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Summary of the Evaluation of Montenegro's 2022 Minimum Wage and Income Tax Reform[1]

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Key findings

- The 2022 reform caused a sizable increase in average wages. This is mainly driven by a strong increase in earnings at the lower end of the income distribution.
- The reform had a strong impact on the entire earnings distribution. Almost 44 per cent of all wage earners in 2021 were directly affected by the minimum wage increase. Nearly 35 per cent of all jobs were lifted to the level of the new minimum wage. There is evidence of positive spillovers on jobs with earnings above the minimum wage: the number of jobs with gross earnings between €550 and €1,250 increased after the reform.
- The report finds no evidence that the reform caused any quantitatively meaningful loss in employment.
- For low-wage sectors (in particular, manufacturing, wholesale and retail, accommodation and food), there is some evidence of weaker growth in the number of registered firms. At the same time, there is a modest increase in corporate profits and turnovers in the low-wage sectors that were more strongly affected by the reform.

Background

In January 2022, Montenegro introduced a significant policy reform. The 2022 reform had three main pillars. **First**, Montenegro raised the monthly minimum wage for full-time work from net €250 to €450 (or, in gross terms, from approximately €330 to €525). In net terms, this represents an 80 per cent minimum wage increase, which is substantially larger than minimum wage reforms in other countries. **Second**, Montenegro introduced a new, progressive income tax scheme on earnings and income from self-employment. The scheme includes a tax allowance, making incomes up to €700 tax-free. Incomes between €700 and €1,000 are taxed at a 9 per cent marginal tax rate, while incomes above €1,000 are taxed at 15 per cent. **Third**, the reform abolished compulsory health insurance contributions by both employers and employees. The loss of health insurance payments was replaced by general public revenue.

The idea behind the reform was twofold. On the one hand, low-income earners working at, or slightly above, the old minimum wage would experience a strong increase in nominal earnings. Hence, the main beneficiaries of this reform pillar would be workers with lower incomes. On the other hand, the second and third pillars of the reform would substantially shrink the "tax wedge" – the gap between total labor costs and net incomes (around 20 to 39 per cent, depending on the income range). For employees, this reduced the difference between gross and net earnings. From the employers' perspective, the lower tax wedge should have reduced labor costs, thus offsetting part of the increased costs associated with the minimum wage expansion.

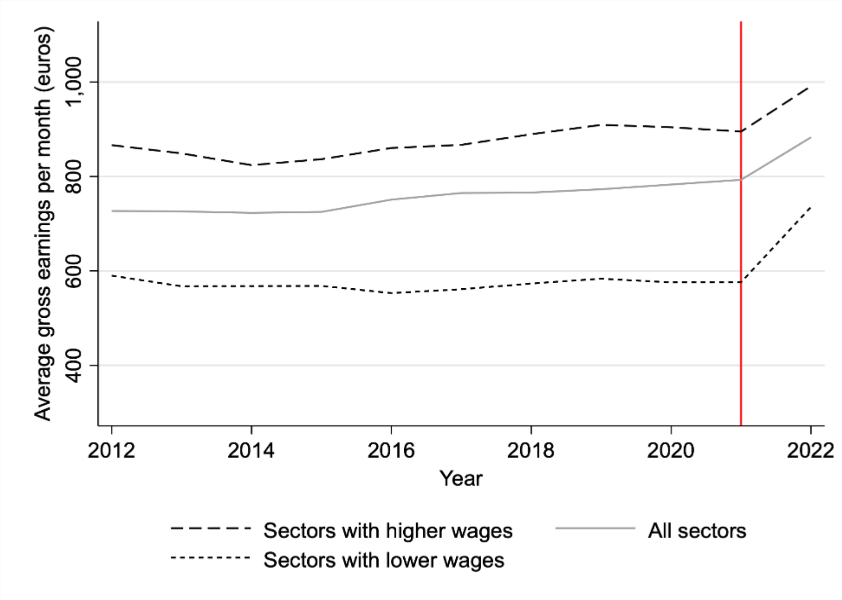
Scope

The report evaluates the overall impact of the reform package (henceforth, the "2022 reform"). The impact assessment is based on two distinct datasets. First, the report uses data from Montenegro's Labor Force Survey to capture general labor market conditions and identify trends before and after the reform. Second, the evaluation is based on comprehensive administrative tax data encompassing firm-level information on value-added and corporate profit taxes, and on monthly individual-level income tax data, from 2017 to 2022.

Main results

First, the 2022 reform had a **sizable effect on gross earnings**. The analysis compares changes in wages across two groups: workers in high-wage sectors and workers in low-wage sectors. The high-wage sectors in Montenegro include mining, electricity and gas, as well as the financial and insurance sectors; the low-wage sectors include manufacturing, wholesale and retail, accommodation and food, as well as the administrative sector. By definition, the latter group benefitted more from the 2022 increase in the minimum wage. This is illustrated in Figure 1, which presents the development of gross nominal wages for three groups: (1) all sectors, (2) high-wage sectors, and (3) low-wage sectors.

Figure 1 – Average gross earnings (nominal) over time



Notes: The figure presents the nominal gross average wages for (1) all sectors, (2) sectors with higher wages, and (3) sectors with lower wages. (Sectors in the third group include manufacturing, wholesale and retail, accommodation and food, and administration.) The vertical red line indicates the last period before the reform. Source: Authors' computations based on Monstat data for 2012–2022.

Between 2012 and 2021, average gross earnings were relatively stable in all three groups. With the implementation of the 2022 reform, however, there is a clear increase in nominal gross earnings for all groups. The graph further shows that lower-wage sectors were indeed affected more, as indicated by the steeper increase after the 2022 reform. Average earnings in these sectors increased by 27.8 per cent (from €576 to €736 per month) between 2021 and 2022, while wages in high-wage sectors only increased by 10.8 per cent.

Second, the 2022 reform had a small, negative effect on the **number of formally registered firms**. In the high-wage sectors, the total number of firms grew by 14.5 per cent from 2021 to 2022. At the same time, in the low-wage sectors that were more strongly affected by the minimum wage increase, the number of firms grew by 4.3 per cent. This amounts to a 10 percentage point difference in growth rates between the two groups. (Note that this finding is not driven by trends in single sectors, such as the ICT sector, for example.)

In addition to the differential firm growth, which may be interpreted as a causal impact of the 2022 reform, the evaluation also finds a slightly more pronounced increase in profits and turnovers in the low-wage sectors. This pattern suggests that the 2022 reform curtailed the growth in the number of firms by making it harder for less profitable firms to operate. In other words, firms that (continue to) thrive in the low-wage sectors have higher turnovers and are, on average, more profitable. One possible interpretation of this pattern is that more profitable firms in the low-wage sectors are more likely to expand after the reform while less profitable firms are more likely to exit the market, possibly moving to the informal sector to avoid increased labor costs.

Third, the reform had **no meaningful impact on formal employment**. Despite the substantial increase in the minimum wage, the results show no evidence of any quantitatively relevant decrease in formal employment (or any increase in unemployment). Yet the 2022 reform significantly reshuffled the number of jobs in different wage segments. This is illustrated in Figure 2, which shows the changes in full-time employment between 2021 and 2022 for different ranges of earnings.

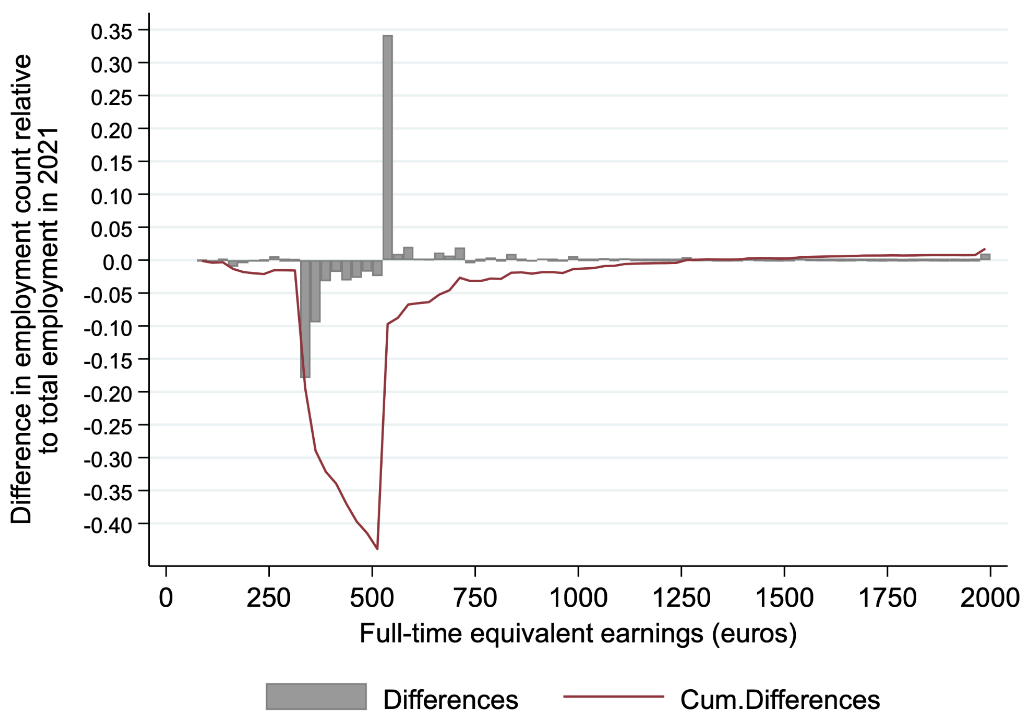
Figure 2 documents the different implications of the reform. On the one hand, many low-wage jobs from 2021 with gross earnings below €525 (the new minimum wage in 2022) disappeared the following year. On the other hand, most of these jobs re-appeared at the new minimum wage level. It is important to separately discuss these different layers of adjustment.

The "disappearing employment" below the minimum wage can be interpreted in three different ways. First, there may have been some transition to unemployment. Second, workers may have changed jobs, looking for higher-paying jobs. Thirdly, employers may have increased wages for the same job to retain workers. This means that some "disappearing jobs" now show up at higher earnings levels. Overall, the 2022 reform affected as many as 44 per cent of all full-time jobs (see the red line in Figure 2). In comparison with minimum wage reforms in other countries, this is an unusually large effect and reflects the strong increase in the minimum wage.

Figure 2 shows that many of these jobs reappeared exactly at the new minimum wage. At this earnings level, the data indicates a net employment gain of almost 35 per cent for full-time jobs from 2021 (see the grey bar at the €525 wage level in Figure 2). In addition, there are also smaller but non-trivial employment gains for jobs with gross earnings between €550 and €1,250 (above the new minimum wage). These gains might reflect wage spillovers, commonly observed after minimum wage reforms, when firms also raise earnings above the minimum wage to maintain certain earning hierarchies and counter wage compression.

With regard to the overall effect of the 2022 reform, we can see that the total number of full-time jobs increased slightly between 2021 and 2022. This is also illustrated in Figure 2: the red line, which shows the accumulated changes in employment along the earnings distribution, turns slightly positive for earnings above €1,500.

Figure 2 – Changes in employment along the earnings distribution between 2021 and 2022



Notes: The gray bars illustrate year-to-year changes in the number of full-time earners observed along different segments of the earnings distribution. All changes are expressed relative to the overall number of full-time equivalent jobs recorded in the year 2021. The red line presents the accumulated employment effects. Source: Authors' computations based on monthly income tax data, which cover January, May, September, and December of each year.

Discussion

The report shows that the 2022 reform significantly increased individuals' gross earnings. While one cannot disentangle the effects of the different reform elements, the analyses suggest that a major part of this effect is due to the minimum wage increase. In addition to the mere mechanical effect of lifting earnings to the new minimum wage level, the evaluation also documents evidence of wage increases above the minimum wage. Such wage spillovers, which were also observed after minimum wage reforms in other countries, seem to reflect firms' responses to counter reform-induced wage compression and to maintain certain payment hierarchies.

Importantly, the evaluation finds no evidence that the sizable minimum wage adjustment had any quantitatively meaningful detrimental effects on Montenegro's formal labor market. In the short run, overall employment did not decrease. On the contrary, the data suggests a small positive employment effect. Moreover, the evaluation rejects meaningfully negative effects on firms' turnover and profits. However, the analyses indicate that some less profitable firms have vanished in response to the reform. The latter findings are consistent with the experiences of minimum wage reforms in other countries (such as Germany and the United States).

The report details several caveats in the interpretation of these findings. Importantly, during the period of observation, the labor market underwent a huge shock due to the pandemic and the rapid recovery that followed. The economic fluctuations caused by Russia's war against Ukraine implied further macroeconomic volatility (like energy price shocks and migration). In addition, the time period is characterized by relatively high inflation rates, which also rendered the nominal wage increases smaller in real terms. In such a multi-crisis period, it is difficult to determine which patterns reflect general, macroeconomic trends, and which are shaped by the 2022 reform. The report tries to address these points by providing different robustness checks using different points in time as reference periods or by studying alternative outcome measures. These sensitivity analyses indicate that the main finding remains unchanged: the 2022 reform had a positive effect on earnings, but no detectable negative impact on the labor market or the economy more broadly.

The 2022 reform might have also affected the informal economy. Non-compliance with the new rules and the minimum wage is a potential threat. It is also possible that higher minimum wages lead to more activities in the informal economy. To assess such effects, one would have to pair administrative data on income, employment, and business activities with data that would allow us to assess informal labor as well as informal business activities in the pre- and post-reform periods. Since the evaluation team could not access such data, a comprehensive assessment of the reform's effect on informality was not possible.

It is also important to note that since the reform occurred in 2022, the evaluation only covers a post-reform period of 1 to 1.5 years. Hence, the report can only speak to the reform's short-term effects. The evaluation also could not study detailed price data. Hence, one cannot rule out that firms increased prices in response to the reform, thereby passing on part of the higher labor costs to consumers. If this is the case, it could be contributing to the inflation dynamics and could also explain why firms' pre-tax profits remained relatively unaffected by the reform.

This evaluation is a case study of Montenegro in a unique time period. Therefore, it is difficult to draw strong conclusions or even recommendations on how to design comparable reforms in other countries and contexts. Still, the case study – in combination with evidence from previous evaluations of minimum wage reforms in other contexts – provides policy-relevant insights. The evaluation shows that a minimum wage reform can significantly increase earnings without causing any major losses in employment. It is plausible that the combination of different reform elements had a beneficial effect on the economy. The other reform elements – the introduction of a progressive tax with a tax allowance, and the abolishment of compulsory health insurance contributions by employers and employees – reduced the costs for firms. This might have made it easier for firms to incorporate the increase in labor costs due to the new minimum wage.

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