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Impact of minimum wage increase on gender wage gap: Case of Poland

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ABSTRACT

This paper aims at assessing the effect of significant increase in the minimum wage observed in Poland in 2008–2009 on gender wage gap. To check the potentially differentiated effects throughout wage distribution authors analyse the impact of minimum wage increase separately for different age and educational groups. Innovative methodological approach which combines the non-parametric approach of DiNardo et al. (1996) with Oaxaca (1973) – Blinder (1973) decomposition is proposed.

The results indicate that the significant decrease in gender wage gaps observed among younger workers in Poland in 2006–2010 could be attributed to an increase in the minimum wage level. The effects of minimum wage increases were negligible for the middle-aged workers. Changes in gender wage gaps among educational groups were much smaller. The results confirm that minimum wage policy could be an appropriate tool for decreasing the existing differentials in pay between men and women, however potential disemployment effects should be considered.

1. Introduction

The extant literature underlines that multiple factors can influence the gender wage gap. Apart from the differences in employee and employer characteristics (such as education, work experience, employer size, and differences in the occupational and industrial structure of employment), the differences in gender wage gaps can be a result of idiosyncrasy in institutional environment of the labour market. Trade union density, minimum wage legislation, the level of coordination and centralization of wage bargaining, and employment protection legislation are examples of the institutions which can affect the level and distribution of wages among men and women. Moreover, since men and women are not proportionally located in different parts of the wage distribution, these institutions may affect the gender wage gap (Kahn, 2015).

Higher minimum wages mainly affect the bottom of the wage distribution, where women tend to be disproportionately located. Sectoral collective bargaining agreements typically call for wage floors set by industry, or even across industries, and, thus, disproportionately raise the wages of low-paid workers, who, yet again, are more likely to be women. However, both institutions can lead to adverse employment effects. Another example of an institution which can alter the wage differences among men and women is employment protection legislation (Kahn,

2015). In countries with strong employment protection laws, workers in permanent jobs would be expected to have enhanced bargaining power due to the high costs of redundancy. If women were less likely than men to be employed in permanent jobs, this kind of protection would widen the gender wage gap.

This paper concentrates only on one of the above-mentioned institutional factors: minimum wage legislation. The research results from various countries indicate that minimum wage increases can lower gender wage gaps, and the effects are observed especially at the lower end of wage distribution. This is because women in the workforce are more highly concentrated in low-wage sectors, such as personal care and healthcare support (The White House, 2014).

Research on the impact of minimum wage and other labour market institutions on wage distribution between men and women began with DiNardo et al. (1996) paper, which confirms that the decline in the real value of the minimum wage observed in the US in 1979–1988 explains a substantial proportion of the increase in gender wage inequality.

In recent years, several papers on the impact of minimum wage increases on the gender wage gap using microdata were published. The positive impact of minimum wage increases and their effects on the gender wage gap were confirmed, inter alia, in Ireland (Bargain et al., 2015), Germany (Boll et al., 2015), and China (Li and Ma, 2015).

This paper contributes to the literature on the impact of minimum

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wage increases on wage differences between men and women, providing an innovative methodological approach: the non-parametric method of DiNardo et al. (1996) is combined with the Oaxaca (1973)–Blinder (1973) decomposition. In the first step, the counterfactual wage distribution with constant workers' characteristics from the pre-intervention period is generated. In the second step, the Oaxaca-Blinder decomposition, based on the Mincer-type wage equation, is performed. This allows for the separation of the effect of a change in wage-setting schemes and changes in the characteristics of workers, and the performance of the time-consistent decomposition of the gender wage gap.

As far as the regional dimension is concerned, this paper concentrates on the biggest representative among the Central and Eastern European (CEE) countries—Poland. The authors choose only one country because, due to differences in institutions, comparisons between various countries may be difficult. The authors' choice is based on institutional and cultural aspects, a significant observed increase in minimum wage in Poland, the lack of research in this field, and high quality data.

The aim of this paper is to verify how the strong increase in the minimum wage level observed in Poland in 2008–2009 affected the wages of men and women. Taking into account that the average wages of women in Poland are significantly lower than those of men, the minimum wage increase could, therefore, lower the gender wage gap. To check the potentially differentiated effects throughout wage distribution, the authors analyse the impact of minimum wage increase separately for different age and educational groups. Individual data on monthly wages as well as employee and employer characteristics are taken from the Structure of Wages and Salaries database provided by the Central Statistical Office (CSO) of Poland. This paper is aimed at analysing the consequences of the strong increase in the minimum wage in 2008–2009, but since the database is being updated every other year, data pertaining to the wage distribution provided for 2006 and 2010 were used. To the best of the authors' knowledge, this is a first attempt to measure the impact of minimum wage increase on the gender wage gap for Poland.

The structure of this paper is as follows. Section 2 presents the main findings regarding the impact of minimum wage on the gender wage gap provided by the extant literature; the authors also shortly reiterate the main results concerning the gender wage gap in Poland. Section 3 describes minimum wage legislation in Poland and its evolution during recent years, while Section 4 contains a description of the statistical data and empirical approach used for this paper. Section 5 presents the empirical results, while Section 6 provides the robustness check. Finally, Section 7 contains a summary of the entire study.

2. Literature review

While there is a large amount of empirical literature estimating the effects of minimum wage on employment and wages (see Neumark and Wascher, 2007 or Neumark et al., 2000 for review), relatively less studies have included a gender dimension in their analyses. Since the seminal paper of DiNardo et al. (1996), a few papers on the impact of increasing (or the introduction of) the minimum wage on the gender wage gap have been published. Most of the results indicate that the effect is negative: a higher minimum wage lowers the gender wage gap, especially at the lower tail of wage distribution. To a large extent, this is because minimum wages are likely to have the largest impact on those workers for whom they are binding. As women are disproportionately represented in low-paid work, they should benefit the most from the increase or introduction of a minimum wage, disregarding any potential increase in the risk of losing their jobs.

Dex et al. (2000) analysed the effects of introducing the statutory minimum wage on gender wage gaps in the UK. It was found that an introduction of a statutory minimum wage improves the gender pay ratio and helps women at the lower end of the pay spectrum. Robinson (2005) studied the evidence of change in the gender wage gap across regions

with the introduction of the national minimum wage in the UK, and found a variation in the narrowing of the overall gender gap consistent with regional differences in the incidence and magnitude of low pay. Moreover, Blau and Kahn (2003) provided strong evidence that wage setting institutions—collective bargaining agreements and minimum wage legislation—have important effects on the gender wage gap. In their analysis for 22 countries over the 1985–1994 period, they found a negative correlation between the gender gap and the ratio of minimum to average wage.

Recently, several papers have analysed the effects of increasing the minimum wage in European economies (e.g. Cerejeira et al., 2012; for Portugal; Boll et al., 2015; for Germany; Bargain et al., 2015; for Ireland and the UK) and non-European economies (Kambayashi et al., 2013; for Japan; Gindling et al., 2015; for Costa Rica; Li and Ma, 2015; for China; Hallward-Driemeier et al., 2017; for Indonesia). As far as the CEE countries are concerned, the number of studies is much scarcer.

Boll et al. (2015) analysed the effects of introducing a statutory minimum wage in Germany in 2015 on the gender differences in wages. The results show that the gender pay differential is reduced by 2.5 percentage points (pp), from 19.6% to 17.1%, in a scenario that does not take into account employment effects due to a reduction of the sticky-floor effect at the bottom of the wage distribution. When the authors incorporated the minimum wage effects on labour demand, a further reduction of the pay gap by 0.2 pp (1.2 pp) in the case of a monopsonistic (neoclassical) labour market was achieved. However, the authors reported that this came at the cost of job losses, by which women were more strongly affected than men. In fact, the magnitude of job losses ranged between 0.2% and 3.0% of all employees; it was higher in a neoclassical market setting and positively related to the assumed wage elasticity.

Bargain et al. (2015) analysed the effects of the introduction of national minimum wage in Ireland and the UK. They found a large reduction of the gender wage gap at low wages for Ireland, with small spillover effects further up in the distribution. In the UK, hardly any effect was found, largely because of apparent non-compliance with the minimum wage legislation.

Kambayashi et al. (2013) examined the impact of the minimum wage on wage distribution in Japan. They found that the minimum wage increase resulted in the compression of the lower tail of the wage distribution among women, and that it accounted for half of the reduction in lower-tail inequality that occurred among women during the period between 1994 and 2003. Moreover, Li and Ma (2015) analysed whether the minimum wage has affected gender wage gaps in urban China. The results showed that a minimum wage helped to reduce gender wage gaps and that the effect was more obvious for the low-wage group. Gindling et al. (2015) analysed the effects of the minimum wage compliance program introduced in Costa Rica and found higher wage increases observed among women than men.

Not all studies have found reductions in the gender earnings gap. Cerejeira et al. (2012) explored the effect of the increase in minimum wage on the gender wage gap among employees younger than 18 years old in Portugal. Their results indicated the widening of the gap (which increased by 2.7 pp more than for other groups). This change was mainly determined by a redistribution of fringe benefits and overtime payments. As the main channel of redistribution, the authors point to industrial differences in response to the changes on the wage floor. In addition, Hallward-Driemeier et al. (2017) confirmed that minimum wage increases in Indonesia reduced gender wage gaps among production workers, with heterogeneous impacts on levels of education and the position of the firm in wage distribution. However, the results showed that educated women benefitted the most, particularly in the lower half of the firm average earnings distribution. In contrast, women who did not complete primary education did not benefit, on average, and even lost ground in the upper end of the earnings distribution.

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