Strategic Training were still implemented by the agencies of central government in terms of training provision and quality assurance. It was not until 2013 that locally-tailored HRD projects were launched with the aim of meeting the needs of businesses in the local labor market, which signalled the decentralization of TVET governance in Korea. According to this initiative, the regional HRD committees are set to perform surveys of labor and skills demand for employers in provinces, and to designate joint training centers to satisfy the demands identified through the surveys. This can be understood as another delivery mechanism for training provision in addition to existing TVET programs. However, the committees had continuously extended their roles as business representation was enlarged and, as of February 2015, merged with ISC, which led to the establishment of the regional industrial HRD committees. Currently, the committees are expected to take on more significant duties, not just that of delivering additional TVET programs, but as having newly integrated governance in terms of HRD planning, training provision, and assessment of TVET programs. Launching the regional/industrial committees is evaluated as a policy shift to make TVET more responsive to local demands and to enhance effectiveness of TVET system in Korea (Choi 2015).

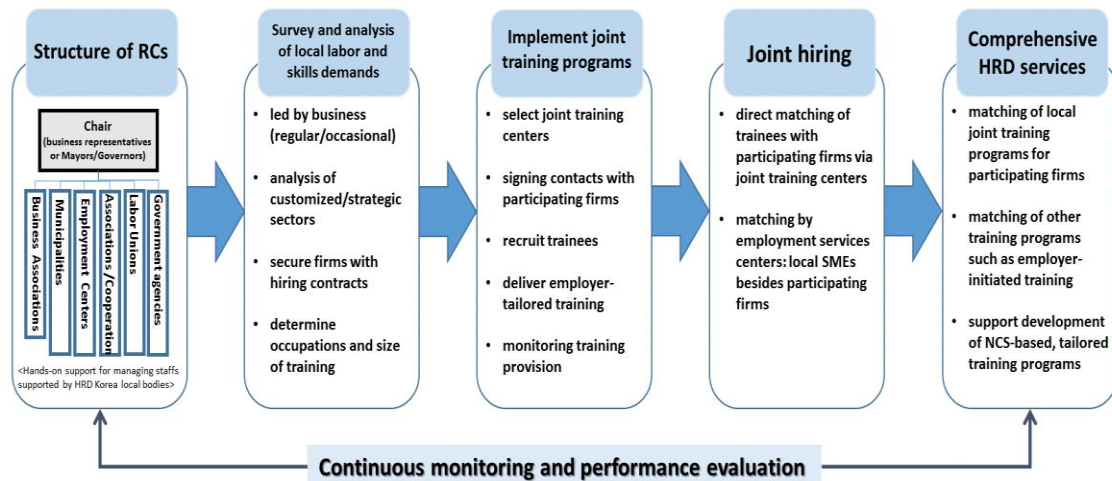


Figure 2: Structure and Main Tasks of Regional HRD Committees (Ministry of Employment and Labor 2014b)

As shown in the Figure 2 above, the main tasks of the regional HRD committees are to conduct regional/local labor demand surveys in cooperation with employer associations, sector/industry associations and co-operations; to administer local/regional VET and employment services surveys, by which information are collected on the programs various vocational education and training institutions, public and private; to provide a master plan for skills development via analysis of local level demand for and supply of personnel and training; and to designate joint training centers that are set to provide quality training programs needed in the local labor market.

Put together, ISCs and RCs have begun to interact more closely with central government in accomplishing their roles and functions, which include the establishment of National Qualification Framework, curriculum blending and ladders, apprenticeship/internships/on-the-job training, lifelong learning and adult/continuous education, public-private partnership to set up skills standards, mix of financing TVET and equity, linkages of TVET and higher education (as summarized in Table 6). The future of TVET reform in Korea therefore depends on the extent to which this coordination of TVET tasks is stabilized among the government and sectoral/regional committees in the coming years.

Table 6: **TVET Components and Functions of ISC/SC/Central Government in Korea**

	Industry Skills Council	Regional HRD Committee	Central Government
NQF -classify criteria for levels of learning and competencies obtained by E/T			Basic Plans for Establishing NQF (Dec. 2013) -as-is: ministries and experts -to-be: ministries/ET providers/qualification testing body/business and labor representatives
Curriculum blending and ladders	-actively engages in curriculum development and TVET programs - development and updates of NCS - provide consulting service for participating firms		
Apprenticeship, internships, and on-the-job training	- development of TVET programs for participating firms in the work-study dual program - consulting and promotion of participation in the dual program		Work-study dual program (upper secondary level) and Uni-tech and IPP (post-secondary level)
Lifelong learning and adult and continuous education			Establishing NQF by the year of 2017 (tentative)
Partnership with industry and the private sector -skills standards competency requirements to meet the LM demands	Identifiable via effective partnership with ISC	Initial phase -development/implementation/evaluation of new programs	Moderate
Mix of financing of TVET and equity	Government subsidies for operation and staffing costs	Government subsidies for operation and staffing costs	General tax revenues and EIS (needs-based public sector subsidies vs. fee-based private sector financing)
TVET and Higher Education			University type apprenticeship programs: IPP (Industry Professional Practice) -Short-term programs linked to 2yr certification programs

For the last decade, provision of training programs were determined by large scale surveys administered by central government and its research institute, which aimed at counting robust estimates regarding vacancies that had not been filled due to the skills shortages of job seekers (Kang et al. 2009, Uh et al. 2010, Kim et al. 2011, & Choi et al. 2012). As of 2011, skills shortage vacancies were counted by more detailed occupation level statistics. To accomplish this, size of skills shortage vacancies were asked of employers sampled using a statistical method. Also the number of new employees, who completed training for the unemployed in the year preceding, was counted as the total demand for training for the unemployed across the nation. These estimates were then compared to the size of supply of training for the unemployed, and the gaps between the demand for and supply of training for the unemployed was calculated accordingly.

Table 7: **Size of Demand for Training by Region in 2011** (Kim et al. 2011, 133)

		Trainees		SSV		Trainees + SSV	
		Number	%	Number	%	Number	%
Region	Seoul	8,117	17.5	14,663	30.3	22,780	24.0
	Busan	3,628	7.8	1,487	3.1	5,115	5.4
	Daegu	822	1.8	2,100	4.3	2,922	3.1
	Incheon	6,213	13.4	2,910	6.0	9,123	9.6
	Gwangju	2,139	4.6	744	1.5	2,883	3.0
	Daejeon	450	1.0	778	1.6	1,228	1.3
	Ulsan	1,918	4.1	1,741	3.6	3,659	3.9
	Gyeonggi	7,959	17.1	10,030	20.7	17,989	18.9
	Gangwon	1,239	2.7	982	2.0	2,221	2.3
	Chungbuk	1,731	3.7	1,271	2.6	3,002	3.2
	Chungnam	1,050	2.3	1,760	3.6	2,810	3.0
	Jeonbuk	1,918	4.1	2,125	4.4	4,043	4.3
	Jeonnam	2,765	5.9	1,103	2.3	3,868	4.1
	Gyeonbuk	1,374	3.0	1,210	2.5	2,584	2.7
	Gyeongnam	4,227	9.1	4,921	10.2	9,148	9.6
Jeju	948	2.0	626	1.3	1,574	1.7	
Total		46,499	100.0	48,451	100.0	94,951	100.0

As shown in the table Table 7 above, the size of demand for training differs by region, which relates to the size of labor force and employers. To be specific, Gyung-nam province is followed by Seoul, Kyunggi, and Incheon, as the region is the location for industrial complexes which need a large pool of industrial workers as well. The survey of 2011 further took into account training demand by small size employers with less than 5 employees, and self-employment, as well as employment rates of 70% upon completion of vocational training. Following these adjustments, Table 8 shows that the level of vocational training provided by government initiated training was about 94,000 for employers with 5 employees or more, and

this gradually increased to 225,000 when taking into account small employers, self-employment, as well as employment probabilities upon training completion.

Table 8: Estimates of Training to be provided by the Government based on the Employer Survey of 2011 (Kim et al. 2011, 140)

	Multiplier	Demand for Training
Employer with 5 or more employees	1	94,951
Employer with 1 or more employees	1.25 (4/5)	118,689
All employer plus self-employment	1.33	157,856
Employment upon completion of training added	1.43 (100/70)	225,509

Notes: demand for training includes hiring of trainees and skills shortage vacancies

Table 9 summarizes estimates for training demand and supply derived by the three major studies between 2009 and 2011. By and large, training demand remained about 225,000 per year for the three years, while figures for supply of training fluctuated by a large magnitude, from 435,000 in 2009, to about 300,000 in 2011. These large differences in estimates for training supply are mainly due to analytical strategies adopted by experts, assumptions regarding the size of small employers and self-employment, as well as transition rates into employment upon completion of training. What is more striking, however, is that the size of training supply that was supposed to be delivered by publicly funded training changed a lot depending on the decision by central government and its research agencies.

Table 9: Comparison of Training Demand/Supply Estimates in Recent Studies (Choi et al. 2012, 17)

	Kang et al. (2009)	Uh et al. (2010)	Kim et al. (2011)
Demand for Training	226,151	225,448	225,509
Supply of Training	435,117*	432,369	300,404

Notes: * estimates are drawn from the data of 2008

Notes: Uh et al. (2010) have not provided estimates, and the figure was calculated as the sum of vocational skills training account system and other training for the unemployed. Kim et al. (2011) draws on its own survey of employer skills demand, where the size of skills shortage vacancies (SSVs) and trainees were summed up to estimate demand for training.

These issues, however, may have arisen during the phase of transition that the Korean TVET system had been making, epitomized by the introduction of the vocational skills training account system, which allowed for market mechanism to emerge as a key delivery system. Under this circumstance, the government driven approach to estimate skills demand and

supply, as used in previous periods, may not be applicable any longer. Table 10 summarizes methodological issues regarding estimation of labor and skills demands by size of employers and self-employment, and transition into employment.

Taking this into account, recent studies have adopted local-based method of estimating skills demand and supply using both quantitative and qualitative methods at the same time. For an example, Choi Y. et al. (2012) suggest that survey of skills demand be situated as a joint project of central and local stakeholders, the latter of which includes local employers and training providers. In other words, national-local research collaboration system has to be established as a institutional setup to administer survey of skills demand, through which consistency of statistical estimates can be preserved with continuous production of information on skills demand and supply. To be specific, information on skills shortages for prospective employees and skills gaps for current employees should be shared among the stakeholders concerned. Central government and public research institutes can cooperate with municipal-level public employment services agencies to establish a labor market intelligence system. In order to build research capabilities within the regions concerned, local research institutions or universities with research capacities can be designated as local labor market laboratories by the central government.

Table 10: **Methodological Issues regarding labor and skills survey in Korea** (Choi et al. 2012, 16)

Classification	Kang et al. (2009)	Uh et al. (2010)	Kim et al. (2011)
Definition of labor demand	No. of recruited (Jan.-Mar.) and no. of employees to be hired	As for Kang et al. (2009)	As for Kang et al. (2009)
Assumptions of labor demand inducing skills demand	Skill level 2/3 *For no. of employees to be hired skill level were not surveyed, so the proportion of employees by skill level was used instead.	Skill level 1~4	Skill level 2-3 *For number of employees to be hired, skill levels were not surveyed, so the proportion of employees by skill level was used instead.
Definition of training demand	Vacancies due to job skills, experience, and qualifications are counted as training demand *SSVs counted as training demand	All vacancies included;	Vacancies due to job skills, experience, and qualifications are counted as training demand
Methods to consider materialized training demand	N.A.	N.A.	Job trainees who were hired as a result of training were counted in the KRIVET survey

Training Demand of Employers with 1-4 employees	Proportion of employers with less than 5 employees according to EIS DB(3.5%) as opposed to those with 5 or more employees adopted	Assuming that employers with 5-9 employees are same as those with employers with 10 or more	Assuming that regular employees that work for employer with 1-4 employees are 20%, training demand should be same for that of employer with 5 or more (20%)
Training Demand in self-employment	Proportionate to Total Amount, Additive Model *applying transition rates of training participants into paid employment being 35% in KLI Labor Panel Survey	Estimate non-wage or salaried employees' demand for training by occupation	Proportionate to Total Amount, Additive Model
Adjustments for Unemployment and Inactivity		Proportionate to Total Amount, Additive Model	Proportionate to Total Amount, Additive Model
Analysis of Supply of Training	Survey of TVET providers	HRD-Net Data	HRD-Net Data

Choi et al. (2012) also provide detailed guidelines regarding the roles to be adopted by the central government and regional bodies. First of all, central government produces basic statistics regarding skills shortages and skill gaps, and to perform overall evaluation of research outputs that each local agency collect. For instance, employer skill-needs surveys or follow-up surveys of job training participants can be used to help collect this information. Secondly, local agencies can take part in designing these central-government driven surveys, performing local-demand tailored in-depth analysis based on nationally produced information, and in taking initiatives in developing and evaluating local job and skills policies. Once in place, these practices could help enhance capacities of local stakeholders. To expedite these procedures, consistent support need to be made in terms of raising expertise of local stakeholders by participating in workshops or forums on a regular basis.

For the years that followed, employers skill-needs surveys were conducted on a biennial basis using administrative data such as HRD (Human Resource Development)-net DB and Employer Labor Demand Survey by Occupation. Using this information, skills shortages have been calculated by occupation and industry at the regional level. In addition to skills survey for job seekers, another effort has been made to design skills surveys for current employees. This contributed to developing curricula for training programs for current employees and to extending work-based training programs to the SMEs that suffered from lack of capacity and resources to develop their own training programs.

Making TVET reform sustainable seems very challenging though not impossible. In terms of TVET governance reform in the Korean TVET system, a local-based skills monitoring system deserves attention, as it can shed new light on the linkage of skills demand by employer with skills provision by many stakeholders including private skills providers. By analyzing local based skills demand by occupation and industry, TVET reform may continue to reshape the TVET curriculum to better equip trainees with the skills needed in the labor market. This

will lead to an establishment of institutional arrangements for continuing TVET reform for the coming years.

To summarize, TVET reform should accommodate close scrutiny of skills demand by employers at local level, and fine-tuned analysis of these demands by occupation and locality, and its application to reshaping TVET programs. Achieving this ultimate goal, local level TVET governance helps activate training incidence by SMEs, launch high skill based competition strategy, and stimulate national competitiveness in the global market.

3.3 Integrated Review Process of Vocational Training Programs

The Korean TVET system has for many years developed as a government-led, supply-driven model, which yields complications and overlaps in terms of training delivery, implementation, and performance management. To overcome this stalemate, the government has begun to streamline the TVET system. This refinement includes the simplification of TVET implementation procedures by reshaping TVET programs into competency-based TVET programs by training courses. Employment services and other assistance for job training participants have also been strengthened via increased investment in the delivery system, counselling services for TVET, and labor market intelligence systems such as HRD-Net.

To secure quality TVET programs, the review process of vocational training has also been simplified by level of competencies and occupations, and the tasks have been delegated to the newly established agency: the Korean Skills Quality Authority (KSQA hereafter). As shown in Figure 3, the review process of vocational training programs for the unemployed has been integrated in order to improve efficiency and to relieve stakeholders of administrative burdens. The process consists of three steps: first, the KSQA, which is in charge of reviewing training programs and quality assurance, conducts reviews of basic requirements in terms of the eligibility of training organizations, basic requirements for program components (hours/duration/facilities of training), requirements of NCS application (no less than 40% of training hours be placed for NCS based programs). Once this step is passed, training programs are then reviewed in regard to program relevance, which examines the relevance of contents, methods, facilities and equipments to meet the objectives of training. Then, the programs are evaluated in terms of labor demand relevance, which refers to evaluating performance/training providers/training courses according to predetermined performance criteria. These processes being passed, the training programs are finally accredited by the government as training programs for the unemployed.

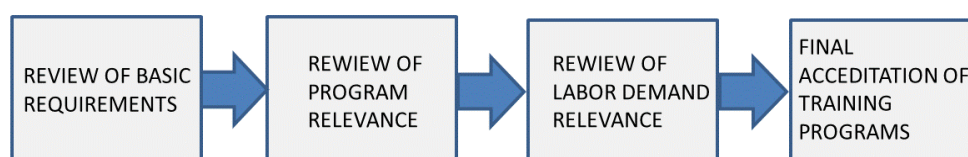


Figure 3: Integrated Review Process of Vocational Training Programs

Integrated review procedures are carried out using these three steps, and passage of each step is a precondition for proceeding to the next step. Given these review procedures, the central government and its agencies still play crucial roles in making decision on training provision, and designating training organization across the nation. However, central government also induces RCs and ISCs to make input in terms of training courses needed in the labor market, which have not been identified by national level skills surveys.

4 Conclusions

Thus far, this paper has discussed developments in the Korean TVET system, the goals of which are to make the system more responsive to local employers' skills and personnel demands, and to allow more flexibility in making decision on HRD issues and delivering training programs at local levels. Given that the Korean system is at the early stage towards this decentralized TVET system, there still remain many challenges and concerns.

First of all, institutional mechanisms need to be established to ensure strong business engagement at the local level. As a first step, it is recommended that local HRD committees set up master plans for local skills development that draw on the information on skills demand by local employers and have this plan approved by local legislatures. During this process, central government and local stakeholders may need to come up with an incentive system to encourage proactive participation by local employers. It is no doubt that local employers can better give signals regarding skills demands, and that their active participation may not be guaranteed without appropriate incentives in place.

Secondly, one needs to strike a balance between effectiveness and flexibility if local based HRD system is to secure more prospective outcomes in the mid or long-term. In terms of delivery system, local based one-stop centres may produce better results if they are bestowed enough leeway to contract out their services or monitor performances. By inducing market-based disciplinary mechanisms so as to induce effective competition between program providers, new governance may help relieve budget constraints of public financing and organize local-based partnership with stakeholders concerned in TVET. It is advised that the lower the administrative burdens the more likely employers are to take initiatives in TVET implementation and delivery.

Thirdly, instead of the mechanical matching of skills demand identified through surveys with new TVET programs, it is more beneficial to have collaborative interaction between stakeholders to draw joint decisions. In other words, it is better to make committees work with flexibility to adopt on a regular basis demands by the employers or stakeholders rather than to simply resort to hard statistics such as 'Survey of Skills Demand by Region' indicated above. However, it is recommended that TVET program be opened in occupations where living wages can be guaranteed. Regional HRD committees may need to monitor these outcomes on a regular basis.

Finally, relocating regional HRD committees into either municipalities or local employment centres may be an option after close scrutiny on its possible impact and effects. Decentralization of TVET governance should include devolution of decision making in TVET areas in terms of financing, delivery, planning, and implementation. However, this reform can be controversial at local political level, as legislators or local politicians can intervene in the process, yielding uncertainty in its progress. Therefore, regional HRC committees need to develop their own strategies to secure their positions and capabilities to be freed from local political dynamics.

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