

Government Support and Firm Performance during COVID-19

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Abstract

This paper assesses the medium-run effects of government support to firms during the COVID-19 crisis and whether the effectiveness of this support varied with its timing. Using data from three rounds of the World Bank's Enterprise Surveys COVID-19 Follow-up Surveys carried out between May 2020 and April 2022, it relates government support in Round 1 (received in the first half of 2020) and Round 2 (received during the second half of 2020 or early 2021) with firm performance in Round 3 (generally mid-2021). Controlling for a host of background characteristics, firms

that received support in Round 1 performed better in terms of Round 3 sales, but only if they did not have continued support. Firms that also received support in Round 2 had similar Round 3 sales as those that received no support and were more likely to decrease employment. Firms that received government support only in Round 2 experienced no boost in Round 3 performance. The findings suggest that government support should be provided promptly, but it should also be phased out quickly.

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Government Support and Firm Performance during COVID-19^{*}

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1. Introduction

Governments around the world provided unprecedented support to firms when the COVID-19 pandemic started. For example, the World Bank's SME-Support Measure Dashboard tracked 1,500 government measures to support small and medium-size enterprises (SMEs) in 132 countries.¹ According to policy makers, these initial support measures aimed to prevent mass insolvency of viable firms and related knock-on effects for the financial sector, to preserve jobs and firm-specific intangible capital, and to reduce the friction costs of firms temporarily exiting the market (World Bank 2021).

Evidence from several countries suggests that government support measures were successful in helping firms weather the crisis and preserving jobs in the short run (see Chen et al. 2022, on China; Guerrero-Amezaga et al. 2022, on Latin America, and Turkson et al. 2021, on Italy), although at a high cost (Autor et al. 2022, on the US). However, longer-run effects of COVID-19 support to firms are uncertain (Staples and Krumel 2023), in part since these measures may simply have delayed insolvency for some firms (Dörr, Licht, and Murmann 2022).

We contribute to the literature by assessing the medium-run effects of government support to firms during the COVID-19 crisis. We use data from three rounds of the World Bank's Enterprise Surveys (ES) COVID-19 Follow-up Surveys, allowing us to look at firm performance in mid-2021, over a year after support measures were first enacted.

Another contribution of our paper is that we test whether the effectiveness of government support varied with its timing. The data allow us to examine support received at the onset of the crisis (during the first half of 2020, as reported in Round 1 of the ES COVID-19 Follow-up Surveys), as well as support received later (during the second half of 2020 or early 2021, as reported in Round 2 of the surveys). While initial support may be effective, if it continues over an extended period, it can also distort markets and firms' incentives (Pop and Amador 2020; World Bank 2021). Thus, the effects of initial support may differ from the effects of subsequent support.

We analyze data for 15 emerging markets and developing countries in Europe and Central Asia (ECA), to focus on a homogeneous environment. First, we document that 42 percent of firms received government support by Round 1 of the survey, and 23 percent received support between Rounds 1 and 2, giving a cumulative 50 percent of firms receiving support. The support measure reaching by far the largest share of firms was wage subsidies, with 8 out of 10 firms that received any type of support receiving such subsidies. The second most wide-reaching measure was cash transfers (less than 4 out of 10 firms), followed by fiscal relief, payment deferrals, and new credit (less than 2 out of 10 firms each).

Then, we ask how receiving government support by Round 1 and Round 2 of the ES COVID-19 Follow-up Surveys affected firm performance in Round 3 of the survey. Here, we examine the relationship between Round 3 performance and support in Rounds 1 and 2 to minimize reverse causality. To reduce omitted variable bias, we control for a host of firm characteristics that may have affected both the probability of receiving support and firm performance.

We find that firms that received government support in Round 1 performed better in terms of Round 3 sales compared to firms that did not receive any support, but only if they did not have continued

¹ <https://dataviz.worldbank.org/authoring/SME-COVID19/Overview>

support in the following period. Interestingly, firms that continued to receive government support in the second round performed no better or even worse than those that did not receive any support. Also, firms that received government support only in the second round experienced no performance boost compared to those that received no support. These results hold up through various robustness checks, including controlling for firm performance in Rounds 1 and 2. Our findings suggest that, for effective policy, government support should be provided to firms quickly without delay, but it should also be phased out quickly.

The paper is organized as follows. Section 2 presents the data and summary statistics. Section 3 describes the empirical strategy. Section 4 discusses the main results. Section 5 includes several robustness checks, and Section 6 concludes.

2. Data and Summary Statistics

We use data from ES COVID-19 Follow-up Surveys to capture government support received by firms during the COVID-19 pandemic and to measure firm performance.² The World Bank has collected one to three rounds of these surveys in 45 countries starting in May 2020.³ To explore how government support was repeated over time, we use data for countries with three survey rounds as of May 9, 2022. We conduct our analysis on a sample of 15 emerging markets and developing countries in ECA to focus on a homogeneous environment (see Table A.1 in the Appendix).⁴ The three rounds of surveys were completed between May 2020 and April 2022 for this sample of 15 countries.⁵

The sampling frame for the ES COVID-19 Follow-up Surveys includes all firms that replied to the latest pre-COVID-19 ES, making it possible to link performance during the COVID-19 pandemic back to firm characteristics collected through the ES. The ES cover formal (registered) firms with five or more employees and are designed to be nationally representative for the manufacturing and service sectors. For the countries in our sample, the most recent ES was conducted in 2019 or early 2020.⁶

The ES COVID-19 Follow-up Surveys include questions on government support received during the pandemic. They also ask firms about changes in performance during the crisis, as well as expectations for the next months. Table A.2 provides the definitions of the variables included in our analysis. Tables 1 and 2 present the summary statistics of the share of firms that received government support and when they did so. Table 3 presents the summary statistics on firm characteristics and performance.

² More information on the ES COVID-19 Follow-up Surveys is available at <https://www.enterprisesurveys.org/en/covid-19>.

³ Four rounds of data were collected in Jordan.

⁴ At least three rounds of survey data are also available for 3 countries in the Middle East and North Africa, 2 countries in Sub-Saharan Africa, and 4 countries in high-income Europe and Central Asia.

⁵ Armenia and North Macedonia have later Rounds 2 and Rounds 3 compared to the other 13 countries in our sample. Our results in this paper are robust for a sub-sample of 13 countries which drops Armenia and North Macedonia from the original sample.

⁶ For most countries, the surveys were completed before March 2020. For Romania, 92 percent of the interviews were completed before March 2020. Our results are similar when we exclude the 8 percent of observations from Romania that were collected in or after March 2020.

In all tables and analysis, we use sampling weights provided in the ES COVID-19 Follow-up Surveys to correct for unequal probability of selection as well as ineligibility for all reported statistics. We also rescale the sampling weights to give equal weight to all countries.

2.1 How many firms received government support and when?

Our sample includes 3,647 firms across 15 countries that reported whether they received government support in Rounds 1, 2, and 3 and reported changes in performance in Round 3. Table 1 reports the share of firms that received government support by survey round. About 4 in 10 firms reported receiving support in Round 1; in Round 2 and Round 3 the share of firms reported doing so drops to about a quarter. Cumulatively, by Round 3 just over half of firms (55 percent) reported having received support. The support measure reaching by far the largest share of firms was wage subsidies, with 44 percent of firms – or 8 out of 10 firms that received any type of support – receiving such subsidies. The second most wide-reaching measure was cash transfers (22 percent), followed by fiscal relief and payment deferrals (12 percent each). New credit was the least commonly reported support measure (8 percent). To minimize reverse causality in examining the relationship between firm performance in Round 3 and government support, we will focus on support in Rounds 1 and 2 in our analysis below. The relative ordering of the most common support measures is similar.

Table 2 also reports the share of firms that received government support but does so by the share of firms that received government support in each combination of rounds. Considering all three rounds (Panel A), firms could receive up to 3 rounds of support in 8 possible combinations: from receiving support in each of the three rounds to none. Most firms which received any government support did so only in Round 1: 20 percent of firms or about one-third of firms receiving support. This was followed by firms receiving support in all three rounds (9 percent), and Rounds 1 and 2 and Rounds 1 and 3 (7 percent each). The combinations of receiving support in Round 2 only, Round 3 only, or Rounds 2 and 3 was reported by fewer than 5 percent of firms each. About 45 percent of firms received no support at all. The ordering of combinations is proportional when considering only Rounds 1 and 2 (Panel B).

2.2 What are the firm characteristics and changes in performance during COVID-19?

Table 3 Panel A presents the summary statistics of firm background characteristics from the pre-COVID-19 ES. To measure productivity, we use labor productivity, defined as (log of) sales over total number of permanent full-time employees.⁷ Labor productivity is preferred to total factor productivity due to limitations in measuring non-labor inputs in the ES (World Bank 2021a). The average firm in our sample had a log of labor productivity of 10.59. At the same time, the average firm had 28 employees (2.62 in log units) and was 20 years old (2.88 in log units). Only 20 percent of the firms had a female top manager. The sample includes few firms with at least 10 percent state or foreign ownership (less than 1 and 7 percent, respectively). Less than half the firms reported that they had a loan (42 percent) or innovated a product or process during 2017 to 2019 (43 percent), but 65 percent owned a website. Most firms reported that their main market was national (48 percent) or local (41 percent) versus

⁷ In calculating labor productivity, the outliers are eliminated by first log-transforming total annual sales and the number of permanent full-time employees, and then trimming at plus and minus three standard deviations from the mean, as described in World Bank (2021a).

international (12 percent). Slightly over half the firms are in the service sector (53 percent), followed by manufacturing (27 percent) and retail (20 percent).

The ES COVID-19 Follow-up Surveys ask firms about changes in performance during the crisis, as well as expectations for the next months. Table 3 Panel B presents the summary statistics of firm performance by Round 3. Firms reported that their sales remained an average of 2 percent lower compared to the same month a year earlier. Round 3 surveys were typically conducted in mid-2021 (see Table A.1), meaning that firms reported their change in sales compared to mid-2020, a time when firms typically experienced steep declines in sales compared to pre-COVID-19 (Apedo-Amah and others 2020; Bruhn, Demirguc-Kunt, and Singer, forthcoming). Table A.1 also shows drops in sales reported in Round 1 and Round 2, which are all relative to the same month one year earlier. Taken together, the numbers suggest that, in mid-2021, sales of the average firm were still about 21 percent lower than before COVID-19. Unlike sales, employment outcomes in all rounds are measured compared to December 2019. The Round 3 data in Table 2 Panel B shows that the number of permanent full-time workers remained 15 percent lower compared to pre-COVID-19, with almost half of firms (47 percent) having decreased their number of workers. About 21 percent reported that they anticipated falling into arrears on outstanding liabilities in the next six months.

2.3 How are government support and firm characteristics correlated?

Table 4 presents the correlation coefficients between firms that received government support and firm characteristics. Overall, not many firm characteristics are consistently or significantly correlated with having received government support across different rounds of government support. While many firm characteristics are significantly correlated with having received government support in Round 1 or 2, many of these correlations turn insignificant when we unbundle government support into Round 1 versus Round 2 support. Large firms, and those with foreign ownership are more likely to have received support in both rounds, possibly because these firms have stronger political connections. Also, having a credit or loan, and having a website are characteristics that are positively correlated with receiving government support in both rounds. This may be because firms with an existing financial relationship and online presence may be better placed to apply for and receive government support electronically where this option is available.⁸

⁸ We also find inconsistent or insignificant associations between government support and firm characteristics when we consider a multivariate OLS regression controlling for the same firm characteristics and country fixed effects. These results differ from our earlier findings reported in Demirguc-Kunt, Bruhn, and Singer (forthcoming) where we show in a different sample of government support data—corresponding to Round 1 in 11 countries and Round 2 in 13 countries—that more productive firms were less likely to receive any COVID-19 government support.

3. Empirical Strategy

We examine the relationship between government support and firm performance by estimating the following regression specification with OLS⁹:

$$\begin{aligned} \text{Firm performance}_{ijk3} &= \beta_0 + \beta_1 \text{Government Support}_{ijkt} \\ &+ \beta_2 \text{Firm Characteristics}_{ijk0} + S_j + C_k + \varepsilon_{ijkt} \end{aligned} \quad (1)$$

where *Firm performance* of firm *i* in sector *j* and country *k* is captured by one of four variables: percentage change in sales; percentage change in employment; decreased employment; and anticipate falling into arrears. All firm performance variables are measured in Round 3 of the ES COVID-19 Follow-up Surveys.

Government Support is a vector of one or more indicator variables equal to one if the firm received any type of government support and equal to zero otherwise.¹⁰ We first use an indicator for having received government support in Round 1 or 2 of the ES COVID-19 Follow-up Surveys. Here, the coefficient β_1 represents the difference in Round 3 performance between firms that received support in Round 1 or 2 and firms that did not receive support in either of these rounds.

Next, we aim to unpack the role of government support in Round 1 versus Round 2. In this regression, we include three mutually exclusive indicators for government support: (i) receiving support only in Round 1, (ii) receiving repeated support in Rounds 1 and 2, and (iii) receiving support only in Round 2. This regression thus compares Round 3 performance of firms in these three categories to firms that did not receive any support in Rounds 1 and 2.

In identifying the causal effect of government support on firm performance, we face two main issues. The first is reverse causality. That is, government support may be determined by firm performance, for example if worse performing firms are more likely to receive support. We mitigate reverse causality by looking at firm performance one round after receiving government support, so that support is not directly influenced by firm performance. That is, we use Round 3 firm performance and government support in Round 1 and 2.

The second threat to identification is omitted variable bias. That is, other factors may determine both government support and firm performance. We mitigate omitted variable bias by controlling for firm background characteristics, as well as sector and country fixed effects (*S* and *C*, respectively). *Firm Characteristics* is a vector of firm-level background variables measured before the COVID-19 crisis, as described in Section 2 and Table 3 (at time $t = 0$). These variables may determine firm performance for the following reasons.

More productive, larger, and older firms may weather a crisis better because they are more established and have more financial and organizational resources to do so. These firms may also have strong

⁹ We chose a linear probability model since it is simpler and tends to yield similar marginal effects as a nonlinear model (Angrist and Pischke 2009). Our results are similar if we use a probit model to estimate the regressions with binary outcome variables.

¹⁰ One caveat in this analysis is that we do not know how much government assistance firms receive, but the amount of assistance has been shown to correlate with firm outcomes (Dvoulety and others 2021).

political connections. More innovative firms can be more likely to adapt to a crisis. State- or foreign-owned firms may be more resilient to crises through access to more resources, connections, or know-how. At the same time, state-owned firms may be less adaptable. Firms with pre-crisis credit may have easier access to finance during a crisis, allowing them to mitigate its impacts. With respect to gender, Liu, Wei, and Xu (2021) document that women-led businesses were more likely to close, close for longer, and anticipate falling into arrears than men-led businesses during the COVID-19 pandemic. We control for owning a website since Wagner (2021) shows that firms with a website were more likely to survive during the pandemic, potentially because the online presence allowed firms to interact with customers even when in-person contact was restricted. Finally, the location of the firm's main market (local, national, or international) may matter for performance during the pandemic since movement restrictions may have impacted firms with different main markets differently.

To further address omitted variable bias, we also run a robustness check controlling for management quality. This variable is not available for the full sample, which is why we include it only in the robustness check. Similarly, we run a robustness check controlling for firm performance in Rounds 1 and 2. Performance in Rounds 1 and 2 may have influenced the probability to getting support in Rounds 1 and 2 and could also be related to Round 3 performance due to persistence.

4. Results

Tables 5 and 6 show the results from estimating equation 1 to examine the relationship between receiving government assistance and firm performance. Our main finding emerging from this analysis is that firms that received government support in Round 1 performed better than firms that received no support, in terms of sales, but that subsequent support had no or a negative impact on firm performance.

The initial results in Table 5 show that firm performance is not correlated with having received any government support in Round 1 or 2. However, when we unbundle government support and control for Round 1 and 2 support separately in Table 6, firms that received support in Round 1 reported increased sales by Round 3 relative to one year ago (i.e., typically mid-2020). This result is driven by firms that received support in Round 1 only, doing so increased sales by 8 percentage points, compared to firms that received no support. Subsequent support in Round 2 – either as Round 1 and 2 support or Round 2 only – had no statistically significant effect on sales. In terms of employment outcomes, firms that received support only in Round 1 reported increased employment by 5 percentage points relative to December 2019, although this coefficient is not statistically significant. To the contrary, firms that also received support in Round 2 were more likely to decrease their employment relative to December 2019.

Tables 5 and 6 also show that government support is not correlated with a firm's likelihood of anticipating falling into arrears on outstanding liabilities in the next 6 months. What matters are a firm's productivity and age: more productive firms and older firms are less likely to anticipate falling into arrears.

Overall, our results suggest that the initial support provided to firms during the COVID-19 crisis helped firms, but there is no evidence that subsequent support did so. This pattern implies that if any support is provided, it should be phased out quickly.

5. Robustness Checks

5.1 What is the effect of government support on exit and non-response?

Our analysis in Section 4 uses the sample of firms for whom government support is observed in all three rounds of the ES COVID-19 Follow-up Surveys, thus dropping any firms that closed between rounds or that did not respond to the later survey rounds for other reasons. This section asks whether using this sample of responding firms could bias our results, which may be the case if there is a relationship between government support and exit or non-response.

We start by pointing out that confirmed exit rates are very low in our sample. Table A.3 shows exit rates for the sample of 4,279 firms that reported government support in both Rounds 1 and 2 (i.e., firms that had not closed by Round 2). Only 1 percent of these firms were confirmed to have exited by Round 3. The exit rate is higher, 9 percent, if we include firms that are assumed to have closed since they could not be contacted in Round 3. We also lose firms in our balanced sample due to interview refusal in Round 3 or not reporting government support in Round 3. In total, 19 percent of firms drop out of the sample of 4,279 for any of the reasons mentioned above (confirmed exit, assumed exit, interview refusal, and not reporting government support), giving 3,647 firms in our balanced sample.

Tables A.4 and A.5 follow the same format as Tables 5 and 6, to examine whether receiving government support in Rounds 1 and 2 is associated with subsequent firm exit or non-response to Round 3. We find no relationship between government support and confirmed firm exit. The only variable that shows a statistically significant correlation with confirmed exit is firm age, where older firms were less likely to exit than younger firms (Table A.4 Column 1). When also including assumed exit as the outcome, firms with a female top manager are more likely to exit and state-owned firms are less likely to exit (Table A.4 Column 2).

Column 3 of Tables A.4 and A.5 use an outcome variable that is equal to one if the firm was in Round 1 but is not in our balanced sample for any reason (confirmed exit, assumed exit, or non-response). Firms that received any support in Round 1 or 2 are less likely to drop out of the sample (Table A.4). However, this relationship does not persist when we break down government support by round (Table A.5).

Since government support does not consistently predict exit and non-response in our main regressions, we conclude that the analysis in Section 4, which uses a balanced panel to look at the effect of support on firm performance, likely does not suffer from non-response bias.

5.2 Controlling for the competition environment

Bruhn, Demirguc-Kunt, and Singer (forthcoming) show that countries' competition environment affected the reallocation of economic activity across firms during the COVID-19 crisis. Countries with a strong competition environment experienced more reallocation from less productive to more productive firms than countries with a weak competition environment. Here, we test whether the competition environment also influenced the relationship between government support and firm performance.

Following Bruhn, Demircuc-Kunt, and Singer (forthcoming), Table A.6 uses the 2020 Bertelsmann Stiftung Transformation Index (BTI) as a measure of competition. As in the earlier paper, we interact this measure with labor productivity (the main effect is subsumed in the country fixed effect). Importantly, we also add interaction terms of the BTI with our measures of government support. These interaction terms are not statistically significant in Table A.6. Thus, we do not find evidence that the relationship between government support and firm performance depends on the competition environment.

With respect to reallocation from less productive to more productive firms, the results in Table A.6 suggest that the effect of competition persists in the medium run. The interaction terms between the BTI and labor productivity are of a similar magnitude as in Bruhn, Demircuc-Kunt, and Singer (forthcoming), although the coefficient for “Anticipate falling into arrears” in Table A.6 is not statistically significant at conventional levels. The exception is that the coefficient for “Percentage change in sales” is much smaller than in Bruhn, Demircuc-Kunt, and Singer (forthcoming), which may be because the reference period here is different. In the short run, change in sales was relative to 2019, while change in sales here is relative to the previous year. That is, competition influenced the initial reallocation in sales from low to high productivity firms but did not determine additional reallocation. It is worth noting that this additional reallocation was also much smaller in magnitude, with the average percentage change in sales being -1.98 in the medium run (Table A.1), compared to -23.98 in Bruhn, Demircuc-Kunt, and Singer (forthcoming).

5.3 Using country-sector fixed effects

The analysis in Section 4 controls for country and sector fixed effects. Here, we do a robustness check with country-sector fixed effects since governments may have directed support to those sectors that were hit harder in their country.

Table A.7 replicates the results in Tables 5 and 6 but replacing country and sector fixed effects with country-sector fixed effects. The results are similar, showing that our findings are robust to controlling for country-sector fixed effects.

5.4 Controlling for management quality

Although the analysis in Table 5 and 6 controls for many firm characteristics, the findings could be subject to omitted variable bias. Most notably, an unobserved measure of firm quality could drive both the probability of receiving government support and subsequent firm performance. For example, firms with better managers may be more likely to apply for government support and may also perform better during a crisis. The ES include a measure of management quality, based on 11 questions that are aggregated following Grover and Karplus (2021) and Bloom et al. (2019). Unfortunately, the management quality measure is only available for firms with 20 or more employees. Table A.8 Panel A1 replicates the results from Table 5 in this smaller sample. As in Table 5, we find no statistically significant relationship between receiving government support in Round 1 or 2 and firm performance in Round 3. We then control for management quality in Panel A2 of Table A.8, which leaves the coefficients on Round 1 or 2 support basically unchanged.

Panel B1 in Table A.8 replicates Table 6 in the smaller sample for which management quality is available. Most findings are similar, except that receiving only Round 1 support is not positively related with change in sales in the sample of firms with 20 or more employees, suggesting that Round 1 support mostly benefitted smaller firms. Controlling for management quality in Panel B2 of Table A.8 changes the coefficients on government support very little.

Overall, the fact that accounting for management quality does not meaningfully change the results in Table A.8 alleviates concerns about omitted variable bias.

5.5 Controlling for firm performance in Rounds 1 and 2

Table A.9 accounts for the fact the government support in Round 1 or 2 may be related to contemporaneous firm performance. For example, firms that saw larger declines in sales in Round 1 may have been more likely to receive support in Round 1. This pattern could bias our results if there is persistence in firm performance over time. Columns 1 through 4 in Table A.9 replicate the results from Tables 5 and 6, controlling for four additional variables: the percentage changes in sales and employment reported in Rounds 1 and 2. Columns 5 through 8 take a slightly different approach, controlling instead for the Round 1 and 2 values of the outcome variable in the respective column.

The results in Table A.9 are consistent with our earlier findings. The effect of government support on sales in Round 3 is stronger, but still driven by Round 1 support only. There is weak evidence that receiving only Round 2 support increased employment in Round 3, but this effect is not robust. Receiving repeated support in Round 1 and 2 does not lead to better performance in Round 3.

5.6 Types of government support

So far, we have analyzed the relationship between any type of government support and Round 3 firm performance. In this subsection, we ask if this relationship varies with the type of government support received. We focus on the two most prominent types of support: wage subsidies and cash transfers, with the caveat that wage subsidies were more than twice as frequent as cash transfers. Table 1 illustrates that 40 percent of firms received wage subsidies by Round 2, with only 17 percent of firms receiving cash transfers.

Table A.10 looks at the relationship between receiving wage subsidies/cash transfers in Rounds 1 and 2 and firm performance in Round 3. Wage subsidies in Round 1 are associated with better sales performance in Round 3. The correlation between cash transfers and Round 3 sales is of the same magnitude as the one for wage subsidies, but it is not statistically significant, perhaps since fewer firms received cash transfers, lowering statistical power for detecting their effects. We can thus not draw any strong conclusions regarding the relative effects of wage subsidies and cash transfers.

Table A.10 also shows that continued support in Rounds 1 and 2 is associated with worse employment outcomes in Round 3. Support in Round 2 is not correlated with Round 3 performance. These findings are consistent with our results from Section 4, supporting the argument that any support should be given promptly and phased out quickly.

6. Conclusion

We use data from three rounds of ES COVID-19 Follow-up Surveys for 15 emerging markets and developing economies in ECA to assess the effect of government support during the COVID-19 crisis on firm performance by mid-2021, over a year after support measures were first enacted. We first document that 42 percent of firms received government support by Round 1 of the survey and 23 percent received support between Rounds 1 and 2, for a cumulative 50 percent of firms that received government support.

We find that the effect of government support on firm performance varies with the timing of the support. Firms that received support in Round 1 performed better in terms of Round 3 sales, but only if they did not have continued support in Round 2. Firms that received support in Round 2 had a similar sales performance in Round 3 and were more likely to decrease employment than those that received no support.

Overall, these results suggest that during economic crises such as the COVID-19 pandemic, government support should be provided to firms quickly, but that it should also be phased out quickly. Doing so ensures that support measures help firms weather the crisis but do not delay insolvencies for firms that may no longer be competitive. This conclusion is consistent with the notion that fiscal stimulus should be timely and temporary (Elmendorf and Furman 2008). In practice, responses to previous crises have often been implemented too slowly and were not rolled back fully, leading to increasingly higher government spending (Taylor and Castillo O'Sullivan 2015).

By mid-2021 the COVID-19 crisis was still ongoing. An avenue for future research is to investigate the effects of government support measures during the COVID-19 crisis on long-run firm performance once such data becomes available. To help inform the government response to future crises, researchers could also try to examine the relative merit of different firm support measures such as wage subsidies compared to cash subsidies.

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Table 1: Government Support by Survey Round

Variable	Round 1		Round 2		Round 3	
	Obs	Mean	Obs	Mean	Obs	Mean
Per round						
Received government support	3,647	0.42	3,647	0.23	3,647	0.25
Cash transfer	3,635	0.13	3,644	0.05	3,645	0.08
Payment deferrals	3,639	0.06	3,645	0.03	3,645	0.04
New Credit	3,638	0.05	3,645	0.02	3,646	0.02
Fiscal relief	3,634	0.06	3,644	0.04	3,646	0.05
Wage subsidies	3,643	0.32	3,643	0.17	3,645	0.19
Cumulative						
Received government support			3,647	0.50	3,647	0.55
Cash transfer			3,633	0.17	3,637	0.22
Payment deferrals			3,636	0.09	3,635	0.12
New Credit			3,636	0.07	3,635	0.08
Fiscal relief			3,631	0.09	3,635	0.12
Wage subsidies			3,638	0.40	3,640	0.44

Source: Enterprise Surveys COVID-19 Follow-up Surveys.

Notes: Includes the 3,647 firms that reported whether they received government support in Rounds 1, 2, and 3. Some firms did not specify the type of support, which is why the number of observations varies.

Table 2: Number of Government Support Rounds Received

No. of Rounds	Rounds	Obs	Mean
Considering all 3 Rounds			
3	All 3 Rounds	3,647	0.09
2	Rounds 1 and 2	3,647	0.07
2	Rounds 1 and 3	3,647	0.07
2	Rounds 2 and 3	3,647	0.05
1	Round 1 only	3,647	0.20
1	Round 2 only	3,647	0.03
1	Round 3 only	3,647	0.05
0	No Rounds	3,647	0.45
Considering Rounds 1 and 2 only			
2	Rounds 1 and 2	3,647	0.15
1	Round 1 only	3,647	0.27
1	Round 2 only	3,647	0.08
0	No Rounds	3,647	0.50

Source: Enterprise Surveys COVID-19 Follow-up Surveys.

Note: Includes the 3,647 firms that reported whether they received government support in Rounds 1, 2, and 3.

Table 3: Firm Characteristics and Performance Summary Statistics

Variable	Obs	Mean	SD	p10	p90	Min	Max
<i>a. Firm characteristics (2019)</i>							
Log(labor productivity)	3,647	10.59	1.20	8.98	12.01	3.95	16.45
Log(number of employees)	3,647	2.62	0.97	1.61	3.93	0.00	7.16
Log(firm age)	3,647	2.88	0.55	2.08	3.40	0.69	5.03
Top manager female	3,647	0.20					
Innovated during 2017-19	3,647	0.43					
State ownership (10%)	3,647	0.00					
Foreign ownership (10%)	3,647	0.07					
Has line of credit or loan	3,647	0.42					
Owns a website	3,647	0.65					
<i>Main market</i>							
Local	3,647	0.41					
National	3,647	0.48					
International	3,647	0.12					
<i>Sector</i>							
Manufacturing	3,647	0.27					
Retail	3,647	0.20					
Other services	3,647	0.53					
<i>b. Firm performance (Round 3)</i>							
Percentage change in monthly sales relative to one year earlier	3,507	-1.99	33.91	-40.00	25.00	-100.00	400.00
Percentage change in number of permanent full-time workers since December 2019	3,546	-14.60	51.38	-80.00	28.57	-200.00	200.00
Reduced number of permanent full-time workers since December 2019	3,546	46.96					
Anticipate falling into arrears on outstanding liabilities in the next 6 months	3,247	20.85					

Sources: Enterprise Surveys and Enterprise Surveys COVID-19 Follow-up Surveys.

Note: In our sample, the percentage of firms who have state ownership (10%) is 0.17 percent.

Table 4: Correlations between government support and firm characteristics

	Government support			
	Round 1 or 2	Round 1 only	Rounds 1 and 2	Round 2 only
Log(labor productivity)	0.015	0.028*	0.030*	-0.060***
Log(number of employees)	0.050***	0.005	0.064***	-0.002
Log(firm age)	-0.003	0.032*	-0.013	-0.039**
Top manager female	0.001	-0.004	-0.010	0.021
Innovated during 2017-19	0.060***	0.031*	0.025	0.025
State ownership (10%)	-0.022	-0.006	-0.008	-0.020
Foreign ownership (10%)	0.028*	-0.011	0.053***	-0.001
Has line of credit or loan	0.056***	0.019	0.038**	0.019
Owens a website	0.086***	0.039**	0.079***	-0.013
Local market dummy	-0.076***	-0.072***	-0.019	0.005
National market dummy	0.029*	0.041**	-0.001	-0.013
International market dummy	0.056***	0.035**	0.025	0.011
Manufacturing sector	0.032*	0.042**	-0.008	0.001
Retail sector	-0.059***	-0.035**	-0.022	-0.021
Other services sector	0.015	-0.016	0.027*	0.017

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: Correlations matrix based on 3,647 observations. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Combined Effect of Round 1 or 2 Support on Round 3 Performance

	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
Received any support in Round 1 or 2	4.315 (3.739)	1.013 (2.516)	1.476 (2.357)	2.669 (3.412)
Log(labor productivity)	1.547* (0.768)	1.688 (2.653)	-2.883 (2.180)	-2.730*** (0.825)
Log(number of employees)	1.362 (1.022)	3.499 (2.068)	2.157* (1.053)	-1.242 (1.017)
Log(firm age)	-2.071 (2.188)	0.668 (2.694)	-0.146 (2.095)	-8.339*** (2.004)
Top manager female dummy	-0.219 (3.123)	2.601 (3.955)	1.627 (2.649)	-1.188 (1.889)
Innovated during 2017-19	-0.839 (1.704)	1.464 (5.135)	-0.458 (4.828)	2.908 (2.412)
State ownership (10%)	-10.590 (8.382)	-10.220 (24.472)	-9.962 (17.058)	-7.598 (10.223)
Foreign ownership (10%)	-1.441 (4.724)	8.682 (13.390)	-5.473 (8.920)	-5.805 (5.457)
Has line of credit or loan	1.634 (2.157)	2.041 (2.591)	1.431 (1.921)	-0.096 (2.586)
Owens a website	2.244 (2.000)	-1.305 (4.110)	2.697 (3.838)	0.858 (2.932)
National market dummy	4.945* (2.540)	-0.180 (5.171)	-0.521 (4.276)	2.157 (3.454)
International market dummy	3.991 (3.942)	-6.101 (7.897)	1.691 (4.999)	-2.143 (4.544)
Constant	-22.878* (12.041)	-40.982 (29.101)	67.940** (23.510)	74.194*** (9.539)
R ²	0.049	0.101	0.060	0.229
Number of observations	3,507	3,546	3,546	3,247

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include sector and country fixed effects. Standard errors are clustered at the country level. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 6: Separate Effects of Round 1 and 2 Support on Round 3 Performance

	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
Received in Round 1 only dummy	8.415** (3.821)	4.972 (3.445)	-1.915 (3.197)	3.757 (5.190)
Received in Rounds 1 and 2 dummy	0.655 (4.475)	-4.233 (3.947)	8.670** (3.605)	3.017 (3.009)
Received in Round 2 only dummy	-0.849 (7.075)	-1.776 (4.657)	-0.192 (4.313)	-0.599 (4.826)
R ²	0.055	0.104	0.065	0.230
Number of observations	3,507	3,546	3,546	3,247

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include sector and country fixed effects, as well as the control variables listed in Table 5. Standard errors are clustered at the country level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix

**Table A.1: Completion Dates of Survey Fieldwork for the World Bank Enterprise Surveys
(with average percentage change in sales relative to one year earlier)**

Country	ES Baseline	Round 1		Round 2		Round 3	
		ES COVID-19 Survey date	Percentage change in sales	ES COVID-19 Survey date	Percentage change in sales	ES COVID-19 Survey date	Percentage change in sales
Armenia	December 2020	April 2021	-23.14	November 2021	3.31	April 2022	0.39
Bulgaria	March 2020	September 2020	-21.56	December 2020	-20.80	May 2021	-6.85
Croatia	November 2019	September 2020	-16.78	January 2021	-17.09	June 2021	5.39
Czechia	March 2020	October 2020	-15.27	February 2021	-22.27	June 2021	-5.80
Estonia	January 2020	October 2020	-10.94	February 2021	-10.91	August 2021	8.45
Georgia	January 2020	June 2020	-45.97	November 2020	-27.81	October 2021	-3.99
Hungary	March 2020	September 2020	-15.34	February 2021	-14.67	June 2021	0.98
Latvia	January 2020	November 2020	-8.65	February 2021	-20.03	August 2021	-7.01
Lithuania	January 2020	October 2020	-14.00	February 2021	-28.89	August 2021	-9.31
Moldova	November 2019	May 2020	-58.91	November 2020	-28.43	June 2021	-10.27
North Macedonia	October 2019	November 2020	-26.91	June 2021	-2.48	January 2022	-5.49
Poland	December 2019	August 2020	-14.52	December 2020	-14.84	June 2021	-5.00
Romania	June 2020	September 2020	-17.32	December 2020	-10.67	June 2021	6.25
Slovak Republic	March 2020	October 2020	-13.33	February 2021	-24.70	June 2021	-4.54
Slovenia	November 2019	August 2020	-11.59	December 2020	-12.08	June 2021	7.10
			-20.95		-16.82		-1.98

Note: Dates shown are for the last completed survey for each round in a country. For Romania, 92% of the ES Baseline interviews were completed before March 2020.

Table A.2: Description of Main and Control Variables

Variable	Description
Received government support	Equals 1 if firm received any national or local government assistance provided in response to the COVID-19 outbreak and 0 otherwise.
Cash transfer	Equals 1 if the government support received by firm was a cash transfer and 0 otherwise.
Payment deferrals	Equals 1 if the government support received by firm was a payment deferral and 0 otherwise.
New Credit	Equals 1 if the government support received by firm was new credit and 0 otherwise.
Fiscal relief	Equals 1 if the government support received by firm was fiscal relief and 0 otherwise.
Wage subsidies	Equals 1 if the government support received by firm was wage subsidies and 0 otherwise.
Received any support in Round 1 or 2	Equals 1 if firm received any government support during Round 1 or 2
Received any support in Round 1	Equals 1 if firm received any government support during Round 1
Received any support in Round 2	Equals 1 if firm received any government support during Round 2
Received in all 3 Rounds dummy	Equals 1 if firm received any government support during all 3 Rounds
Received in Rounds 1 and 2 dummy	Equals 1 if firm received any government support during Rounds 1 and 2 only
Received in Rounds 1 and 3 dummy	Equals 1 if firm received any government support during Rounds 1 and 3 only
Received in Rounds 2 and 3 dummy	Equals 1 if firm received any government support during Rounds 2 and 3 only
Received in Round 1 only dummy	Equals 1 if firm received any government support during Round 1 only

Received in Round 2 only dummy	Equals 1 if firm received any government support during Round 2 only
Received in Round 3 only dummy	Equals 1 if firm received any government support during Round 3 only
No Rounds dummy (did not receive any support at all)	Equals 1 if firm did not receive any government support at all
Log(labor productivity)	Log of annual sales divided by the number of full-time permanent employees (in USD 2009)
Log(number of employees)	Log of total number of full-time employees
Log(firm age)	Log of number of years that the firm has been operating.
Top manager female	Equals 1 if firm's top manager is female and 0 otherwise.
Innovated during 2017-19	Equals 1 if firm innovated a product or process in the last 3 years and 0 otherwise.
State ownership (10%)	Equals 1 if firm is at least 10% state owned and 0 otherwise.
Foreign ownership (10%)	Equals 1 if firm is at least 10% foreign owned and 0 otherwise.
Has line of credit or loan	Equals 1 if firm has line of credit or bank loans and 0 otherwise
Owns a website	Equals 1 if firm has its own website and 0 otherwise.
Local market	Equals 1 if firm's main product is sold mostly in same municipality where firm is located and 0 otherwise.
National market	Equals 1 if firm's main product is sold mostly across the country where the firm is located and 0 otherwise.
International market	Equals 1 if firm's main product is sold mostly internationally and 0 otherwise.
Manufacturing	Equals 1 if firm is in the manufacturing sector and 0 otherwise.
Retail	Equals 1 if firm is in the retail sector and 0 otherwise.
Other services	Equals 1 if firm is in the selected services sector, excluding retail, and 0 otherwise.

Percentage change in monthly sales relative to one year earlier	Average percentage change in monthly sales compared to the same month one year earlier
Percentage change in number of permanent full-time workers since December 2019	Average percentage change in permanent full-time workers since December 2019. The formula is: $((a1-a0)/[(a1+a0)/2])*100$; where $a1$ = permanent full-time workers, end of last completed month & $a0$ = permanent full-time workers, end of December 2019
Reduced number of permanent full-time workers since December 2019	Equals 100 if firm reduced number of permanent full-time workers since December 2019 and 0 otherwise.
Anticipate falling into arrears on outstanding liabilities in the next 6 months	Equals 100 if firm anticipates falling into arrears on outstanding liabilities in the next 6 months and 0 otherwise.

Table A.3: Exit Rates between Rounds 2 and 3

Exit measure	Obs	Mean
Confirmed exit	4279	0.01
Assumed exit	4279	0.09
Did not answer Round 3	4279	0.19

Source: Enterprise Surveys COVID-19 Follow-up Surveys.

Table A.4: Combined Effect of Round 1 or 2 Support on Round 3 Exit

	Probability of being Confirmed Permanently Closed by Round 3	Probability of being Confirmed or Assumed Permanently Closed by Round 3	Probability of dropping out of exit sample and not making it to 3647 baseline sample
Received any support in Round 1 or 2	-0.004 (0.005)	-0.016 (0.021)	-0.026* (0.012)
Log(labor productivity)	-0.006 (0.005)	0.006 (0.005)	0.014** (0.006)
Log(number of employees)	-0.001 (0.002)	-0.002 (0.008)	-0.010 (0.013)
Log(firm age)	-0.008* (0.004)	-0.004 (0.011)	-0.027 (0.019)
Top manager female dummy	0.005 (0.004)	0.040* (0.022)	0.040 (0.027)
Innovated during 2017-19	0.004 (0.006)	-0.011 (0.012)	-0.008 (0.023)
State ownership (10%)	-0.000 (0.005)	-0.046** (0.020)	-0.127** (0.055)
Foreign ownership (10%)	-0.003 (0.002)	-0.001 (0.051)	0.095 (0.061)
Has line of credit or loan	0.001 (0.003)	0.019 (0.016)	0.011 (0.023)
Owens a website	-0.002 (0.005)	0.012 (0.013)	0.034* (0.018)
National market dummy	-0.002 (0.004)	-0.011 (0.011)	0.003 (0.014)
International market dummy	-0.004 (0.007)	0.034 (0.036)	0.055 (0.040)
Constant	0.109 (0.066)	0.029 (0.080)	0.093 (0.075)
R ²	0.035	0.146	0.134
Number of observations	4,279	4,279	4,279

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include sector and country fixed effects. Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.5: Separate Effects of Round 1 and 2 Support on Round 3 Exit

	Probability of being confirmed permanently closed by Round 3	Probability of being confirmed or assumed permanently closed by Round 3	Probability of dropping out of exit sample and not making it to 3647 baseline sample
Received in Round 1 only dummy	-0.003 (0.005)	-0.020 (0.021)	-0.023 (0.016)
Received in Rounds 1 and 2 dummy	-0.007 (0.008)	-0.002 (0.020)	-0.008 (0.030)
Received in Round 2 only dummy	-0.001 (0.004)	-0.025 (0.046)	-0.061 (0.046)
R ²	0.035	0.146	0.135
Number of observations	4,279	4,279	4,279

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys

Notes: All regressions are ordinary least squares and include sector and country fixed effects, as well as the control variables listed in Table A.4 Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.6: Effects of Round 1 and 2 Support on Round 3 Performance (with BTI Interaction Variables)

	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
<i>Panel A: Combined effect of Round 1 or 2 support</i>				
Received any support in Round 1 or 2	4.316 (3.708)	1.303 (2.716)	1.278 (2.135)	2.899 (3.863)
Received any support in Round 1 or 2 * BTI	-0.290 (2.278)	-0.757 (2.907)	-0.982 (1.761)	-1.035 (3.065)
Log(labor productivity)	1.479** (0.683)	2.340 (2.404)	-3.799* (1.873)	-2.872*** (0.767)
Log(labor productivity)*BTI market organization	-0.188 (0.702)	1.938 (1.187)	-2.662** (1.007)	-0.881 (0.687)
R ²	0.049	0.103	0.065	0.230
Number of observations	3,507	3,546	3,546	3,247
<i>Panel B: Separate effects of Round 1 and 2 support</i>				
Received in Round 1 only dummy	8.686** (3.793)	5.478 (3.778)	-2.105 (3.071)	4.227 (5.183)
Received in Rounds 1 and 2 dummy	0.984 (4.209)	-2.906 (3.767)	7.803** (3.184)	4.493 (3.187)
Received in Round 2 only dummy	-0.469 (7.043)	-1.538 (4.585)	-0.433 (4.250)	-0.404 (4.566)
Received in Round 1 only dummy * BTI	-1.000 (1.907)	-0.680 (3.757)	-1.615 (2.408)	-1.445 (3.679)
Received in Rounds 1 and 2 dummy * BTI	-0.911 (3.671)	-2.880 (2.804)	0.456 (2.136)	-3.113 (2.895)
Received in Round 2 only dummy * BTI	2.876 (5.175)	2.747 (3.521)	-3.061 (2.850)	0.887 (3.530)
Log(labor productivity)	1.586** (0.629)	2.416 (2.363)	-3.741* (1.899)	-2.724*** (0.775)
Log(labor productivity)*BTI market organization	-0.184 (0.734)	1.944 (1.211)	-2.638** (0.999)	-0.905 (0.710)
R ²	0.057	0.107	0.070	0.231
Number of observations	3,507	3,546	3,546	3,247

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys; Bertelsmann Stiftung Transformation Index (BTI) 2020.

Notes: All regressions are ordinary least squares and include sector and country fixed effects, as well as the controls listed in Table A.4. BTI market organization is based on responses to the question: "To what level have the fundamentals of market-based competition developed?" BTI market organization is centered on its mean to facilitate interpretation of the coefficients. Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.7: Effects of Round 1 and 2 Support on Round 3 Performance (Using Country-Sector Fixed Effects)

	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
<i>Panel A: Combined effect of Round 1 or 2 Support</i>				
Received any support in Round 1 or 2	4.374 (3.601)	1.233 (2.530)	2.035 (2.514)	2.554 (3.279)
R ²	0.074	0.133	0.082	0.242
Number of observations	3,507	3,546	3,546	3,247
<i>Panel B: Separate effects of Round 1 and 2 Support</i>				
Received in Round 1 only dummy	8.011* (3.776)	4.668 (3.360)	-0.937 (3.186)	3.577 (5.097)
Received in Rounds 1 and 2 dummy	0.562 (4.659)	-4.249 (3.975)	8.626** (3.855)	3.262 (2.934)
Received in Round 2 only dummy	0.465 (6.316)	0.173 (4.443)	0.084 (4.894)	-1.134 (4.650)
R ²	0.080	0.136	0.085	0.243
Number of observations	3,507	3,546	3,546	3,247

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include country-sector fixed effects, as well as the controls listed in Table A.4. Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.8: Effects of Round 1 and 2 Support on Round 3 Performance (Controlling for Management Quality)

	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
<i>Panel A1: Combined effect of Round 1 or 2 support (comparison sample, not controlling for management quality)</i>				
Received any support in Round 1 or 2	-0.875 (2.728)	0.297 (4.847)	6.877 (4.610)	3.209 (4.694)
R ²	0.106	0.107	0.086	0.255
Number of observations	1,813	1,821	1,821	1,714
<i>Panel A2: Combined effect of Round 1 or 2 support (controlling for management quality)</i>				
Received any support in Round 1 or 2	-0.805 (2.727)	0.284 (4.796)	7.034 (4.522)	3.059 (4.559)
Management quality	-4.275 (5.604)	0.597 (9.526)	-7.181 (12.336)	5.272 (5.673)
R ²	0.107	0.107	0.086	0.256
Number of observations	1,813	1,821	1,821	1,714
<i>Panel B1: Separate effects of Round 1 and 2 support (Comparison sample, not controlling for management quality)</i>				
Received in Round 1 only dummy	-0.455 (2.298)	3.859 (3.498)	6.407 (5.476)	3.535 (5.059)
Received in Rounds 1 and 2 dummy	3.354 (3.802)	-4.641 (7.816)	12.123 (6.990)	8.679* (4.818)
Received in Round 2 only dummy	-6.756 (4.889)	0.264 (7.516)	0.963 (4.930)	-4.856 (5.965)
R ²	0.112	0.111	0.088	0.261
Number of observations	1,813	1,821	1,821	1,714
<i>Panel B2: Separate effects of Round 1 and 2 support (Controlling for management quality)</i>				
Received in Round 1 only dummy	-0.378 (2.303)	3.846 (3.403)	6.524 (5.377)	3.360 (4.942)
Received in Rounds 1 and 2 dummy	3.463 (3.814)	-4.660 (7.861)	12.300* (6.950)	8.529* (4.679)
Received in Round 2 only dummy	-6.727 (4.884)	0.241 (7.426)	1.171 (4.928)	-4.910 (5.901)
Management quality	-4.541 (5.561)	0.781 (9.494)	-7.186 (12.417)	4.934 (5.558)
R ²	0.113	0.111	0.089	0.262
Number of observations	1,813	1,821	1,821	1,714

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include sector and country fixed effects, as well as the controls listed in Table A.4. Management quality is only available for firms with 20 or more employees. Panels A1 and B1 show our main results (from Tables 5 and 6) in this smaller sample. Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.9: Effects of Round 1 and 2 Support on Round 3 Performance (Controlling for Round 1 and 2 Performance)

	Controlling for Sales and Employment				Controlling for Outcome Variables			
	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
<i>Panel A: Combined effect of Round 1 or 2 support</i>								
Received support in Round 1 or 2	7.522** (2.801)	3.454 (3.308)	-3.148 (3.790)	-0.161 (3.126)	7.413** (2.908)	2.099 (3.088)	0.935 (2.818)	0.332 (2.790)
R ²	0.103	0.302	0.195	0.239	0.098	0.321	0.307	0.333
Number of observations	3,208	3,273	3,273	3,005	3,295	3,474	3,489	2,868
<i>Panel B: Separate effects of Round 1 and 2 support</i>								
Received in Round 1 only dummy	9.550** (3.260)	3.862 (3.211)	-3.188 (3.176)	1.906 (4.549)	9.661** (3.280)	2.853 (3.372)	1.689 (2.953)	1.158 (4.108)
Received in Rounds 1 and 2 dummy	6.130 (3.919)	-0.694 (5.306)	2.417 (4.779)	0.061 (3.317)	5.740 (4.030)	-1.791 (4.026)	4.826 (3.956)	0.550 (2.585)
Received in Round 2 only dummy	3.899 (5.603)	8.418* (4.727)	-11.261 (7.606)	-6.129 (3.677)	3.563 (5.742)	5.932 (4.859)	-7.130* (3.990)	-2.270 (3.723)
R ²	0.105	0.304	0.199	0.241	0.100	0.322	0.310	0.334
Number of observations	3,208	3,273	3,273	3,005	3,295	3,474	3,489	2,868

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include sector and country fixed effects, as well as the controls listed in Table A.4. Columns 1 through 4 include four additional controls: Percentage change in sales in Round 1, percentage change in sales in Round 2, percentage change in employment in Round 1, and percentage change in employment in Round 2. Instead, Columns 5 includes percentage change in sales in Round 1 and percentage change in sales in Round 2, while Columns 6 includes percentage change in employment in Round 1 and percentage change in employment in Round 2; Column 7 includes decreased employment in Round 1 and decreased employment in Round 2; and Column 8 includes anticipate falling into arrears in Round 1 and anticipate falling into arrears in Round 2. Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.10: Effects of Round 1 and 2 Support on Round 3 Performance (Wage Subsidies and Cash Transfers)

	Wage Subsidies				Cash Transfers			
	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears	Percentage change in sales	Percentage change in employment	Decreased employment	Anticipate falling into arrears
<i>Panel A: Combined effect of Round 1 or 2 support</i>								
Received support in Round 1 or 2	3.986 (2.755)	1.922 (3.874)	2.552 (2.809)	3.043 (3.099)	6.441 (4.062)	2.603 (3.552)	-0.242 (3.094)	6.182 (6.060)
R ²	0.048	0.101	0.061	0.228	0.049	0.101	0.061	0.228
Number of observations	3,500	3,538	3,538	3,241	3,495	3,533	3,533	3,241
<i>Panel B: Separate effects of Round 1 and 2 support</i>								
Received in Round 1 only dummy	7.526** (2.596)	2.334 (3.075)	1.353 (2.741)	3.646 (4.830)	8.803 (5.950)	5.651 (5.653)	-4.382 (3.838)	8.984 (9.526)
Received in Rounds 1 and 2 dummy	0.573 (4.910)	-3.826 (6.042)	11.988* (5.612)	2.326 (3.214)	-5.336 (8.283)	-17.262 (10.063)	13.165 (8.215)	-4.497 (5.713)
Received in Round 2 only dummy	-0.822 (5.810)	4.111 (8.623)	-0.045 (4.642)	1.416 (4.217)	7.912 (5.546)	1.813 (3.349)	4.092 (5.681)	4.023 (5.435)
R ²	0.053	0.102	0.064	0.228	0.053	0.104	0.063	0.229
Number of observations	3,501	3,539	3,539	3,241	3,494	3,532	3,532	3,241

Sources: Enterprise Surveys COVID-19 Follow-up Surveys and Enterprise Surveys.

Notes: All regressions are ordinary least squares and include sector and country fixed effects, as well as the controls listed in Table A.4. Standard errors are clustered at the country level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.