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Minimum wage and inflation: macroeconomic and regional approach

Abstract

The aim of this study is to empirically verify whether minimum wage increases transmit to higher inflation.

Minimum wage growth may impact prices through several channels. First, it leads to higher costs of production which may be transferred by firms' owners to higher prices of their product. Second, workers earning slightly above minimum wage may tend to maintain the earnings structure and push the pressure on wage growth. This spillover effects may further increase the production costs and may be also transmitted to higher prices of products. Third, minimum wage growth may lead to growth of the workers' income, at least in case of those who are not dismissed. Higher incomes of workers may lead to higher demand for goods and services which can increase the prices. Forth, higher incomes increase the creditworthiness of low-wage workers. Fifth, other labor market institutions are connected to minimum wage level.

Enormous number of research has been devoted to minimum wage impact on labor market outcomes. The effects on employment are however mixed pointing to heterogeneity of workers as a main source of inconsistency of the results. Number of research on the effects of minimum wage prices is lower but similarly, there is no consensus in the literature. Some of the studies indicate that minimum wage growth does not increase inflation; other studies confirm statistically significant positive effects of minimum wage increases on prices.

The inconsistency of the results on the impact of minimum wage on prices may be due to the fact that the minimum wage pass-through effect on prices may differ depending on price elasticity of the product, the degree of local competition, and the structure of employed. If poor consumers are those buying minimum wage labor intensive goods, or if these goods represent a large proportion of their consumption bundle, then minimum wage increases might hurt disproportionately regions with higher share of low-wage workers. The higher the degree of competition between firms on local labor market, the lower the probability that firms will increase prices. Price increases are more probable in service sectors, but are less probable in sectors facing high competition from foreign exports using cheaper labor. Conversely, the increase of prices is more probable in case of good with very low price elasticity. The results may also depend on the analyzed period: in the long run higher minimum wage and higher production costs can be offset by heightened productivity.

In the paper we use data for Poland to analyze the relationship between minimum wage and inflation. Analyzing the minimum wage pass-through effects on price changes in Poland is interesting for several reasons. First, the minimum wage policy, which is conducted at a national level, is simple and has a long history; moreover, there is one minimum wage rate for all regions, occupations, and sectors. Second, its coverage is extensive. According to Eurostat data, Poland's share of minimum wage workers is one of the highest of all European economies. Third, there has been a sustained increase in the national minimum wage in Poland in recent years. Actual annual minimum wage growth in most of the years exceeded the minimum value adjustments required by law. Fourth, Poland exhibits large and enduring regional differences.

Majority of the research on minimum wage pass-through effect on prices is based on the US or other developed countries data. Lower number of studies is found for the less developed countries. We expect the minimum wage pass-through effects on prices to be higher in Poland than the one estimated for developed countries. Firstly, Poland is one of the largest countries of EU but at the same time one of the less developed EU country. The share of minimum wage workers is one of the highest in the EU. Large number of low-wage workers may transmit to higher minimum wage pass-through effects, especially in less developed regions. Secondly, as a result of linking the minimum wage in Poland with the amount of other work benefits, the higher increase in costs of production may transmit to higher product prices.

We employ two different methods to calculate the effect of the minimum wage changes on inflation. First, we use VAR approach and data on the aggregate, country level. Second, we use panel approach on regional data at the NUTS2 level. We analyze the dependencies between the structure of regional labor markets and the differences in the minimum wage pass-through effects on prices. We analyze the minimum wage pass-through effects on overall price changes and prices changes for goods with low and high price elasticity. We aim to verify whether these effects differ between regions with different employment structure.

We expect that minimum wage changes which took place in the research period in Poland transmitted to increased inflation rate. We expect small positive impact on overall inflation, higher impact on prices of goods with low price elasticity, and no impact on goods and services with high price elasticity. We expect the minimum wage pass-through on prices to be higher during recovery periods than during downturns since it is easier to pass the costs on product prices in high demand periods. We expect the price effects to be higher in regions with higher share of low-wage workers because rise in minimum wage not only increase the wages of minimum wage workers but due to spillover effects increase the production costs even more. We expect the price effects to be higher in regions with higher share of employed in services and lower share of employed in industry. Conversely, in regions with higher share of employed in manufacturing it may be more difficult for firms to transmit the higher costs to prices.