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## **Minimum wage and employment; aggregate analysis**

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The socioeconomic benefits of establishing a minimum wage and the influence on employment figures have aroused controversy in academic and business circles.

Research on the subject has not reached a unanimous conclusion and the literature offers ambiguous results. In particular, the effects on employment are contradictory.

Under the homogeneity assumption, where all jobs and all firms are homogeneous, minimum wages do not affect employment. On the contrary, in the heterogeneous case, the theoretical results are mixed. There is no unique connection between unemployment and minimum wages. The effect can be harmful, zero, or even positive (Garloff, *Zeitschrift für ArbeitsmarktForschung*, 2010). Many of these studies used aggregate data, so differential nuances were lost (Belman & Wolfson, International Labour Organization, 2016). This paper highlights the importance of conducting studies to determine the effect of minimum wage setting, that is, to study the impact of introducing a minimum wage on wages and employment in a quasi-experimental setting (Gregory & Zierahn, *Journal of Public Economics*, 2022).

Aggregate employment values at the national level include all productive economic sectors. They do not distinguish between different skill levels or work experience within the same industry, such that inter- and intra-sectoral nuances are not captured. Given the diversity of the labor market, the plurality of results and even the contradictions are understandable.

The main objective was to assess the relationship between the level of employment and the minimum wage, in general terms, using the employment rate and minimum wage data (in 2021 constant prices at 2021 United States (U.S.) dollar purchasing power parity) provided by the Organization for Economic Cooperation and Development (OECD) for the years 2007 to 2021 for the minimum wages

of 27 countries (17 European Union (EU) and ten non-EU countries) without taking into account any nuance or diversification, using only the aggregate data provided by the OECD. Aggregate data were specifically used to clarify their insufficient contribution to a proper interpretation, since the goal of this note was to highlight the need to use more disaggregated data, which provides the opportunity for more rigorous research.

The Pearson correlation coefficient was the selected methodology, instead of regression analysis, because the causal relationship in either direction is unclear.

Data were available for the EU countries of Belgium, the Czech Republic, Estonia, France, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, and the United Kingdom, as well as the 12 non-EU countries (Australia, Canada, Chile, Colombia, Costa Rica, Israel, Japan, Korea, Mexico, New Zealand, Turkey, and the U.S.).

The results for all workers (employment rate, 15–64 years, all persons) are displayed in Online Supplemental Appendix (OSA) Table 1 and for young women (ages 15–24) in OSA Table 2. Data for young males (ages 15–24) are in OSA Table 3 and for the entire group of the youngest workers (ages 15–24) in OSA Table 4 to highlight differences in the results by age and gender.

The joint study of all workers showed positive correlations (OSA Table 1), ranging from 0.342 to 0.519. These correlations are statistically significant for all years except three (2014, 2016, and 2017). However, for young women (15–24 years), the correlations are statistically significant for all years and with higher values, ranging from 0.450 to 0.585.

For young men (15–24 years), the correlations showed lower values, between 0.102 and 0.325, and are not statistically significant for any year studied. The study of all young workers (15–24 years) showed positive correlations, ranging from 0.285 to 0.477. The correlations are statistically significant for all years except for 2012, 2013, 2014, 2016, and 2017.

Therefore, differences were found depending on the specific group of workers studied. However, the results showed a positive correlation for all groups analyzed, both for all workers and the group of young workers (women and men combined). This result cannot be considered conclusive. However, it is helpful to promote reflection on the factors underlying the relationship between minimum wages and employment.

The study reveals different results for the various EU countries according to their circumstances. When workers as a whole were analyzed, one result was achieved, but by examining only the case of young women or young men (as an example of a particular group), the results changed. This reveals the need to look at other explanatory variables related to the demographic group, the specific job at the firm, and the economic sector, for example, when examining the relationship between employment and minimum wage setting, and the need to consider a more detailed analysis.

The general conclusion drawn from this research points to the importance of conducting specific studies (for a particular sector and/or population group) to arrive at conclusive results, as global studies ignore important nuances. Studying the specific circumstances of the country and the geographical area is also recommended.

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