

Minimum Wage, Employment, and Business Entries and Exits

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Abstract

We study firms' employment response to labor cost shocks at both the intensive and extensive margins. The employment adjustment process of firms in response to labor cost shocks are substantially heterogeneous according to the firm size. Large firms may lay off workers, cancel new hires or shut down their businesses. However, small businesses are too small to adjust the number of workers once they enter the market (Aaronson *et al.*, 2018; Sorkin *et al.*, 2018), thus decreasing the number of workers (e.g., self-employer without employees) implies itself shutting down business. Focusing on these heterogeneous responses of firms, we examine the employment effect of a rise in the national minimum wage using data covering all establishments in South Korea.

In measuring the employment effect of minimum wage, we exploit regional variation in the fraction of affected workers at the county-level as in Card (1992). The intrinsic industry structure within a local labor market does not change in the short-run, and thus produces heterogeneous wage

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distribution across regions. Although Korea has a single minimum wage uniformly applied to all waged workers, those underlying differences in industry composition enable us to assume that minimum wage has differential effects on each region. All dependent variables representing the change in employment dynamics are built following Davis et al. (1998).

One distinguishing characteristic of the Korean economy in terms of employment structure is the relatively large share of self-employed workers among OECD countries—about 27% during the period of 2008-2016 whereas USA(6%), DEU(11%) and Japan(12%) shows low self-employment rates. (OECD, 2015) Higher self-employment rate implies smaller average firm size and, thus more frequent business entry and exit. This structural dissimilarity in employment structure compared to the case of USA gives us a good opportunity to analyze the difference in employment adjustment margin by nationwide firm size distribution.

As for the regression analysis in Table 1, we find that a significant part of the employment effect occurs on the extensive margin via business entries and exits, especially among small-sized establishments. As in the 2nd column in Table 1, overall full-time-equivalent employment effect in terms of minimum wage elasticity is consistently estimated to be around 0.22, which is larger than those figures in previous studies since we take the extensive margin paths of employment adjustment in aggregate level into consideration. The contribution of business entries and exits accounts for about 60% ($=0.471/0.707$) of the employment effect while intensive margins account for the rest 40%. If we decompose the employment effect by firm size and adjustment margins, the effect is significant for the extensive-margin change among small firms and the intensive-margin change among large firms through waged worker change.

Our findings suggest that the employment adjustment mechanism in response to minimum wage rises may substantially differ across countries according to their firm size distributions. This also implies that employment dynamics and the measurement of nationwide impact of labor cost shocks should be better studied by looking at firm dynamics, especially when the share of small-sized firms is substantial like in Korea.

Table1. Effect of Minimum Wage on FTE Jobs, 2008-2016

Dependent variables	All Workers		Wage Workers	
	(1)	(2)	(3)	(4)
Net Employment Growth (A+B or C+D)	-0.711*** (0.268) [-0.220]	-0.707*** (0.271) [-0.218]	-0.832*** (0.316) [-0.257]	-0.846*** (0.314) [-0.261]
Contributions by Margin:				
Extensive margin (A)	-0.424** (0.198)	-0.471** (0.211)	-0.374* (0.216)	-0.418* (0.229)
Birth	0.005 (0.180)	-0.077 (0.184)	-0.055 (0.210)	-0.122 (0.213)
Death	0.430** (0.200)	0.395** (0.188)	0.319 (0.236)	0.297 (0.226)
Intensive margin (B)	-0.286 (0.207)	-0.236 (0.214)	-0.458* (0.251)	-0.427* (0.253)
Contributions by Size and Margin:				
Small Establishments (< 20 workers)				
Net employment growth (C)	-0.365** (0.155)	-0.366** (0.157)	-0.283* (0.151)	-0.300** (0.148)
Extensive margin (=Birth-Death)	-0.261*** (0.097)	-0.285*** (0.100)	-0.171** (0.082)	-0.183** (0.083)
Birth	-0.069 (0.103)	-0.105 (0.111)	-0.067 (0.100)	-0.088 (0.106)
Death	0.193*** (0.055)	0.179*** (0.060)	0.103* (0.059)	0.094 (0.064)
Intensive margin	-0.104 (0.123)	-0.082 (0.126)	-0.113 (0.125)	-0.117 (0.123)
Large Establishments (≥ 20 workers)				
Net employment growth (D)	-0.346** (0.176)	-0.341* (0.181)	-0.549** (0.227)	-0.546** (0.229)
Extensive margin (=Birth-Death)	-0.163 (0.132)	-0.187 (0.141)	-0.204 (0.168)	-0.236 (0.178)
Birth	0.074 (0.150)	0.028 (0.136)	0.012 (0.181)	-0.034 (0.165)
Death	0.237 (0.191)	0.215 (0.177)	0.216 (0.225)	0.202 (0.211)
Intensive margin	-0.183 (0.122)	-0.154 (0.126)	-0.345** (0.167)	-0.310* (0.171)
County & year dummies	Yes	Yes	Yes	Yes
Province-specific trend		Yes		Yes

Notes: Each cell is from a separate regression. Dependent variables in each regression are listed on the left-hand side of the table. Lagged county-level population is used as a weight in each regression. Full-time equivalent (FTE) calculation is based on 44 hours per week. All regressions include county-level control variables of the small establishment ratio, the share of major industry, population, and the number of establishments. Numbers in brackets are the minimum wage elasticity of FTE jobs. Standard errors in parentheses are clustered at the county level. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

JEL Classification: J23, J38, L23

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