Minimum wages and labour productivity

Recent studies have shown that minimum wages not only help to reduce wage dispersion and to channel productivity gains into higher wages, but they also can contribute to higher labour productivity – both at the enterprise level and at the aggregate economy-wide level. At the enterprise level, workers may be motivated to work harder. They may also stay longer with their employer, gaining valuable experience and also encouraging employers and employee to engage in productivity-enhancing training. At the aggregate level, minimum wages can result in more productive firms replacing least productive ones – and surviving firms becoming more efficient. These mechanisms can increase overall economy-wide productivity.

(a) workers can be more motivated

A large number of experimental studies have supported the hypothesis formulated by Akerlof in 1982 that employees consistently provide higher effort levels in response to higher wages, the so-called "efficiency wage" theory. Most of these studies have focused on pay levels of individual firms, showing that higher pay compared to elsewhere can attract more experienced and motivated applicants. Higher pay can also elicit greater commitment and productivity from existing employees (Ehrenberg and Smith, 2009). The effect of minimum wages - as opposed to higher wages in individual firms - on workers' motivation has also been found to be positive. Using a standard natural experiment design Georgiadis (2013) for example found that the U.K. national minimum wage has operated as a kind of "efficiency wage" in the residential care homes sector, increasing motivation and leading to a reduction in the level of worker supervision required. Experimental evidence in the U.S. by Owens and Kagel (2010) also points to a positive relationship between minimum wages and workers' effort, leading to the conclusion that – if well-designed – minimum wages can generate improved outcomes where employees have higher wages and employers have the same, or slightly higher, average labour cost.

(b) there can be more productivity-enhancing training as a result of lower turnover

Another area that has been increasingly researched in recent years is the link between minimum wages and reduced turnover, i.e. the flow of workers in and out of jobs (or the rate of employee separations and hires). Dube, Lester and Reich (2012) found that in the U.S. a 10% increase in the minimum wage results in a reduction of 2.1% in turnover for restaurant workers and a 2.0% reduction in turnover for teenagers. They attribute this finding to the reduction in wage competition between low-paying enterprises. In Canada, Brochu and Green (2013) found that hires, quits and layoffs of young workers with low education decline in the year after a minimum wage increase. In Portugal, a study documents how separations of young workers fell substantially after a youth-specific minimum wage increase (Portugal and Cardoso, 2006).

All this evidence suggests that with a more generous minimum wage, employers more easily retain their workforce, as a result of which workers can learn on the job and be trained to become more productivity over time. Efficiency wage and training responses to increased

labour costs have been studied by Arulampalam et al. (2004), who found indication that the introduction of the national minimum wage in Britain led to increased employers' training.

(c) some firms can become more efficient

Researchers have pointed out that productivity increases may be the result of a fall in employment due to the minimum wage, as enterprises substitute capital for labour and adopt more capital-intensive production technologies. While this remains a distinct possibility when the minimum wage is set too high, the emerging trend is that the effects of minimum wages on employment are often small or insignificant, and in some cases positive (Kuddo et al., 2015). Although the range of estimates from the numerous existing studies varies widely, meta-studies (studies of studies) in the U.S. and the U.K. found the most precise estimates to be clustered at or near zero employment effects (Doucouliagos and Stanley, 2009; Leonard et al., 2013; Belman and Wolfson, 2014). Among emerging economies, no obvious employment effects of minimum wages were identified in China (Wang, forthcoming).

Riley and Bondibene (2015) exploited the introduction of the National Minimum Wage in Britain and subsequent increases to identify the effects of minimum wages on productivity. They found that companies responded to these increases in labour costs by raising labour productivity. These labour productivity changes did not come about via a reduction in firms' workforce or via capital-labour substitution. Rather they were associated with increases in total factor productivity, consistent with organisational change, training and efficiency wage responses to increased labour costs from minimum wages. These conclusions align with findings of some previous studies, such as those of Croucher and Rizov (2012) who found an improvement in labour productivity in all of U.K.'s low-paying sectors as a result of the introduction of the national minimum wage, and particularly so in larger firms.

(d) There can be increased efficiency at the macro level

At the macro-economic level, it has been observed that minimum wages may prompt low-productivity firms to leave the market and higher-productivity firms to expand – thereby raising overall efficiency of the economy. Mayneris, Poncet and Zhang (2014), using data for more than 160'000 manufacturing firms in China found that increases in city-level minimum wages resulted in lower survival probability of low-productive firms. For surviving firms, wage costs increased without negative repercussions on employment. They explain this finding by the fact that productivity in surviving forms improved significantly, allowing firms to absorb the higher labour costs without hurting their employment or profitability. They conclude that minimum wage growth allows more productive firms to replace the least productive firms and forces incumbent firms to strengthen their competitiveness.

Although less scientific, surveys of employers also show that companies first and foremost try to meet the cost of higher minimum wages by investing in training and equipment to make their workers more productive (FT, November 18, 2015). This suggests that minimum wages can also lead to more innovation over the long run (Noah Smith, Bloomberg View). Using semi-structured interview with 80 senior representatives of employers' organizations and trade unions, senior civil servants and industrial relations academics, McLaughlin (2007)

examined how minimum wage regulations can raise productivity in Denmark, New Zealand and Ireland. He found that higher minimum wages are important for productivity but in the long-term other supporting institutions – such as collective agreements that enable training outcomes - can contribute to encourage firms to adopt the "high road" strategy through training and higher quality-based products market strategies.

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