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From segmentalist to liberal skill formation system: A comparative analysis of labour market activation policies in Japan and South Korea

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Abstract

This study provides a comparative analysis of the evolution of skill formation systems in Japan and South Korea, considering the nuances in active labour market policies (ALMPs) and institutional transformations in the post-industrial landscape. Both nations initially adopted segmentalist skill formation systems; however, they now exhibit divergent paths. Korea, in particular, has undergone institutional changes from segmentalist to a liberal skill formation system, with firms reducing their involvement in skill formation, resulting in a pronounced skill formation gap. Firms have curtailed their role in skill formation in alignment with environmental changes, and ALMPs have primarily centred on job creation for the elderly and small- and medium-sized enterprise employment subsidies. Conversely, Japan has maintained consistent policy approaches despite similar environmental changes. This study highlights that these divergent trajectories are rooted in the different stages of institutional maturity established during industrialization.

Keywords: institution change; skill formation system; youth labour market; ALMPs; Japan and South Korea

Introduction

South Korea and Japan have consistently demonstrated unemployment rates substantially below the global average, indicative of their labour markets' economic vitality and stability during the prime years of industrialization in the 1970s and 1980s. While the average unemployment rate for OECD countries was approximately 5.3% in the 1970s and rose to 7.3% in the 1980s, Japan and Korea demonstrated more resilient employment structures, maintaining average rates of 1.9 and 4.3% in the 1970s, and 2.6 and 3.8% in the 1980s, respectively (Japan Statistics Bureau, 2023; Korea Statistical Information Service, 2023; OECD, 2023a; OECD, 2023b; OECD, 2023c). The analyses of Korea and Japan in labour market analyses often originate from their collective classification as productivist welfare states within the East Asian welfare model. These systems are typified by a Japanese employment framework encompassing seniority-based wages, comprehensive on-the-job training (OJT), and welfare systems favouring large enterprises (Thelen, 2004; Estevez-Abe, 2006; Thelen, 2014).

However, the economic crises of the late 1990s propelled unemployment rates upward and brought further challenges. Korea's average rate climbed to 4.5% between in early 2000s, while Japan grappled with an average rate of 5.3% during the same period. Despite improvements later in the decade, these figures highlight the lingering impact of the economic turmoil. The challenges of the early 2000s were particularly stark for young people, with average youth unemployment rates reaching 10.0% in Korea

and 9.3% in Japan between 2000 and 2004, highlighting the need for targeted policies to address youth unemployment (OECD, 2023c).

The escalation of unemployment rates in the late 1990s, particularly among youth, highlighted a critical need for labour market policy reform and a re-evaluation of the existing skill formation frameworks. These frameworks are instrumental in shaping the process through which nations develop the skills essential for workforce participation. Broadly typified as either “liberal” or “segmentalist,” skill formation systems can offer inclusive, standardized training aligned with the demands of the labour market, or provide specialized skills for distinct sectors (Estevez-Abe et al., 2001; Thelen, 2004). The rising tide of youth unemployment in the 1990s necessitated a strategic pivot, especially in Korea, towards active labour market policies (ALMPs) that centred on youth integration. Korea’s emphasis on direct job creation and job training, with a growing focus on employment incentives, contrasted with Japan’s minimal investment in job creation, underscoring a preference for employment services and incentives.

This period witnessed divergent approaches in state-led youth activation policies. In response to the Asian financial crisis, the Korean government intensified efforts to curb youth unemployment, which stood in stark contrast to Japan’s approach (Han et al., 2017). Differing strategies are mirrored in the evolution of ALMP expenditures; Japan’s overall ALMP expenditure decreased, while Korea’s investment in its youth labour market increased from 0.29% to 0.38% of GDP from 2010 to 2019 (OECD Statistics, 2021). The present study aims to elucidate the distinct youth labour market activation policies between Korea and Japan, with a focus on dissecting ALMP expenditures and programmatic orientations. It investigates the underlying causes for the diverging paths of their skill formation systems. Despite their initial similarities during the industrial era, traditionally classified as segmentalist, the skill formation systems of Korea and Japan are now exhibiting signs of divergence in the post-industrial period. This analysis is vital for understanding the implications of these shifts on the future of labour market strategies within these economies.

Employing a comparative institutional analysis, this paper leverages Busemeyer and Trampusch’s (2012) analytical framework to examine the shifts within the skill formation systems amidst deindustrialization challenges. This analysis examines the evolving state roles in youth skill formation policies in Korea and Japan, with particular focus on their respective ALMPs. These adjustments are not merely reactive to the economic disruptions of the 1990s but represent strategic, incremental adaptations to deindustrialization (Busemeyer and Trampusch, 2012).

Theoretical framework and methodological approach

This study adopts a historical institutionalism approach to investigate the divergence of skill formation systems in Korea and Japan, drawing on insights from Thelen (2004, 2014) and Graf (2018). By employing the theory of gradual institutional change, we analyse the systems’ evolution through mechanisms such as “layering,” where some institutional elements are renegotiated (Schickler, 2001) and “conversion,” where institutions are repurposed (Streeck and Thelen, 2005). Our analysis particularly focuses on how these two nations, each with unique institutional legacies and labour market challenges, have responded to changes in deindustrialization sparked by increased youth unemployment following the crisis.

Historically, Japan and Korea have exhibited shared institutional characteristics, such as a Japanese employment and training system that emphasizes a seniority-based wage structure and OJT, and a welfare system that favours large corporations (Odagiri, 1994; Estevez-Abe, 2006; Keizer, 2010; Lee, 2011, 2016). However, the trajectory of their ALMPs spending began to diverge in the 2010s, a pattern observable from the early 2000s to the early 2010s, as illustrated in Figure 1. Korea’s sustained expansion in ALMP expenditure since the late 2000s contrasts with Japan’s reduction post-2008 financial crisis, hinting at a deviation in labour market policy approaches between the two countries, and raising questions about the two countries’ commitment to skill formation.

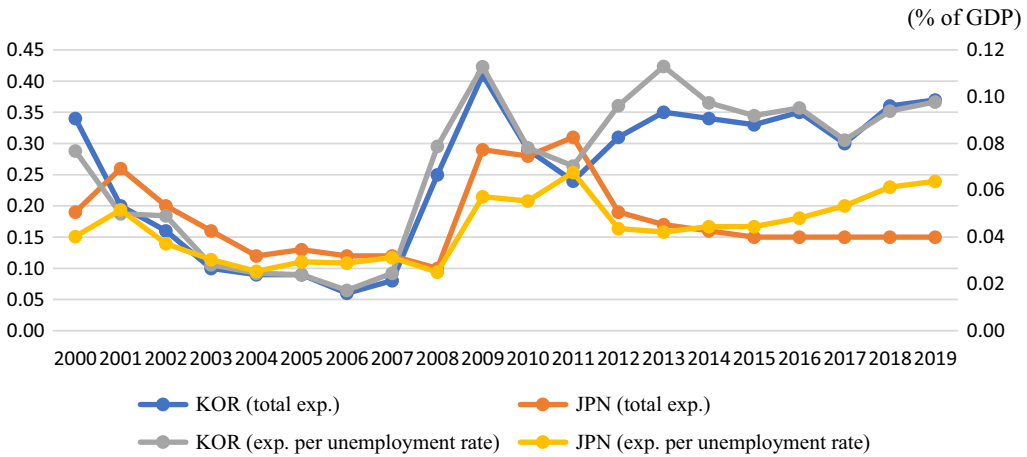


Figure 1. Active labour market policy (ALMP) expenditure in Korea and Japan (2000–2019).

Source: OECD statistics (<https://stats.oecd.org/>).

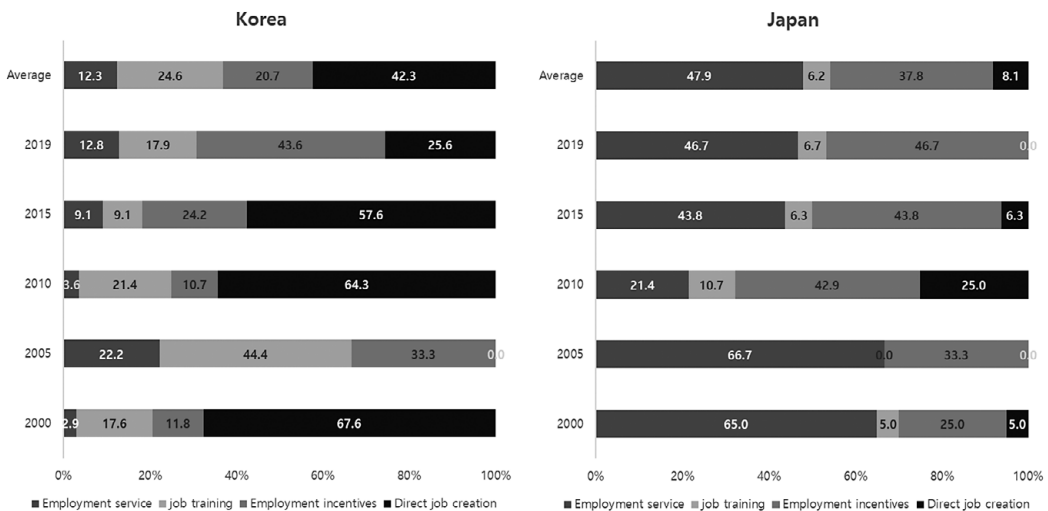


Figure 2. The composition of active labour market policy (ALMP) expenditure in Korea and Japan (2000–2019).

Source: OECD statistics (<https://stats.oecd.org/>).

When we examine the composition of ALMP expenditures in Japan and Korea by type (see Figure 2), a significant difference in ALMP policies between the two countries becomes evident. In Korea, over the last two decades since 2000, the program that accounted for the largest share of ALMP spending was direct job creation (42.3%), followed by job training (24.6%), employment incentives (20.7%), and employment services (12.3%). Furthermore, the composition of ALMP expenditures in Korea has varied over time. Apart from 2005, which demonstrated an unusual expenditure composition, the proportion of direct job creation was overwhelmingly high from the early 2000s to the early 2010s, and employment incentives have increased until recently. Conversely, employment services consistently account for the smallest proportion of expenditures in Korea.

In contrast, Japan's spending composition significantly differs from that of Korea. In Japan, direct job creation (8.1%), which constitutes the most significant proportion in Korea, was very low. Instead, employment services have the highest proportion, accounting for nearly half of the total expenditure on average, followed by employment incentives. The average job-training rate stood at 6.2%. Similar to

Korea, Japan has also increased its spending on employment incentives until recently, but employment services still make up the largest proportion. This distinction in spending composition implies divergent ALMP strategies and the nature of state involvement in the labour market.

We scrutinize the role of governments and corporations, the primary provider of skill formation, in shaping youth labour market opportunities. In particular, we examine the institutional contexts and legacies underpinning strategic choices made in each country, assessing the congruence and disparities between them. The research delves into the institutional frameworks governing firm engagements such as OJT and vocational and educational training (VET) and state commitments as reflected in ALMPs in skill formation system.

Our findings suggest that Korea and Japan display divergent paths in skill formation. Japan maintains a segmentalist skill-formation system (Busemeyer and Trampusch, 2012), marked by path dependency and collaboration between the state and corporations. Conversely, Korea's skill formation system appears to be evolving dynamically, indicating a shift towards a liberal skill formation framework.

In the typology of varieties of capitalism (VoC), countries align as liberal market economies or coordinated market economies (CMEs), distinguished by their coordination mechanisms in labour, finance, and education sectors (Hall and Soskice, 2001). The skill formation systems in question serve as a pivotal foundation for workforce development in the respective labour markets. Liberal systems, characteristic of the United States and United Kingdom, prioritize a broad skill set facilitating labour market agility, while segmentalist systems, found in Germany and Japan, emphasize specialized skills for sector-specific needs, sometimes at the cost of cross-sector mobility (Estevez-Abe et al., 2001; Thelen, 2004).

The industrial period saw both Korea and Japan adopt a segmentalist approach, with firms investing in skills pertinent to their distinct internal labour markets. However, in the later period, marked by deindustrialization and subsequent Korea's financial crisis, there was a notable pivot towards a liberal skill formation framework. This shift reflected a decline in state and corporate investment in job training. Japan's entrenched skill formation practices, however, maintained a trajectory of stability and path dependence. Conversely, Korea exhibited adaptability through "layering" – the introduction of elements atop existing frameworks – and "conversion" – the repurposing of institutions towards fresh objectives in skill formation and labour market resilience.

Deindustrialization has been catalysts for these transitions, with literature highlighting their influence on the shift towards a more generalized skill orientation (Anderson and Hassel, 2013; Diessner et al., 2022). This raises pivotal questions about the divergent responses to similar structural pressures. Why did Korea embark on a distinctive path from Japan? We posit that the underlying institutional configurations of each country have steered their strategic approaches to skill formation.

The decreased corporate participation in Korea's skill formation precipitated a marked transition in the nature of ALMPs. Initially constrained state investment in skill formation gave way to a pronounced emphasis on broader competencies, predominantly advanced through a university-centric academic model driven by market forces. This evolution saw ALMP allocations shift towards direct employment creation and job incentives, a departure from traditional firm or industrial based vocational training strategies.

A comprehensive review of policy documents, official statements, and empirical data, complemented by insights from Busemeyer and Trampusch (2012), facilitates an understanding of the dynamic changes within these skill formation systems. Our aim is to construct a rich, comparative narrative that encapsulates the gradual institutional metamorphosis in the labour markets of Korea and Japan, thereby enriching the broader discourse on skill formation and labour market policies.

ALMP and actors in skill formation system

Busemeyer and Trampusch (2012) establish a connection between skill formation and employment, suggesting that heightened collectivism in industrial relations and the training regime correlates with a diminished risk of precarious employment. Nevertheless, these same collectivist structures are susceptible to transformation into mechanisms of labour market stratification, safeguarding the interests of

already entrenched labour market participants at the expense of new entrants (Hacker, 2004; Streeck and Thelen, 2005). The skill formation paradigm also undergirds potential labour market dualization, a concept that delineates a bifurcation of employment stability and skill levels within the workforce (Palier and Thelen, 2010; Eichhorst and Marx, 2012; Emmenegger et al., 2012; Lee, 2016).

The degree and character of public involvement in a skill formation system are observable in a state's ALMPs. ALMPs inherently possess a dual characteristic, contingent on their predominant objective: either facilitating the transition of the workforce from welfare to work or endorsing human capital augmentation (Torfing, 1999; Batbier, 2004; Taylor-Gooby, 2004). When ALMPs accentuate the enhancement of human capital, they inherently intertwine with skill formation. Therefore, an examination of state investments is crucial for comprehending a country's ALMPs.

ALMPs are categorically segmented into employment incentives, employment services, direct job creation, and job training. Employment incentives enhance work and training incentives for beneficiaries of social policies, often through conditional work and training engagements. Employment services work to dismantle barriers to labour market participation. Direct job creation policies forge public sector jobs to accommodate labour supply, seeking to thwart skill atrophy or sustain activity among the unemployed. Job training dispenses work-associated education for the unemployed. Based on the objectives – market employment and human capital orientation – Bonoli (2010, 2013) has categorised types of ALMPs. Direct job creation exhibits low orientation towards human capital and market employment, whereas job training is pronounced in both dimensions. Albeit distinct, employment incentives and services exhibit a strong orientation towards market employment but a frail inclination towards human capital.

Derived from Bonoli's classification, it is inferred that a government's commitment to skill formation is most transparently mirrored in its expenditure on job training programs within ALMPs (see Table 1). Table 1 provides a longitudinal view of state investment in ALMPs and job training from 1985 to 2015, categorized by different skill formation systems. Sweden, under the Statist model, consistently allocates higher investments in both ALMPs and job training, highlighting a robust state-driven approach to workforce development. This contrasts with the collective model of Germany, the segmentalist approach of Japan, and the liberal system of the United States, each with varying degrees of investment that reflect different national strategies in integrating ALMPs with broader economic and social objectives (Bonoli, 2010, 2013). This inference aligns with the objective of this study – to assess how actors within the skill formation system have adapted to the ramifications of deindustrialization. To gain a static perspective on a country's skill formation regime, focusing on a less mutable system, such as secondary vocational education, might be more beneficial. While the static aspect of a country's skill regime, like secondary vocational education, might provide a stable snapshot, ALMP expenditure offers a dynamic perspective,

Table 1. State's ALMP and job training spendings by skill formation systems (1985–2015) (% of GDP)

		1985	1990	1995	2000	2005	2010	2015
Sweden (statist)	ALMPs	1.68	1.29	1.80	1.39	0.89	0.83	1.00
	Job training	0.63	0.49	0.48	0.60	0.19	0.10	0.14
Germany (collective)	ALMPs	0.39	0.59	0.96	1.02	0.81	0.52	0.28
	Job training	0.16	0.34	0.43	0.53	0.39	0.27	0.20
Japan (segmentalist)	ALMPs	0.03	0.04	0.06	0.06	0.05	0.23	0.08
	Job training	0.00	0.00	0.00	0.01	0.00	0.03	0.01
United States (liberal)	ALMPs	0.20	0.17	0.13	0.13	0.10	0.10	0.08
	Job training	0.14	0.10	0.06	0.06	0.05	0.04	0.03

Source: OECD Statistics (<https://stats.oecd.org/>).

being sensitive to environmental shifts and indicative of the state's strategic positioning in skill formation (OECD Statistics, 2021).

Contrasting with state commitment, there exists a deficiency in internationally comparable data concerning the degree of firm involvement in job training. Frequently, indicators such as the participation rate of workers in vocational training neglect to incorporate OJT, rendering them particularly insufficient for countries with a significant proportion of OJT, like Japan. A more enlightening approach would involve examining companies' expenditure on job training for their employees. However, procuring internationally comparable data proves challenging, necessitating reliance on extant literature and select statistical data.

Development of skill formation system in Japan and Korea

Japan

The Japanese employment system is renowned for its “three sacred treasures”: lifetime job security, a seniority wage system, and enterprise unionism (Lie, 1990). Another crucial characteristic of the Japanese system is the firm-based skill formation system, which employs young entrants to the labour market and trains them within the company through the OJT system (Kitagawa et al., 2018). This system guarantees lifelong employment and is economically efficient as it develops and utilizes the skills of long-term employees (Jung, 2011). As per the VoC literature, Japan exemplifies a CME that emphasises firm-specific skills (Estevez-Abe et al., 2001; Lee, 2016). These skills are tied to the tacit knowledge gained through long-term company employment, necessitating a system for in-company transmission of such knowledge. Therefore, based on lifelong employment and OJT, the Japanese employment system aligns well with firm-specific skills.

Japan's VET system has evolved over the post-war era, categorized into three phases: public job training (1958–1974), private company training (1975–1997), and individual training (1998 onwards) (Chang et al., 2009). During early industrialisation, Japan prevented traditional artisans from collective action and established training programs for state-owned enterprises to meet skill demands. Large private companies harnessed the skilled workforce internalising independent skilled workers to secure skilled labour supply. In this process, the lifelong employment and seniority wage systems emerged to manage skilled workers' mobility (Thelen, 2004). Thus, Japan's “three sacred treasures” were established to tackle a skill shortage.

Japan's skill formation system is segmented with companies playing a more significant role than the state. Despite introducing an education and training benefit system in 1998 that increased individual-led skill formation, the Japanese skill formation system remains predominantly company-centred. Even as early as 1958, when public vocational training was critical, in-company training had a comparable significance (Kim, 2003; Chang et al., 2009). Since the 1970s, the government has decreased its role in backing enterprise-focused education and training, leading to the peak of Japan's segmented skill formation system in the 1980s (Busemeyer, 2009).

Japan's post-war skill formation system, designed to curtail radical union influence, was supported by the conservative government and companies benefitting from the Cold War context and industrialization. Companies developed an internal trade union system and permanent employment practices to retain skilled labour, contrasting with the U.S. approach by preventing labour poaching through non-market coordination (Jeong and Aguilera, 2008; Busemeyer, 2009). Despite a lack of significant social policies for skill development (Iversen and Soskice, 2001), Japanese firms established corporate welfare systems as an alternative to national welfare provisions (Osawa, 2009; Lee, 2016).

Japan's holistic skill development system encompasses both skilled and unskilled workers. Most Japanese workers acquire various skills via OJT with job rotation, leading to promotional opportunities along an internal labour market path. Off-the-job training is provided sporadically to enhance OJT (Koike, 1994). Japan's human resource management (HRM) system aligns with this integrated skill development approach, incorporating elements such as a hybrid wage system based on seniority and

skill, a teamwork system, and a single career path. This HRM model, called “OJT-plus” (Jung, 2013, p. 32), complements OJT-centric skill formation. Hence, the Japanese employment system could be economically efficient despite the long-term employment costs.

The Japanese in-company skill formation and HRM systems are instrumental in enhancing the efficiency of the internal labour market by fostering a workforce that is versatile, adaptable, and deeply integrated into the company’s culture. Workplace learning, or “shokuba gakushu,” is a cornerstone of this system, facilitating continuous learning and skill enhancement in the flow of work duties (Nonaka and Takeuchi, 1995). This approach is supported by the HRM practice of “horenso” (reporting, contacting, and consulting), which ensures continuous knowledge exchange and collaborative learning (Watanabe, 1999). Moreover, the job-rotation system employed in many Japanese companies facilitates a broad range of skill acquisition and a comprehensive understanding of the company, which in turn contributes to workforce flexibility and resilience (Aoki, 1988). This multifaceted approach ensures that the Japanese employment system not only cultivates a skilled, committed workforce but also aligns with the company’s long-term economic efficiency (Koike, 1994; Jacoby, 2005).

Japan’s secondary education system bifurcates into general and vocational tracks; however, general courses dominate, and vocational courses are comprehensive rather than specialized. Since the 1970s, Japanese firms have forged long-term ties with high schools, recruiting graduates through school recommendations. With high school graduates typically starting work with generic or broad vocational skills, acquiring company-specific skills within a company becomes vital (Kim, 2003). The recruitment system for college graduates mirrors this. Japanese firms hire college graduates upon graduation through collective recruitment and nurture company-specific skills through in-house training (Reiko, 2018). This recruitment process facilitates a seamless school-to-work transition for young individuals and allows firms to secure their workforce well in advance. This early recruitment system is viable because core vocational skills can be obtained through in-company training.

Korea

Korea’s industrial development mirrors Japan’s, with similar industrial structures and employment systems (Lee, 2016). This resemblance has led to Korea’s employment system often being dubbed a subtype of Japan’s, incorporating long-term employment, seniority pay, and enterprise unionism, initially for white-collar workers in large enterprises in the 1970s and later for blue-collar workers post-democratisation in 1987 (Jung, 2011).

During Korea’s early industrialisation, the government played a crucial role in skill formation, establishing vocational training courses through the Vocational Training Act in 1967, then expanding public vocational training centres and fortifying vocational education via technical high schools in the 1970s (Park et al., 2016). As industrialisation advanced, the role of the private sector, especially large companies, in skill formation grew, mirroring Japan’s trajectory. Large corporations established in-house vocational training centres early on, and in the 1990s, the government introduced employment insurance and encouraged the private sector to adopt a levy grant-based vocational skill development program (Chang et al., 2009). Korea’s employment, skill formation, and welfare systems seem to follow Japan’s to some extent. Following heavy chemical industrialisation in Korea in the late 1970s, conglomerates expanded corporate welfare to secure skilled labour, supplanting national welfare. Like Japan, the Korean government, with a strong productivist orientation, curtailed the labour movement, hindering the development of a welfare system and skill formation system at the industrial and national levels (Yang, 2004).

However, a closer examination reveals some differences. Japan’s “three sacred treasures” have formed an institutionally complementary system focused on advancing in-house skill formation, HRM, and firm-specific skills, which proved economically efficient for companies. In other words, securing long-term skilled labour is a crucial competitive edge for Japanese firms. Despite an economic downturn since the 1990s and a rise in non-regular employment, Japan’s in-house skill formation system and internal

labour market have maintained a relatively significant role compared to Korea (Jung, 2011). This difference stems from the selective affinity between these two systems in Japan.

In Korea, state-directed skill formation played a pivotal role in its initial stages of industrial growth, with conglomerates developing systems akin to Japan's from the 1970s onwards. Yet, Korea's in-company skill formation has not yet achieved the level of institutional synergy with HRM or corporate management observed in Japan. These disparities have contributed to the divergent paths of the Korean and Japanese skill formation systems amidst transformative events like the shift towards a service-dominated economy and the Asian financial crisis. Should Korean enterprises, following a path akin to Japan's segmentalist skill formation system, retract investment in labour skills, the nation risks a skill deficit unless there is a strategic redirection of the state's role in skill formation (Thelen, 2004; Lee, 2016).

In contrast to Japan's trajectory, Korea's industrialization strategy pivoted on assembly and automation from its inception, prioritizing advanced technology over labour skills (Levy and Kuo, 1991; Jeong, 2016). While Korea and Japan have charted parallel paths in institutional employment and skill formation development during their industrialization phases, Japan's system – marked by low state commitment but significant corporate job training engagement – has been subject to calls for reform post-1990s economic downturn and the rise of non-regular employment. Japan's in-company skill formation and labour management practices have largely retained their significance, exhibiting institutional rigidity due to their maturity (Aoki, 1994; Estevez-Abe et al., 2001).

In contrary, Korea's internal labour market has not expanded like Japan's, and some suggest it has been significantly weakened, if not dismantled, for white-collar jobs since the 1997 economic crisis (Kim and Han, 2008). Scholarly research on South Korea's internal labour market and skill formation points to the nascent stage of in-company skill formation and HRM systems, which impacts the establishment of long-term employment and the accrual of seniority-based wage benefits (Jung, 2011). This developmental delay can be traced to the relatively brief interlude between 1987 and 1997 when South Korea sought to emulate Japan's labour model – a period much shorter than that afforded to Japanese conglomerates to cultivate a skilled labour-centric system. Confronted with deindustrialization and financial upheaval prematurely, Korean firms could not fully mature their in-company skill formation and HRM systems to bolster internal labour market efficiency. Consequently, amidst volatile economic conditions, downsizing the internal labour market emerged as a more pragmatic approach than fostering its growth (Jung, 2011).

Empirical studies reflect that although there are similarities between the skill formation systems of Korean chaebols and Japanese firms, Korean conglomerates exhibit a lower commitment to labour skill investment (Chang et al., 2009; Shin, 2010). The integrated skill development systems, pivotal to Japan's in-company skill formation, are conspicuously absent in Korea. Korean corporate practice often entails a compartmentalized approach that segregates engineers from the skilled labour pool and does not provide comprehensive compensation and promotion frameworks to incentivize skill development (Shin, 2010). Recruitment in Korea has also undergone diversification since the 2000s, in contrast to Japan's sustained focus on new graduate hiring until recent shifts (Ohta, 2016).

Divergence in skill formation system

Post-industrial changes in Korea and Japan

In Japan, industrial employment peaked at 37% in 1973, plateaued until the mid-1980s, then dipped below 30% in the early 2000s, while service sector employment climbed past 50% in 1974 and 60% by 1993. Contrastingly, South Korea's industrial sector employment surpassed 30% only in 1984, peaking at 36.5% in 1991 before a sharp decline to sub-30% by 1998, indicating a later and more abrupt deindustrialization phase. This trend was a defining phenomenon of the 1990s, with Japan's early signs emerging in the early 1990s and Korea's becoming pronounced in the late 1990s (US Bureau of Labour Statistics, n.d.).

Deindustrialization has exerted transformative pressures on the skill formation regimes of Korea and Japan, central to which is the firms' role in job training. Research suggests that the shift towards tertiary employment has diminished the importance of specific skills, asserting that service sector skills tend to be more generic and socially oriented (Baum, 2002; Streeck, 2011a). Service employment often exhibits greater transience and flexibility compared to manufacturing (Kalleberg, 2009), undermining firms' incentives for skill investment and challenging the long-established complementarity between prolonged employment and firm-specific skills that underpins both nations' segmentalist systems.

Since the 1990s, over half of the workforce in both South Korea and Japan has been engaged in the service sector, with labour market changes paralleling the growth of service economies. These changes include increased labour market flexibility, reduced employment protection, and a rise in non-standard employment, especially within the small- and medium-sized enterprises of the service sector (World Bank, 2012). Consequently, traditional systems, while still prevalent in large-scale and regular employment, are contrasted by the burgeoning external labour markets, signalling a systemic weakening.

Recently, individual-led skill formation initiatives, like personal learning accounts, have gained momentum in Korea, mirroring Japan's shift in the 1990s towards individual skill development post the introduction of educational and training benefits.

Following deindustrialization, digitalization further disrupts the environmental synergy of existing employment systems, historically framed by the "three sacred treasures." Indicators like robot density from the IFR and the Digital Adoption Index from the World Bank place Korea and Japan among the top digitized nations since the 2010s (World Bank, 2016; International Federation of Robotics, n.d.). Research into digital transformation impacts on employment in South Korea and Japan reveals an intensifying dual structure within their labour markets and a rise in employment flexibility (Lee et al., 2020; Shibata, 2022; Giustini, 2023). Digitalization, gaining momentum in the 2000s, amplifies these labour market shifts. It induces trends similar to deindustrialization, contributing to the dilution of traditional employment structures. The academic discourse suggests that digital technologies polarize labour markets and marginalize medium-skilled jobs (Buyst et al., 2018; Kurer and Gallego, 2019; Fiedler et al., 2021). Manufacturing and clerical roles, historically secure and skill-specific, exemplify the declining medium-skill employment sector (Palier, 2019). The digital era prioritizes high-level cognitive and social skills, typically broader in scope.

In reaction to these changing skill demands, both nations have witnessed a shift towards individual-centric training models since the 2000s. Nonetheless, this transition does not necessarily denote a qualitative overhaul of their established skill regimes. Within our analytical purview, a thorough examination is required to discern the actual adaptive measures undertaken by various actors in response to deindustrialization and digitalization, considering the influence of entrenched institutional legacies.

Changes in skill formation in Korea and Japan

In the context of deindustrialisation and digitalisation, it is widespread for firms in Korea and Japan to have diminished incentive to invest in workforce skills. The query then arises – has firm's involvement in skill formation tangibly declined in these nations?

In South Korea, the evidence of such a decline is quite stark. The proportion of labour costs that firms allocate to employee training has witnessed a significant drop, from 1.8% in 1995 to a mere 0.4% in 2018. This reduction in corporate investment in job training is a telling indicator of the changing dynamics of skill formation within the country. Concurrently, there has been a dramatic increase in the educational attainment of the younger generation. The percentage of young adults aged 25–34 with tertiary education has soared from 29 to 70%. This surge in higher education attainment suggests a shift in the approach to skill acquisition, with individuals increasingly seeking formal education to bridge the skills gap left by the reduced corporate investment in job training. Therefore, not only has there been a noticeable decline in firm involvement in job training in South Korea, but the nature of skill development itself has undergone a transformation, pivoting towards more formal educational pathways, see Figure 3.

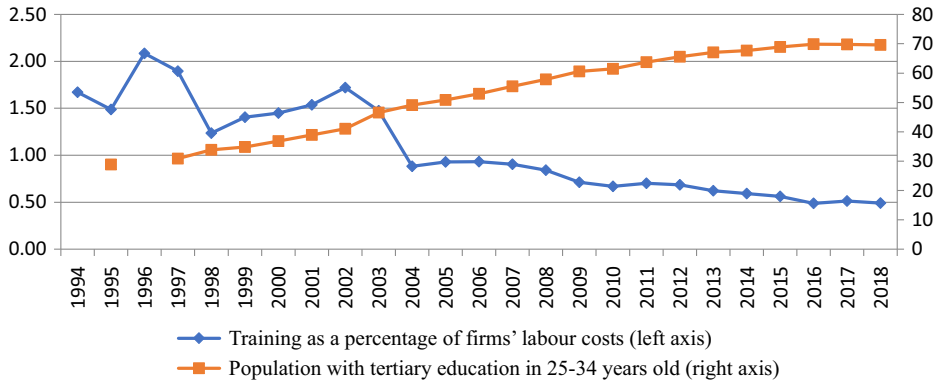


Figure 3. Change of firms' training cost and youth population with tertiary education in Korea (1994–2018).

Source: Ministry of employment and labour, Enterprise labour cost survey; OECD statistics (<https://stats.oecd.org/>).

However, Japan presents a contrasting scenario. Despite some research indicating a decline in corporate training investments since the 1990s, Japan's pattern does not display the steep, linear decline observed in Korea. Japanese firms have generally maintained their investments in training for regular employees. It is the rise in non-standard workers that creates the perception of reduced investment in skill formation by Japanese firms (Suga, 2010). This situation is particularly significant given the substantial increase in non-standard employment in Japan. Yet, this shift more accurately reflects a dualization of the Japanese labour market, rather than a comprehensive decline in firms' participation in VET.

Japanese youth tertiary education completion rates rose from 46% in 1997 to 61% in 2018, paralleling OECD trends but not Korea's dramatic increase. Despite environmental shifts challenging Japan's firm-based skill system, it endures, contrasting with Korea's reduced corporate human capital investment (Yashiro, 2013; TAŞLI, 2018). While both countries face deindustrialization and digitalization, Japan's entrenched firm-specific skill regime, developed during industrialization, contrasts with Korea's less established, conglomerate-focused skill formation, reflecting differences in institutional complementarity and maturity.

In Japan, the persistence of institutional complementarity has led to a system that maintains competitive advantages for companies, characterized by an enduring commitment to skill formation within firms. This has been particularly evident in the aftermath of the economic bubble collapse, where Japan's youth unemployment rate began to fall, accompanied by a decrease in expenditure on employment services in the mid-2000s, signalling a mature institutional ecosystem that continues to foster firm-based skill development (Genda, 2005). This mature complementarity is further reflected in the widespread adoption of "lifetime employment systems" and a strong emphasis on OJT, which remain entrenched in the corporate culture, despite the growth of non-regular employment.

Contrastingly, Korea's trajectory reveals a decline in corporate commitment to skill formation post-industrialization, suggesting a shift in the institutional configuration. This shift can be attributed to the Asian financial crisis and rapid deindustrialization, which expedited a change in Korea's approach to labour market policies, transitioning towards more liberal models and lessening corporate involvement in skill development (Kwon, 2009). This transformation has led to a youth skill vacuum, with neither the nation nor companies contributing significantly to skill formation.

The institutional maturity in Japan promotes a robust, firm-centred skill formation system, enabling companies to retain a competitive edge by investing in employee skill development, even in the face of economic downturns. This contrasts with Korea's emerging liberal system, where diminished corporate and state involvement in skill training has prompted a need for more proactive state-driven employment policies to address the skill gap (Lee, 2016).

Considering this, Japan's approach can be described as one of mature institutional complementarity, where changes are incremental and aimed at preserving the core tenets of the existing system. Korea's approach, however, indicates an immature complementarity, with reforms being more radical and state-directed, reflecting a departure from the previously firm-centric model of skill formation (see Table 2).

Using the criteria of Bonoli (2013), who categorised ALMP based on the degree of human capital investment and pro-market employment orientation, it is clear that direct job creation is the most prevalent type in Korea (see Figure 2). However, it is a program with both low human capital investment and pro-market employment orientation. The high ratio of direct job creation in Korea can be explained by the fact that, unlike other countries, it includes a high proportion of public job programs targeting the elderly. This is a strategy employed by the conservative government of the 2010s to win political support from the elderly, in the face of high elderly poverty rates and an inadequate pension system (Kim and Shi, 2020). Therefore, it is important to note that direct job creation serves as a functional equivalent of a retirement income security system, rather than a complete ALMP.

The relative ratio of direct job creation has recently decreased in Korea, with expenditure on employment incentives beginning to increase. According to Bonoli's classification, employment incentives have a similar low human capital investment to direct job creation, but a more robust pro-market employment orientation. This suggests that pro-market employment orientation is becoming more assertive under ALMP expenditure in Korea. The main targets of these incentives are young people, with subsidies provided to companies that hire young workers, and specific incentives given to young people who have worked for a certain period in small- and medium-sized enterprises (SMEs).

However, it is also important to consider that these policies support not just young people, but also companies, especially SMEs, that hire them and face workforce shortages (Kim, 2018). Although both Korea and Japan have similar labour market structures regarding the vertical contractor-subcontractor relationship and the resultant gap between companies, the nature of these relationships differs. While Japan's contractor-subcontractor relationships are relatively cooperative, those in Korea are more

Table 2. Comparative analysis of skill formation system changes in Korea and Japan

Aspect	Korea	Japan
Skill formation system (initial)	Segmentalist (immature institutional configuration)	Segmentalist (mature institutional configuration)
Skill formation system (current)	Liberal (gradual institutional change)	Segmentalist (persistent, path dependency)
Institutional context and timing	Immature institutional complementarity, facilitating rapid and significant policy shifts	Mature institutional complementarity, resulting in consistent policies despite environmental changes
Actors' choices – firms	Shift from internal to external labour markets, reducing skill formation involvement	Shift from internal to external labour markets, yet maintaining skill formation involvement
Actors' choices – states	Transition towards promoting short-term employment, addressing immediate skill gaps	Focus on employment services that complement firm-centred skill formation strategies
Institutional change	Layering to convergence, indicating an adaptation phase within ALMPs and broader labour market strategies	Path dependency, suggesting a stable and continuous approach to skill formation despite external pressures
ALMP focus	Shift to direct job creation and then to employment incentives, reflecting a pro-market orientation, especially towards SMEs and youth	Consistent investment in employment services and incentives with a strong pro-market employment orientation

characterized by subordination and coercion (Kim, 2014), resulting in a more noticeable gap in productivity and employment conditions between large and small companies.

Korean SMEs face challenges in recruiting and retaining skilled workers. To support these firms, the government has increased employment incentives and adopted market-engaging measures like the Tomorrow Learning Card, outsourced to private sectors. These initiatives are designed to boost SME employment rates as part of the broader labour market policy. However, the process of government-led skill formation is gradual, with a current preference for market-based service delivery systems.

In contrast, Japan has typically spent the most on employment service programs. For instance, Japan's job security offices, now known as HelloWork, have traditionally aided Japanese companies in recruiting new graduates. In response to the youth employment crisis in the 1990s, Japan expanded one-stop service centres, known as Job Cafés, and introduced job matching through Job Cards. Employment services and incentives in Japan, like those in Korea, have low human capital investment and a strong pro-market employment orientation. However, unlike Korea, where the character of ALMP has partially changed from focusing on direct job creation to employment incentives, Japan's ALMP character has remained consistent despite changes in program format.

Job training, which involves substantial human capital investment and pro-market employment orientation, constitutes a small share of the total in both countries, although the share is slightly higher in Korea. Overall, Korea maintains a high level of total ALMP expenditure, which increased following the financial crisis in 2008. Japan, however, shows a temporary increase in expenditure followed by a decline, suggesting that the role of ALMP is more pronounced in Korea.

ALMPs' characteristics in Japan and Korea show clear differences and shifts over time. Japan has consistently maintained a high pro-market employment orientation and low human capital investment. In contrast, Korea has transitioned from low pro-market employment orientation and low human capital investment to a higher pro-market orientation. However, the type of human capital investment has not changed significantly in both countries, suggesting a consistent trend of low human capital investment.

The share of vocational upper-secondary education also evidences the relatively low national commitment to skill formation in both countries. The graduation rates in Korea and Japan are significantly lower than the OECD average, with Korea decreasing over time, contrary to the OECD average trend. However, a low national commitment to skill formation does not necessarily mean a lack of skills in the workforce, as corporate commitment can compensate for national deficits. This highlights the significant gap in in-company skill formation between Korea and Japan. Unlike Japan, where companies compensate for the lack of national commitment to skill formation, Korea exhibits low corporate commitment, implying a higher risk of a skill vacuum.

In Japan, despite some internal adjustments, the skill formation system has remained relatively stable, showing no significant changes. This consistency is due to the existence of institutional complementarity, whereby the institutional configuration leads to competitive advantages for Japanese companies. On the other hand, Korea has seen a decline in corporate skill formation commitment compared to the industrialisation period, indicating a change in the institutional configuration. Although Korea has emulated the Japanese system to a degree, it has not achieved the level of institutional complementarity seen in Japan. Korea's lower path dependence may have been spurred by changes in post-industrialization leading to a youth skill vacuum.

Conclusion

In Korea, the initial skill formation system was characterized by segmentation with an immature institutional configuration. Over time, this has transitioned to a more liberal system, indicative of gradual institutional change. The ALMP focus shifted from direct job creation to employment incentives, reflecting a proactive market orientation, especially towards SMEs and youth. The institutional context and timing were marked by immature institutional complementarity, facilitating rapid and

significant policy shifts. Korean firms shifted from internal to external labour markets, reducing skill formation involvement, while the state transitioned towards promoting short-term employment, addressing immediate skill gaps.

Conversely, Japan maintained a segmentalist system, demonstrating mature institutional complementarity and persistence in path dependency despite environmental changes. The actors, particularly firms, maintained their involvement in skill formation even as they shifted from internal to external labour markets. The focus remained on employment services that complement firm-centred skill formation strategies. The findings indicate that while Korea has experienced more dynamic changes in its skill formation system and ALMPs, Japan's approach has been more stable and continuous, suggesting a path dependency.

However, the study's limitations must be acknowledged. The complexity of measuring OJT through indicators poses a challenge, and the lack of company-level analysis in this comparative study highlights a need for further research. Additionally, the implications for youth employment prospects remain unclear, warranting a more nuanced examination of the potential long-term impacts of these policies.

In light of these limitations, future research should aim to develop more nuanced indicators that can capture the intricacies of OJT and provide a detailed analysis at the company level. This would help to clarify the role of firms in the evolution of skill formation systems and the effectiveness of ALMPs in both countries, particularly in relation to youth employment. Moreover, the long-term sustainability and effectiveness of such policies in improving employment prospects for the youth remain an open question. The study suggests that both countries have responded to similar economic pressures, yet their strategic choices have led to diverging paths, which have significant implications for the youth labour market and the broader economic landscape.

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