Two Options and One Choice: Diffusion of the Wage Peak System Across Workplaces in South Korea

KHYUN JOO | KWANGWOON UNIVERSITY KYUNGMIN BAEK | SOONGSIL UNIVERSITY*

In South Korea's super-aged society, an aging workforce and the shortage of a younger workforce is leading toward a labor shortage as population aging and low fertility rates accelerate. To ensure sufficient workforce capacity, a labor policy called the "wage peak system has spread across workplaces in South Korea. The wage peak system can be implemented in two ways, referred to herein as Type 1 and Type 2, and organizations can adopt either to conform to institutional pressures. This study examines the diffusion of the wage peak system across workplaces and the different motivations to adopt either type. The study used data from the Korean Workplace Panel Survey conducted between 2005 and 2019. The results showed that institutional contexts had a strong influence on the spread of the wage peak system in South Korea. This study has implications for the ways organizations choose to implement systems, depending on the institutional context and several other factors.

Keywords: wage peak system; workplaces; institutional theory; rational choice theory; population aging; South Korea

^{*}Corresponding author

Introduction

Population aging and low fertility rates have been accelerating across developed countries (Jones 2020), and South Korea (hereafter Korea) is no exception to these phenomena. It is estimated that approximately 20% of Korea's total population is over the age of 60, while the fertility rate is around 1.0; this has transformed the country into a super-aged society (Chung 2022). In a super-aged society, an aging workforce and the shortage of a younger workforce eventually lead to a labor shortage. It is reported that the labor shortage in Korea has already become an important labor market issue (Lee and Cho 2013). Researchers and policymakers surmise that curbing the decline in labor force participation among the older generation and increasing labor force participation among the younger generation are needed to solve this problem (Roh and Choe 2019; Larkin and Larkin 2022).

In an attempt to ensure a sufficient workforce, a labor policy called the wage peak system (*imgeum-pikeujedo*, hereafter WPS) has been implemented across workplaces in Korea. The WPS is a workplace provision in which employees' wages are gradually reduced once they reach 56 years of age to save labor costs and promote youth employment. This allows employees to either guarantee their employment until the retirement age of 60 years or extend their employment tenure beyond retirement (Choe et al. 2021). Through these wage cuts, the policy creates a financial margin for workplaces to hire young employees. Such a system for wages is, therefore, considered a worksharing measure aimed at reducing labor costs and creating jobs. Since 2007, many workplaces in Korea have started implementing the WPS; in fact, according to the Korean Workplace Panel Survey, approximately 29.2% of workplaces had adopted the WPS as of 2019.

Although the WPS is becoming popular across organizations, few studies have investigated why workplaces in Korea adopt it (Kwon and Kim 2012; Lee and Cho 2013). Furthermore, these studies have not considered the effects of institutional context on the diffusion of the WPS. Most of the existing studies about the WPS have focused only on its effects on job satisfaction and youth employment (Kang and Kang 2014; Choe et al. 2021). Therefore, our understanding of why organizations implement such a system remains limited.

The diffusion of the WPS in Korea is also an interesting case for institutional research on organizations. In Korea, the WPS can be implemented in two distinct ways, and organizations can adopt either one to conform to institutional pressures. Only a few studies have investigated how organizations select a practice or policy to comply with institutional pressures in cases where multiple options are available. Oliver (1991) proposes a theoretical framework of how organizations conform to institutional pressures in a different ways. Extending Oliver's study, Kelly (2010) and Baek and Kelly (2014) categorize legal compliance with a policy into two forms: partial compliance and full compliance. In particular, Kelly (2010) found that some workplaces in the US offer illegally short maternity or paternity leaves to partially comply with institutional pressures, instead of providing the full amount of leave indicative of full compliance.

Expanding on previous research, this study examines the diffusion of the WPS across workplaces in Korea and the different motivations of organizations to adopt each of the two types of WPS. Furthermore, this study seeks to address the following two research questions: (1) What factors have led to the adoption of the WPS across workplaces in Korea? (2) How do these factors differ across the two types of WPS? To answer these questions, we apply institutional theory and rational choice theory to the analysis of WPS adoption.

Research Background: The Wage Peak System in Korea

As noted above, securing a sufficient workforce has become one of the most important issues in the Korean labor market. As public attention on the labor shortage in Korea has intensified, the institutional environment around the WPS has evolved. Public debate over labor shortages in Korea has focused on two issues: the early retirement of older employees and insufficient economic opportunities for younger generations. Several factors are involved here. First, the tenure of employees in workplaces in Korea is rather short, which has caused a labor shortage in the current labor market. Korean employees tend to leave their jobs (voluntarily or involuntarily) at the age of 55 (on average), especially since the Asian financial crisis of 1997. This trend has intensified over time; in 2020 the average retirement age was found to be 49.7 (Korea et al. n.d.). Korean employees either leave the labor market permanently or end up finding new jobs in working conditions that are worse than their previous job. Consequently, early retirement in Korea has become a major obstacle not only to job security but also to securing a sufficient workforce for the labor market. To stop the practice of early retirement, the Korean government legislated the Act on the Prohibition of Age Discrimination in Employment and the Promotion of Employment of the Elderly (hereafter, AADE) in 2013.

The provisions of the AADE stipulate that retirement age must be 60 years or above (Korea Ministry of Government Legislation 2022), which enables older adults to stay longer in the workforce. Second, the fertility rate in Korea has fallen below 2.1, the minimum fertility rate needed to maintain the current population, and this is expected to cause major labor shortages in the future. The Korean government and press attribute the low fertility rate to insufficient economic opportunities among the young population. To offer sufficient economic opportunities to younger generations, the Korean government, in particular, encourages businesses to reorganize labor costs to create financial margins to employ younger workers (Kwon and Kim 2012). Furthermore, in 2015 a tripartite commission known as the Economic, Social, and Labor Council, a presidential advisory committee comprising representatives from labor, business, and the government, released a report that suggested the three parties are in agreement on the need to reform the wage system to secure an extended retirement age, prepare for gradual retirement, and increase youth recruitment.

Korean business sectors have started to consider the WPS as a policy tool to solve this puzzle. In Japan, the WPS was implemented to allow older employees to extend their employment period and use their skills and experience after retirement age (Hyun 2011). However, Korean business sectors adopted the WPS in two ways (Park and Lee 2012): the employment extension type (hereafter, Type 1), and the retirement age guarantee type (hereafter, Type 2).¹ Type 1 is a system in which employment can be extended beyond the age 60 in exchange for wage reduction, a system similar to the Japanese WPS. Under Type 1, employees are permitted to work beyond retirement in a part-time capacity. In contrast, Type 2 is a system in which the retirement age remains at 60 and wages are gradually cut every year starting at the age of 56 (Choe et al. 2021). Table 1 shows the major characteristics of the two types of WPS in Korea.

¹ Although there is a third type called the "extension of retirement age type, there is no difference between the extension of retirement age and the extension of employment in that, in both cases, employment is extended for a certain period after the retirement age. For workers aged 60 or older, there is no real difference between the two types as both the retirement age extension and employment extension are systems that allow them to work for only three more years at lower wages than those they received before the age of 60.

Type 1 WPS (employment extension type)	Type 1 is a wage peak system in which wages are reduced prior to retirement in exchange for an extension of employment for a certain period after the retirement age. Two sub-WPS types are included: retirement age extension and employment extension. Both sub-types of this WPS allow employees to work for a maximum of three more years at lower wages than what they received before the age of 60, or through a part-time contract.
Type 2 WPS (retirement age guarantee type)	Type 2 is a wage peak system that continuously reduces wages from before the retirement age, instead of guaranteeing a certain retirement age for older workers who are about to reach retirement age. No extra employment is included.

TABLE 1 The Two Types of Wage Peak System in Korea

The number of workplaces adopting the WPS has been gradually increasing. Figure 1 shows the spread of the WPS across workplaces in Korea. Figure 1 also illustrates the distribution of the two types of WPS. As of 2019, 1,334 out of 4,574 workplaces had adopted the WPS; 662 of these 1,334 workplaces had adopted Type 1, and 672 workplaces had adopted Type 2.



Fig. 1.—The Cumulative Number Workplaces Adopting the Wage Peak System in Korea (Source: Workplace Panel Survey (2007-2019))

Theory and Hypothesis

Institutional Perspective

(1) Attentiveness to Institutional Environment

Institutional theory proposes that organizations are open entities that are constantly and mutually influenced by their external environment. This theoretical perspective claims that the institutional environment surrounding organizations works as a rule of the game (North 1990). The rule of the game encourages organizations to adopt a particular practice that is regarded as legitimate and acceptable in the institutional environment (Meyer and Rowan 1977; DiMaggio and Powell 1983; North 1990). As a result, organizational structures within the institutional environment gradually become similar to each other.

Institutionalists claim that the institutional environment must be understood in order to predict organizational behaviors (North 1990). In particular, scholars argue that three kinds of pressure-regulative pressure, normative pressure, and cognitive pressure-originate from the institutional environment, and these pressures force organizations to become similar (Meyer and Rowan 1977; DiMaggio and Powell 1983; Scott 1995). Research has also documented the widespread adoption of various management practices, including management certifications such as ISO9001 and ISO14001, and human resource policies such as parental leave, equal opportunity policies, and grievance procedures (Edelman 1990, 1992; Sutton et al. 1994; Sutton and Dobbin 1996; Dobbin and Sutton 1998; Edelman et al. 1999; Dobbin and Kelly 2007; Dobbin 2009; Baek 2017). As aforementioned, the institutional environment related to labor shortages is evolving, and this has increased public attention to the WPS. Figure 2 shows the growing number of newspaper articles about the WPS since 2003, indicating increasing public interest.

Drawing on previous research on policy diffusion across organizations, we expect that the adoption of the WPS will be positively associated with organizational linkages to the external environment. We also believe that highly visible organizations are sensitive to public attention and are likely to adopt the WPS to obtain operational efficiency and achieve organizational legitimacy. For example, larger organizations, such as big businesses (called *chaebol* in Korea) and public enterprises that are more visible to outsiders,



Fig. 2.—The Cumulative Number of Newspaper Articles on the Wage Peak System in Korea (Source: Big Kinds. https://www.bigkinds.or.kr)

including the press and regulators (Kim 1997; Baek et al. 2012), typically operate in an environment where rule-based governance is highly institutionalized and scrutinized (Edelman 1990; Kalleberg and Van Buren 1996; Baek et al. 2012). Accordingly, we suggest the following hypotheses:

- H1: Workplaces belonging to *chaebol* firms are more likely to adopt the WPS.
- H2: Workplaces in public enterprises are more likely to adopt the WPS.

Previous studies have emphasized the role of human resources (HR) professionals as a key conduit between the organization and the institutional environment (Strang and Meyer 1993; Ingram and Simons 1995; Kelly and Dobbin 1999; Kelly 2003; Dobbin and Kelly 2007). They monitor the changing institutional environment and adopt a particular policy or practice, regarded as acceptable and legitimate, to obtain organizational legitimacy. As noted above, the WPS is gaining recognition as a legitimate and acceptable management practice to tackle workforce aging and the rising labor costs in Korea. Accordingly, the following hypothesis is suggested:

H3: Workplaces with independent HR departments are more likely to adopt the WPS.

(2) Changing Labor Market Context

Several studies indicate that organizations do not respond to institutional pressures passively. In other words, organizations implement the demands of their institutional environment only after certain internal considerations (Oliver 1991; Greenwood and Hinings 1996; Kelly 2005; Baek and Kelly 2014). When there are institutional pressures to introduce the WPS, organizations consider their internal employment practice.

Since the Asian financial crisis of 1997, institutional contexts regarding the Korean labor market have changed rapidly. One of the major changes is the expansion of labor flexibility, represented by a reduction in internal labor markets based on long-term employment, and the growth of external labor markets based on employment through short-term contracts from outside (Jones 2005). The tenure of employees in workplaces where the HR strategy depends on the external labor market is expected to be rather short and unstable. Such workplaces are also expected to have insufficient labor supply due to Korea's aging population and low fertility rate. Therefore, the following is hypothesized:

H4: Workplaces where the HR strategy depends on the external labor market are more likely to adopt the WPS.

Rational Choice Perspective

The hypotheses above emphasize the organizational attentiveness to institutional environments. An alternative perspective argues that organizational compliance with the institutional environment is associated with the strategic and deliberate evaluation of the relative costs and benefits of complying with institutional pressures (Ashenfelter and Smith 1979). In the case of the WPS, the costs and benefits of compliance depend on the demographic characteristics of employees on which workplaces are dependent.

As explained, both types of WPS are designed to cut the wages of older employees. Therefore, it is expected that workplaces that are highly dependent on older employees would be opposed to the adoption of the WPS and unlikely to adopt it. Accordingly, we suggest the following hypothesis:

H5: Workplaces that are less dependent on older employees are more likely to adopt the WPS.

Additionally, workplaces with higher turnover rates are likely to experience unstable labor supply. These workplaces are likely to reorganize the labor costs of incumbent employees by implementing the WPS in order to secure a stable labor supply. Accordingly, the following hypothesis is suggested:

H6: Workplaces with higher turnover rates are more likely to adopt the WPS.

Workplaces in the manufacturing industry depend on a skilled workforce. As workforce aging and shortages of skilled workers have intensified, skilled workers and young employees have become vital resources in the workplace (Seol 2015). Therefore, workplaces in the manufacturing industry are expected to readily adopt the WPS when institutional forces encourage it as a means of securing sufficient labor supply. Accordingly, the following hypothesis is proposed:

H7: Workplaces in the manufacturing industry are more likely to adopt the WPS.

Differing Motivations between Different Types of WPS

When multiple options through which to conform to the institutional environment are available, organizations consider and choose the option that is best for them. They particularly prefer options that help them protect or secure resources that are essential for their survival in the market (Oliver 1991). This is one of the reasons why the WPS is not an exception in Korean workplaces.

As noted in Table 1 above, there are two types of WPS: the employment extension type (Type 1) and the retirement age guarantee type (Type 2). The biggest difference between two is the level of cost (Lee et al. 2008). Organizations adopting Type 1 face additional costs for employment beyond retirement age, with the accompanying wage cuts for employees under 56, while no additional cost is faced by organizations adopting Type 2 in exchange for wage reductions. In particular, Type 2 does not require additional investment to secure a workforce other than providing psychological stability through a guarantee of employment until retirement. This indicates that organizations adopting Type 1 are more committed to securing a stable and skilled labor supply with low cost than those adopting Type 2.

Public recognition and social legitimacy are essential resources for organizations that are attentive to institutional contexts (Baek et al. 2012). *Chaebol* firms and public enterprises, particularly, are viewed as organizations that provide their employees with better benefits and working conditions than their counterparts. In this sense, it would be considered excessive or unfair if *chaebol* firms and public enterprises adopted Type 1 WPS, extending their employee retirement age. To obtain public approval and legitimacy, they are likely to adopt Type 2 WPS, thus conforming to the institutional environment.

Formal HR structures such as HR departments are considered effective instruments for collecting a variety of information about external environments, as well as symbols of response to institutional pressures (Ulrich 1996; Dobbin and Sutton 1998). This means that HR professionals with more formalized structures are expected to be concerned about compliance with institutional pressures, as well as the efficient management of the workplace (Baek and Choi 2020). It is expected that organizations with HR departments are more likely to experience tension between institutional pressures and internal business needs. Therefore, organizations with formalized HR structures, such as HR departments, are more likely to adopt Type 2 WPS as a symbol of conformity to the institutional environment, rather than as an indication of real commitment, and a means to achieve financial efficiency. Accordingly, we suggest a final hypothesis:

H8: Workplaces attentive to institutional contexts are more likely to implement Type 2 than Type 1 WPS.

Materials and Method

Data

To test our hypotheses, we obtained data from the Korean Workplaces Panel Survey (hereafter, KWPS). KWPS data are collected, processed, and published by the Korea Labor Institute (n.d.), which is a governmentsponsored research institute. The KWPS was modeled on the United Kingdom's Workplace Employee Relation Survey and Canada's Workplace Employee Survey (Han and Koo 2010). The KWPS aims to build an original database on workplace and HR management in Korea, comparable to other international data sets. Researchers use the KWPS to investigate how workplaces

227

in Korea operate. KWPS sample workplaces were selected with the stratified sampling method, based on region, industry, and size. KWPS data are collected through face-to-face interviews with HR managers, industrial relation managers, and worker representatives in the sampled establishments. As a result, the KWPS collates various HR-related information, including information on the wage peak system. Although workplaces in Korea only began adopting such a wage system in 2003, the KWPS dataset only has information from 2007 to 2019 because the survey began in 2005. As of 2019, 4,574 workplaces have been included in the KWPS dataset.

Dependent Variable

The dependent variables in this study were a workplace's adoption of each type of WPS. As mentioned, there are two types of WPS (Type 1: employment extension, Type 2: retirement age guarantee) in Korea, and we used these as two dependent variables in our analyses. According to our data, by 2019, approximately 29.2% of Korean workplaces (n = 1,334) had introduced the WPS, either Type 1 or Type 2. Among these, the percentage of workplaces that had adopted Type 1 by 2019 was 14.5% (n = 662), and the percentage of workplaces that had introduced Type 2 was 14.7% (n = 672).

Independent Variable

The key independent variables in this study were the measures of the effects of institutional contexts in which the workplaces were embedded. These measures included (1) whether a workplace belonged to a *chaebol* firm; (2) whether a workplace belonged to a public enterprise; and (3) whether a workplace had an independent HR department.

To measure whether a workplace belonged to a *chaebol* firm, we examined whether the workplace was restricted by the regulation to control cross-shareholding. This regulation is intended by the Korean government to limit the expansion of big business groups (Baek and Kelly 2014). The belonging of a workplace to a *chaebol* firm was coded as 1 if the workplace belonged to a firm restricted by the regulation, and 0 otherwise. We used a record from the sampling frame of the KWPS to measure whether a workplace belonged to the public sector. Workplaces in the public sector were coded as 1, and those in the private sector were coded as 0. To measure the presence of a distinct independent HR department, we used a survey question that asked participants about the availability of such a department in their workplace.

The variables developed in the rational choice perspective were: (1) the percentage of older employees; (2) turnover rate; and (3) whether a workplace belonged to the manufacturing industry. To measure the percentages of older employees and the turnover rate, we used information from the KWPS on the number of employees aged 50 or above² and on the number of employees who left the workplace in the previous year. To measure whether a workplace belonged to the manufacturing industry, we used a sampling frame.

	Des	SCRIPTIVE ST	ATISTICS		
Variable	Obs.	Mean	Std.dev.	Min	Max
Type 1	16,111	0.077	0.267	0	1
Type 2	16,111	0.071	0.257	0	1
Chaebol	16,111	0.111	0.315	0	1
Public Entertainment	16,111	0.047	0.212	0	1
Human Resource Department	16,111	0.227	0.419	0	1
Personnel Management Direction	16,111	3.423	0.874	1	5
Older Employee (50+)	16,111	0.189	0.212	0	1
Turnover	16,111	0.146	0.131	0	0.976
Manufacturing Industry	16,111	0.422	0.494	0	1
Workplace Age	16,111	25.026	15.763	1	129
Workplace Size	16,111	301.440	719.008	1	17161
Workplace Performance	16,111	5.485	2.873	1	10
Union	16,111	0.319	0.466	0	1
Retirement Policy	16,111	0.774	0.418	0	1

TABLE 2

² While the KWPS datasets from 2005 to 2013 provide information on the number of employees aged 50 and above, the KWPS datasets from 2015 to 2019 provide information on the number of employees aged 55 and above. We merged the two variables into a single variable to measure the number of older employees at a workplace.

Control Variables

The analysis also included control variables to incorporate possible alternative explanations for the adoption of a particular type of WPS. These were: 1) workplace size; 2) workplace age; 3) workplace performance; 3) the presence of a union; and 4) the presence of a compulsory retirement age policy.

Workplace size is expected to have mixed effects on the adoption of the WPS. On the one hand, large organizations have more slack resources (Kalleberg and Van Buren 1996) and are likely to be against the adoption of the WPS. On the other hand, large organizations have a high labor cost burden and visibility from the outside, which results in the introduction of the WPS. Workplace size was measured as the natural logarithm number of employees in a workplace.

Organizational age also has somewhat mixed effects on the adoption of the WPS. Older organizations, on the one hand, are likely to hesitate to adopt a new policy due to their longer-established practice of an old one (Stinchcombe 1965). On the other hand, older organizations have more experience and competency in organizational innovation (Sørensen and Stuart 2000) and are likely to adopt the WPS in response to the institutional context. To measure workplace age, we subtracted the workplace founding year from the survey year and used the natural logarithm to accommodate the left-skewed distribution. Wage structure is associated with workplace performance (Beaumont and Harris 2003). The previous year's net profit was used to measure workplace performance. Logarithmic values could not be used for workplace performance because negative numbers exist in net profit. Instead, we divided workplace performance into 10 quartiles and used the values as ordinal variables (Bennette and Vickers 2012).

It has been reported that some unionized workplaces oppose the adoption of the WPS, while others are in favor of it (Roh and Choe 2019), which suggests possible contradictory effects of the presence of a union. A union's presence at the workplace was coded 1; it was coded 0 if there was none.

Compulsory retirement age could lead to an increase in labor costs. Furthermore, workplaces with a compulsory retirement age are expected to adopt the WPS. As noted above, the AADE obliges workplaces to set the compulsory retirement age at 60 years old, and the presence of a compulsory retirement age may indicate the AADE's legal effects. However, KWPS data do not include information on when a workplace set a compulsory retirement age; therefore, we included this as a control variable. A workplace was coded as 1 if it had its own retirement policy and as 0 otherwise.

Method

Our dependent variable is the year when either Type 1 or Type 2 of the WPS was adopted by a workplace. In the case that a workplace adopted Type 1, the year of adoption was coded as 1, and all other years were coded as 0. In addition, when a workplace adopted Type 2, the year of adoption was coded as 1, and all other years were coded as 0. We used panel multinomial logistic regression³ to examine the effects of variables related to the adoption of either Type 1 or Type 2 of the WPS from 2007 to 2019. We used the random-effect model to estimate regression coefficients because the panel unit (here, the workplace) was randomly retrieved from the population, and the error term (ui) could be assumed to follow probability distribution (Clark and Linzer 2015; Min and Choi 2016). The suggested associations between the regression coefficients (β) and the probability of an event occurrence (P) are presented in the following regression equation:

$$\Pr(\mathcal{Y}_{it} = m \mid \mathcal{X}_{it}, \beta_j, u_{it}) = \frac{\exp(x_{it}\beta_j + u_{ij})}{\sum_{j=1}^{J} \exp(x_{it}\beta_j + u_{ij})}$$

Results

Table 3 presents the factors that have led to the diffusion of the WPS across workplaces in Korea. The first column shows the factors that have promoted the proliferation of Type 1 across workplaces in Korea; the second column shows the factors that have facilitated the spread of Type 2.

First, it should be noted how the institutional context in Korea has affected affected the adoption of WPS. The belonging of a workplace to a *chaebol* firm had a significant effect on the adoption of Type 1 and Type 2 of the WPS. The probability (%) for workplaces belonging to a *chaebol* firm were 5.6 and 6.1 before 2013 and 19.2 and 24.3 after 2013 for Type 1 and Type 2 of the WPS, respectively. These results support H1. Workplaces in public enterprises were more likely to adopt both Type 1 and Type 2 of the WPS, supporting H2. The

³ We also estimated random effects of variables of interest. The Hausman test supports the assumption that there is no difference between fixed and random effects of panel multinomial logistic regression.

	Type 1 Adoption		Type 2 Adoption		Type Difference	
Chaebol	1.887***	(0.249)	2.898***	(0.290)	1.011***	(0.299)
Public Enterprise	2.546***	(0.394)	4.447***	(0.451)	1.901***	(0.468)
Human Resource Department	0.494***	(0.124)	0.809***	(0.137)	0.314*	(0.155)
Personnel Management Direction	0.066	(0.060)	0.038	(0.070)	-0.028	(0.079)
Older Employee (50+)	-1.657***	(0.405)	-1.730***	(0.469)	-0.074	(0.542)
Turnover	-0.001	(0.000)	-0.002**	(0.001)	-0.001	(0.000)
Manufacturing Industry	0.870***	(0.180)	0.586**	(0.209)	-0.283	(0.227)
Workplace Age(ln)	0.837***	(0.145)	0.795***	(0.168)	-0.042	(0.185)
Workplace Size(ln)	0.373***	(0.080)	0.481***	(0.092)	0.108	(0.100)
Workplace Performance	0.045*	(0.019)	0.033	(0.022)	-0.012	(0.024)
Union	0.730***	(0.180)	1.120***	(0.212)	0.390	(0.230)
Retirement Policy	1.336***	(0.203)	2.167***	(0.269)	0.830**	(0.304)
Period Dummies	Included		Included		Included	
Constant	-14.576***	(0.700)	-18.217***	(0.884)	-3.642***	(0.968)
Observations	16111		16111		16111	
Log-Likelihood	-5624.088		-5624.088		-5624.088	

TABLE 3
STATISTICAL RESULTS OF PANEL MULTINOMIAL LOGISTIC REGRESSION
(RANDOM-EFFECTS)

* $p < 0.05 \;$ ** $p < 0.01 \;$ *** p < 0.001

probability for workplaces belonging to public enterprises were 8.4 and 7.1 before 2013 and 23.4 and 38.0 after 2013 for Type 1 and Type 2 of the WPS, respectively. Workplaces with independent HR departments also showed a significant relationship with both Type 1 and Type 2 of the WPS. The probabilities for workplaces with independent HR departments were 3.5 and 5.9 before 2013 and 13.1 and 14.0 after 2013 for Type 1 and Type 2 of the WPS, respectively. These results support H3. However, the variable indicating HR strategy had no significant effect on the adoption of Type 1 or Type 2 of the WPS.

Second, it also should be noted how variables related to the rational choice perspective affected the adoption of the WPS. The rate of older adult employees was statistically significant but had positive effect before 2013 and had negative effects after 2013 on the adoption of both Type 1 and Type 2 of the WPS. These results support H5. The turnover rate was statistically

significant but had negative effects on the adoption of Type 2 of the WPS before 2013. These results do not support H6 and are contrary to our expectations. Workplaces in manufacturing industries tended to adopt both Type 1 and Type 2 of the WPS. The probability of workplaces in the manufacturing industry 4.0 and 6.7 before 2013 and 13.0 and 12.8 after 2013 for Type 1 and Type 2 of the WPS, respectively. These results support H7.

The results also showed that the five control variables had differential effects on the adoption of Type 1 and Type 2 of the WPS. First, the statistical results suggested that larger organizations are likely to adopt both Type 1 and Type 2, which indicates that larger organizations have a high labor cost burden and outside visibility.

Second, the results showed that older organizations are likely to adopt both Type 1 and Type 2 of the WPS. This indicates that older workplaces have more experience and competency in organizational innovation. Third, the results showed positive and significant effects of workplace performance on the adoption of Type 1 of the WPS. This indicates that workplaces with better performance are more likely to adopt Type 1 of the WPS because this type results in additional labor costs. Fourth, the results demonstrated that unionized workplaces are in favor of the WPS. Fifth, the results also revealed that workplaces with compulsory retirement age are in favor of the adoption of the WPS, which indicates that a compulsory retirement age also results in labor cost burdens, and the WPS is considered a way to save on labor costs.

The third column of Table 3 shows the variables that affect whether a workplace adopted Type 2 instead of Type 1. Three variables indicating the belonging of a workplace to a *chaebol* firm, its belonging to a public enterprise, and the presence of a distinct HR department had positive and statistically significant effects on the adoption of Type 2 instead of Type 1. These results suggest that workplaces that are attentive to institutional contexts would rather have Type 2 than Type 1 of the WPS because they want to have a symbol without real commitment, which would involve additional labor costs. These results support H8.

Discussion

This study examined the impact of institutional context on the diffusion of the WPS across workplaces in Korea. According to the results, institutional contexts strongly influence the spread of the WPS in Korea. Furthermore, the results suggest that organizations do not respond uniformly to the demands of their institutional environment (Oliver 1991; Kelly 2005; Baek and Kelly 2014). In particular, when multiple options are available, organizations consider their best option and choose it to suit their interests. Our analysis confirms this claim by demonstrating that workplaces that are attentive to institutional contexts are more likely to adopt Type 2 of the WPS without making any real commitment to labor supply.

Although this study has the advantage of identifying the diffusion of the WPS across workplaces in Korea, it has several limitations that indicate the need for follow-up studies. First, this study only focused on the case of Korea and fails to provide a generalized scheme of how the WPS is introduced to organizations. Second, we used the panel multivariate logistic model to analyze the Korea Workplace Panel Survey data, which showed the effects of workplace characteristics on the operation of the WPS. However, since this uses unbalanced panel data, it does not precisely show the exact time of adoption or workplace characteristics before and after adoption. Third, organizational commitment was not measured. Previous studies suggest that employees have a lower intention to leave a workplace if the workplace has a high level of organizational commitment (Cohen 1993). In this sense, workplaces with high organizational commitment are likely to accept the WPS for the co-survival and co-prosperity of members in the same organization. However, our KWPS data do not offer better information to measure organizational commitment, and future research should verify this argument.

The WPS has been implemented in only a few countries, including Japan and Korea. To obtain a generalized picture of the WPS, the case of the Korean WPS can be compared with that of Japan. Like Korea, Japan has been struggling with population aging and low fertility. In the middle of the 1970s, the WPS attracted public attention in Japan. As an innovative wage system, the Japanese WPS was designed to facilitate the hiring of older adults at a low wage after their retirement. The Japanese WPS extended the employment of older adults but also involved a wage reduction for employees over 50 years of age. Unlike Korea, employment extension (Type 1) has been considered as the only form of WPS in Japan. This is because the Japanese employment system is centered on the tradition of a strong internal labor market, represented by long-term employment contracts and seniority (Yamada and Higo 2011). The implementation of Type 1 WPS in this environment does not hurt Japan's employment system but rather satisfies management and labor simultaneously (Hyun 2011). In contrast to the case of Japan, the retirement age guarantee type (Type 2) has been shown to be the most popular form of WPS in Korea. This may indicate the collapse of the internal labor market, represented by seniority and lifelong

employment in Korean workplaces (Ji 2011). Future research would benefit from undertaking a historical study of how Type 2 WPS emerged as a legitimate form of WPS.

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Ikhyun Joo is a research associate at the Institute of Defense Acquisition at Kwangwoon University. He earned his Ph.D. in sociology from Yonsei University in 2018. His research interests include organization, stratification, and quantitative methods [*E-mail*: ihjoo798@naver.com].

Kyungmin Baek is associate professor of information sociology at Soongsil University. He earned his Ph.D. in sociology from the University of Minnesota in 2014. His research interests include organization, social policy, and quantitative methods. His works have appeared in international journals, including *Journal of Business Ethics, Sociological Perspectives,* and *Corporate Social Responsibility and Environmental Management* [*E-mail:* kbaek37@ssu.ac.kr].