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Labor Market Imbalances and Immigration Policies*

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I. Introduction

Korea now faces rapid demographic decline due to ultra-low fertility and accelerated aging. According to Statistics Korea, the population peaked at 51.75 million in 2024 and is projected to fall below 40 million by 2065.[1] This demographic contraction is expected to intensify labor market imbalances.[2]

Several studies project widening labor shortages over the next 5–10 years. The Korea Employment Information Service (2025) suggests that the labor force will decline from 2030 and approximately 820,000 more workers will be needed to fill the labor demand by 2033. The Korea Labor Institute (2024, 2025) also estimated that a shortage of 2.98 million workers (2024–2028) will expand to 6.18 million (2025–2033). The degree of labor shortages varies by sectors and regions. ICT services, healthcare and welfare, logistics, hospitality, and agriculture are the sectors that are exposed to the highest risk of labor shortages. Some provinces are already experiencing difficulties in hiring qualified workers due to declining population.

Apart from the demographic change, labor market imbalance is intensified by structural changes due to geopolitical and technological factors. Geopolitical factors—including strategic competition between the United States and China, the COVID-19 pandemic, and the Russia–Ukraine war—have heightened global supply chain instability, prompting major economies to strengthen domestic and regional competitiveness in key advanced industries such as artificial intelligence, biotechnology, semiconductors, and secondary batteries.

* This brief is a summary of Jang et al. (2025).

1 Statistics Korea (2023) Population Projection for Korea (2022–2072)

2 Labor market imbalance is defined as a situation in which, under given conditions in a specific labor market, the number of people willing to work (labor supply) does not match the number of people that firms wish to employ (labor demand). It is classified into labor shortages and labor surpluses.

This, combined with the decline in the economically active population across advanced economies, has exacerbated labor shortages in strategic high-tech sectors. In response, major countries are actively implementing policies to attract highly skilled foreign talent, which puts pressure on the supply of talent in Korea.

Labor shortages increase production costs, reduce corporate profitability, heighten inflationary pressures, and undermine potential economic growth. Attracting more foreign labor in both skilled and unskilled occupations is increasingly being considered as a potential response to labor market imbalances, particularly labor shortages. However, several challenges remain to be addressed. These include intensifying competition among advanced economies to attract talent, conflict between free-market principles and existing (often rigid) visa regimes, and the wide-ranging economic, social, cultural, and political consequences of immigration.

Resolving labor market imbalances is essential to sustaining long-term growth potential. Although foreign workers cannot fully offset aggregate labor shortages, they may be able to alleviate supply constraints in specific industries and skill categories. Promotion of labor mobility can be a plausible option as long as it is accompanied by policy measures to minimize associated side effects.

Jang et al. (2025) conducted two empirical analyses to estimate the effect of immigration on the labor market imbalances. First, the study examines the impact of the free labor movement in the EU on labor market imbalances. The EU is an early adopter of immigration and a supranational entity operating one of the most advanced and proactive immigration regimes. In particular, examining the effects of the EU's flexible and inclusive immigration policies can provide meaningful policy implications for Korea. Second, the report analyzes Korea's Employment Permit System (EPS) to assess the extent to which domestic policy measures have contributed to alleviating labor shortages. Noting the expansion of the EPS—a low-skilled labor inflow mechanism—during the post–COVID-19 recovery phase, the study quantitatively evaluates how effectively this policy has mitigated labor shortages across regions.

This brief will summarize the key methods and results of those analyses and derive policy implications from them.

II. Effect of Immigration on Labor Market Imbalances

1. Free labor movement in the EU

Using EU Labor Force Survey (LFS) and Eurostat data, we conducted a panel analysis at the NUTS 2 level (244 regions) on a quarterly basis over the period 2005–2023. The estimation equation is expressed as follows:

$$y_{irt} = \alpha + \beta_i m_{rt} + \gamma X_{irt} + \tau_{ir} + \tau_{rt} + \epsilon_{irt}$$

The dependent variable, y_{irt} is the job vacancy rate, unemployment, and labor market slack,[3] and the labor market tightness[4] for each industry (i), region (r), and year (t). The main independent variable, $m_{rt,}$ is the share of foreign-born population within the region. X_{irt} represents a set of control variables such as education, gender, demographic structure, and the employment share by industry, etc. We also added country fixed effects (τ_{ir}) and year fixed effects (τ_{rt}).

To address endogeneity concerns, we employed a shift-share instrumental variable (IV) approach. The "shift" component is constructed using the total inflow of immigrants by origin country, while the "share" component is based on the initial regional distribution of immigrants in 2005. The initial distribution is largely determined by historical factors such as pre-existing migrant networks, as well as linguistic and cultural distance. The total inflow of immigrants is assumed to be determined independently of local labor market conditions. We then use the predicted regional immigrant share—constructed as the interaction of the shift and share components—as an instrument to control for endogeneity.

The results in Table 1 provide statistically significant evidence that an increase in the share of immigrants within a region contributes to lowering the ratio of job vacancies to labor market slack—that is, reducing labor market tightness. Based on the regression results from Model 2, a 1 percentage point increase in the immigrant share is associated with an approximately 10% decrease in labor market tightness. This implies that immigration can be an effective alternative to labor market imbalances.

However, the implications of immigration may differ by skill level of the migrant and the native population, and by sector. In particular, a short-term increase in employment was pronounced among low-skilled immigrants, whereas inflows of high-skilled immigrants appeared to drive long-term employment expansion in the service sector. Also, some adverse short-run effects were observed, including rising unemployment among natives—especially among low-skilled workers. Moreover, the potential for longer-term structural changes, such as within-industry occupational reallocation or firm-level adjustment effects, remains an open question that warrants further investigation.

[3] Labor market slack refers to the share of underutilized labor within the local labor market; a lower level of slack indicates low labor supply, which may cause labor market tightness.

[4] We calculate the labor market tightness as (total number of vacancy/total number of slack). The job market is tight, i.e. labor supply is smaller than demand, if the job vacancy is high and labor market slack is low.

Table 1. Regression results (1) EU Free movement

DV: Labor Market Tightness	(1)	(2)	(3)	(4)	(5)	(6)
m_{rt}	-14.365**	-10.582***				
	(5.682)	(2.304)				
m_{rt-1}			-12.215***			
			(3.445)			
m_{rt-2}				-10.875***		
				(3.168)		
m_{rt-3}					-9.338***	
					(3.315)	
m_{rt-4}						-8.182**
						(3.474)
Year×Quarter FE	O	O	O	O	O	O
Country FE	O	O	O	O	O	O
Controls	X	O	O	O	O	O
No. observations	906	906	906	906	906	906

Notes: DV = Dependent Variable; FE: Fixed Effect; Parentheses indicate clustered standard errors by income level; * p<0.10. ** p<0.05. *** p<0.01

Source: Jang et al. (2025)

2. Expansion of EPS in Korea

Then we analyzed the effects of expanding Korea's Employment Permit System (EPS) on labor market imbalances. As labor shortages intensified across multiple industries in Korea following the COVID-19 pandemic, the government substantially expanded the quota under the EPS starting in 2023. As a result, the number of foreign workers holding E-9 visas in Korea rose markedly, expanding from approximately 270,000 before the pandemic to around 300,000 in 2024 (Figure 1).

Against this backdrop, we conducted empirical analyses summarized as follows:

$$\frac{\Delta V_c^{2022-2024}}{L_c^{2015}} = \alpha + \beta \frac{\Delta E9_c^{2022-2024}}{L_c^{2015}} + \Phi X_c^{2015} + \delta_s + \Delta \epsilon_c$$

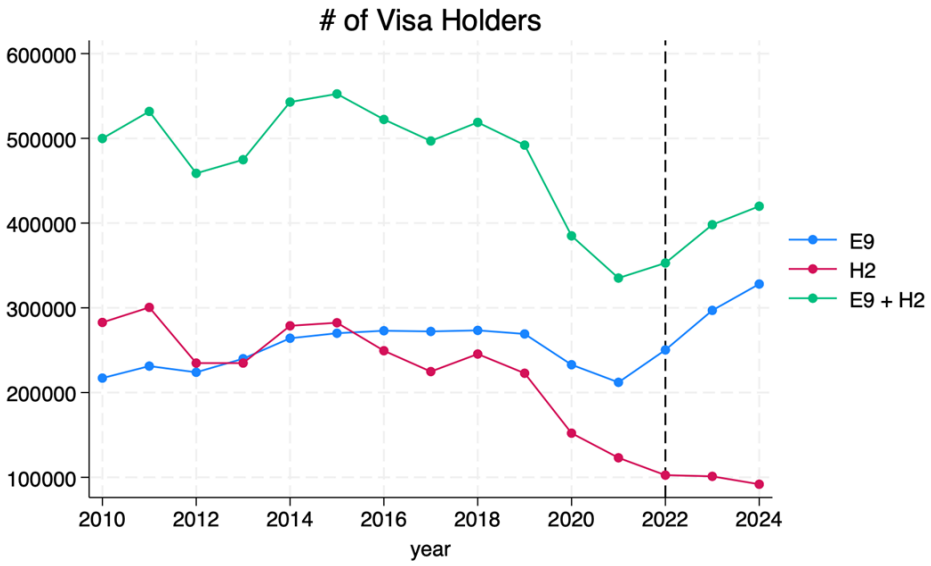
The dependent variable is the change in the number of job vacancies at the regional (si/gun/gu) level over the period 2022–2024, normalized by the working-age population. The main explanatory variable is the change in the number of E-9 visa holders in each region during 2022–2024, also normalized by the working-age population. Control variables include the employment share by industry, the share of college graduates, gender and age composition, and the number of F-4 visa holders.

Similar to the previous analyses on the EU, we use an instrumental variable based on a shift-share design again. The total number of E-9 visa holders by nationality in 2022–2024 (shift) was interacted with the number of E-9 visa holders by nationality and region in 2015 (share) to produce a shift-share IV.

The results in Table 2 show that regions with increased foreign labor experienced a reduction in labor shortages with a lag of about one year. However, in another estimation on labor productivity, no improvement was observed from the influx of foreign workers, potentially because of the lack of skills among new foreign workers and the delayed exit of low-productivity businesses from the market. This suggests that it is necessary to improve the employment permit system by allowing longer-term stay rather than simply increasing the number of new foreign labor.

Figure 1. Number of E9 and H2 Visa Holders, 2010-24

(Unit: persons)



Note: E-9 visas are granted to the low-skilled workers entering Korea under the EPS program. H-2 visa is a short-term work visa for low-skilled workers.
Source: Jang et al. (2025)

Table 2. Regression results (2) EPS expansion

DV: Job vacancy	WLS			2SLS		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: 2022-23						
⊿E-9	-0.031	-0.062	-0.068	-0.082	-0.037	-0.106
	(0.054)	(0.059)	(0.067)	(0.063)	(0.094)	(0.114)
E-7-4		O		O		O
Province FE			O	O		
No. observations	228	228	228	228	228	228
Panel B: 2022-24						
⊿E-9	-0.191***	-0.223***	-0.208***	-0.218**	-0.338**	-0.480***
	(0.052)	(0.064)	(0.044)	(0.056)	(0.090)	(0.099)
E-7-4		O		O		O
Province FE			O	O		
No. observations	228	228	228	228	228	228

Notes: DV = Dependent Variable; FE: Fixed Effect; Parentheses indicate clustered standard errors by income level; * p<0.10. ** p<0.05. *** p<0.01

Source: Jang et al. (2025)

III. Policy Implications

The above-mentioned findings show that the influx of immigrants clearly contributed to the alleviation of labor market imbalances in the destination. As implied in the empirical analyses, however, the effects are not always homogenous across groups and industries, and other side effects of immigration should also be considered. Based on the findings of empirical analyses and other case studies, Jang et al. (2025) proposed policy recommendations under four main areas.

First, the estimation of labor shortage should be refined and advanced by conducting more granular assessments by industry, occupation, skill level, and region. In doing so, it is recommended to combine both quantitative and qualitative evaluation methods in order to identify sectors where domestic labor supply is structurally difficult to mobilize. In addition, the collection and distribution system of immigration-related data should be improved so that migration statistics can be consistently aligned with domestic labor statistics and used more effectively for policy analysis.

Second, the report highlights the importance of improving visa issuance and transition conditions in order to better respond to changing labor market needs. One proposed measure is to simplify the current visa and residency qualification framework into a tier-based structure (e.g., Tier 1 to Tier 4), thereby enhancing transparency and flexibility in status

management. Such reforms could also support longer-term labor market participation by allowing greater continuity of stay for workers with stable employment prospects, including pathways toward longer-term residence and settlement where appropriate. Furthermore, targeted measures may be introduced to attract workers into occupations experiencing persistent shortages, including the provision of training and job placement support tailored to shortage sectors.

Third, to improve the efficiency of job matching, the report proposes strengthening matching mechanisms through the use of digital technologies. This includes establishing or expanding digital platforms that connect employers and job seekers and incorporating AI-based tools to improve the precision and speed of matching. In parallel, the report stresses the need to reinforce oversight and governance, including the possibility of entrusting specialized institutions with recruitment and placement functions and enhancing monitoring to prevent illegal brokerage, unfair practices, and other forms of market distortion. Such measures would help ensure that foreign labor recruitment operates in a transparent and accountable manner.

Finally, the report emphasizes the importance of strengthening stay management and training systems for foreign workers. It recommends improving the management of foreign workers' residence and employment history through digitalization and integrated databases, which would allow more systematic monitoring and policy evaluation. In addition, language training and vocational education for foreign workers should be expanded, particularly in ways that reflect workplace requirements and improve job performance and adaptability. The report also calls for reinforcing on-site training and safety-related education in industries where foreign workers are concentrated, thereby improving both productivity and workplace integration.KIEP

References

Jang et al. 2025. "Implication of Immigration Policies for Labor Market Imbalance." KIEP Policy Analyses 25-17 (in Korean)