

Heterogeneous firm-level impact and responses to the COVID-19 crisis



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The global spread of COVID-19 has resulted in a significant disruption in economic activity, whose impact has been markedly different across regions, sectors and type of firms. Moreover, firms responded by adopting different actions to mitigate the shock and by recurring in different degrees to the policy support measures implemented by public authorities. Based on a new firm-level survey matched with balance-sheet information, this policy brief presents new evidence from Spain on the asymmetric impact of the COVID-19 crisis across different dimensions and the responses of firms to the shock. According to our results, the impact of the COVID-19 shock was larger in the case of small and less productive firms within each sector and region. Moreover, these firms resorted relatively more to public-guaranteed loans, tax deferrals, and furlough schemes (ERTEs). More indebted companies, which were not hit relatively harder by the shock, also perceived public-guaranteed loans as very useful.

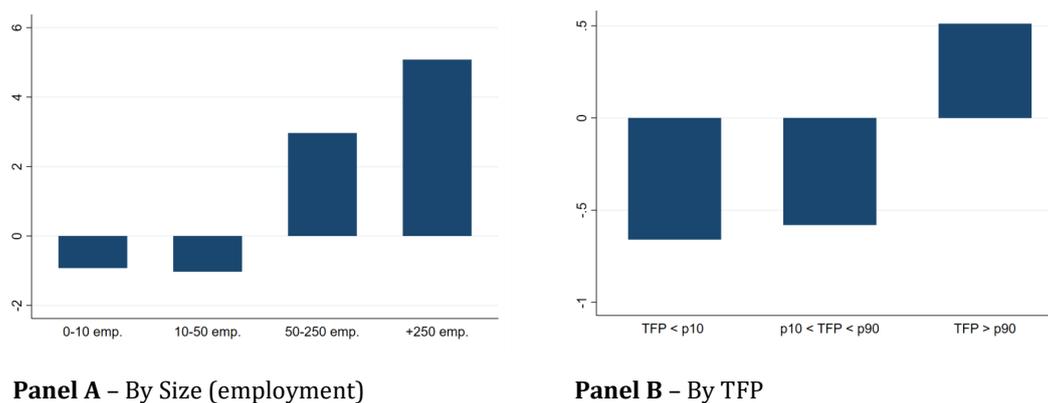
¹ The views expressed here are our own and do not represent those of Banco de España or the Eurosystem.

The COVID-19 crisis represents a shock of unprecedented magnitude, with two additional features that are worth highlighting. First, this crisis has had a very asymmetric impact across sectors, regions, workers and firms (Puy and Rawdanowicz, 2021; Bloom et al. 2021; Crossley et al., 2021). Second, the economic policy response has generally been swift and resolute, which has contributed to mitigating its adverse economic effects (Thygesen, 2021). Since the start of the pandemic, economic policymakers have responded boldly, both domestically and internationally, and in the fiscal, monetary and regulatory spheres. Moreover, firms adopted measures to mitigate the disruptive effects on their activity, such as teleworking, reinforcing the use of e-commerce or curtailing investments (IFC, 2021).

A better understanding of the consequences of the crisis along these dimensions is key for policymakers. In particular, targeted and predictable policies crucially depend on identifying the type of firms most affected by the shock and understanding how uncertainty shapes their perspectives and decision-making. In Fernández-Cerezo et al. (2021), we exploit the information provided by the new Banco de España Business Activity Survey (EBAE for its abbreviation in Spanish) in order to shed light on these issues. The EBAE survey was launched in November 2020 and 4,004 valid responses were received. It included a set of questions on how far turnover and employment were from pre-crisis levels, the main factors hindering firms' activity during the pandemic and the degree of uptake of support measures. A unique feature of this survey is that it can be matched to Balance Sheet Data allowing to investigate the impact of the shock depending on firms' ex-ante characteristics, such as productivity, size or age.

The impact of the COVID-19 shock across firms

Given the characteristics of the COVID-19 shock, the wide heterogeneity of its impact across industries is well known with services sectors, especially those more dependent on social interaction, disproportionately hit in 2020. But heterogeneity is also very large and potentially more interesting among other dimensions. First, once we control for sectoral differences, firm size is a key variable to explain the severity of the effects of the pandemic in firms' turnover. Figure 1, Panel A shows the changes in turnover for different size brackets in deviations from the average change in the sector. Smaller firms suffered a steeper decline in their activity in 2020 than larger firms belonging to the same sector of activity. In particular, turnover fell by 1.3 pp more than the sector mean at firms with fewer than ten employees, while at larger firms it was 4.4 pp higher than the average. The likeliest explanation for these differences is the greater vulnerability to shocks such as that triggered by COVID-19, which in turn may be due to small firms having less access to borrowed funds and to their reduced product and market diversification. Figure 1, Panel B shows that less productive firms (in terms of their Total Factor Productivity – TFP) suffered a larger decrease in turnover. These findings indicate that smaller and less productive firms were hit relatively harder by the COVID-19 shock within each sector. Moreover, this pattern remains robust when accounting for other firm characteristics as well as sector-region fixed effects (see Fernández-Cerezo et al. 2021). We interpret this result as suggestive evidence in favor of the cleansing effects of the COVID-19 shock, typically associated to crisis episodes not only across sectors but also within sectors. In short, this crisis may trigger a potentially productivity-enhancing process of resource reallocation within industries.

Figure 1 – Heterogeneity of the impact of the COVID-19 on Turnover

Notes: Average year on year percentage change in turnover, by firm size (employees - Panel A) and productivity (TFP - Panel B), as deviations from the industry mean.

Firm-level responses and policy measures in the wake of the COVID-19 shock

Firm-level heterogeneity in the way companies responded to the COVID-19 shock was also remarkable. A first margin to adjust when facing the COVID-19 shock is the employment margin. Our results show that firms were able to absorb part of the shock and they did not fully translate the decrease in turnover to employment.² Once we control for the size of the shock and a large set of firm-level characteristics, higher TFP firms showed a larger absorption capacity showing a lower pass-through of the turnover fall to employment. In contrast, employment fell more in firms with a higher share of temporary workers.

In order to mitigate the impact of the COVID shock, younger, larger firms in urban areas and those with less temporary workers resorted more intensively to work-from-home schemes, even after accounting for other factors such as size, sector, geographical location and age. Less productive companies reported higher efforts in reinforcing online sale channels. One possible rationale for this finding is that less productive firms used less intensively the e-commerce channel before the pandemic, so that the COVID-19 shock induced a within-sector catch-up process of less productive firms with respect to more productive firms that were already using e-commerce even before the pandemic (Alfonso et al., 2020). Reductions in planned investments were more useful for firms located in rural areas, with lower productivity, and medium-sized (50-250 employees).

Regarding the degree of uptake of the main policy measures, Panel A of Figure 2 shows that public guaranteed loans (ICO loans) were the policy measure deemed as more useful, with nearly 43% of respondents stating it was very helpful to deal with the COVID-19 shock, followed by furlough schemes (ERTEs- 29%), tax deferrals (24%) and renegotiation of rental payments (21%). In Panel B, we observe that those firms more severely hit by the COVID shock, measured by their decrease in turnover, used all these policy tools more intensively, especially ERTEs.

But there is also high degree of heterogeneity in the usefulness of policy measures declared by the firms across different dimensions. Regression results controlling for firm's characteristics and sector-region fixed effects show that furlough schemes (ERTEs) were deemed as especially useful for medium-sized firms (10-250 employees), less productive and urban-located firms. It is notable that we do not find that firms with a higher share of

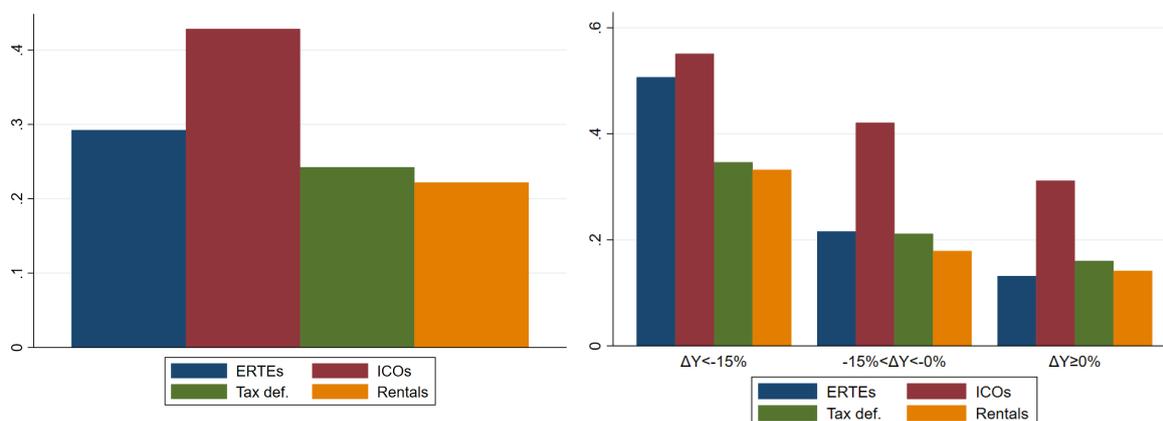
² In particular, 38% of them declared a decrease in their employment level while the turnover decreased in 63% of firms in the survey. Most of firms (54%) declared their employment level kept unchanged.

temporary workers perceived ERTes as more useful for them. As stated before, we did find that firms with a higher temporary share reduced their employment more as a way to adjust to the shock. Taken together these findings point at layoffs being the main source of employment adjustment for these firms. Hence, while ERTes have been a useful tool to cushion the shock for firms, they have not been able to protect employment of temporary workers.

Loans with public guarantees were perceived as less useful for larger companies and those with larger cash buffers reflecting they have more internal resources to face the shock. Interestingly enough, for a given region, sector and firm size, these public-guaranteed loans were more useful for less productive, younger, and more indebted companies. On the demand side, highly indebted firms may have the incentive of taking on more loans due to the higher risk of liquidity shortfalls if the pandemic lasts longer than expected. On the supply side, banks may be more willing to provide loans to clients with high outstanding exposure, thus providing a liquidity cushion against potential short-term defaults on banks' loans (in line with Brühlhart et al., 2020). Similar patterns are observed for tax deferrals, with the exception that there is no distinction between more/less productive firms in its use. Finally, renegotiation of rental payments was deemed more useful for less productive, small and urban firms, and those with a higher share of temporary workers.

Overall, we find that the policies implemented in order to mitigate the impact of the shock have been more widely used by smaller and less productive firms, with a larger share of temporary workers, high debts levels and low cash buffers, although we find substantial heterogeneity depending on the measure. The limited pass-through of the shock to employment suggests that policies have been effective in cushioning the shock, since firms that were hit the most were the ones deeming these policies more useful. However, this is less so for firms with a higher share of temporary workers, pointing at the difficulty of protecting employment in these firms.

Figure 2 – Usefulness of support measures



Panel A – Ratio of firms finding measure useful

Panel B – Ratio of firms finding measure useful by the fall in turnover

Notes: Panel A: Fraction of respondents answering that the policy tool was relevant or very relevant, where policy tools are: furlough schemes (ERTes - blue), state-guaranteed credit (ICOs - red), tax deferrals (Tax def. - green), and renegotiation of rental contracts (Rentals - yellow). Panel B: Breakdown of responses shown in Panel A by the size of the shock, measured as the change in year-on-year turnover (ΔY).

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