

Does Better Access to Finance Help Firms Deal with the COVID-19 Pandemic?

Evidence from Firm-Level Survey Data

Mohammad Amin

Domenico Viganola



WORLD BANK GROUP

Development Economics

Global Indicators Group

June 2021

Abstract

The advent of the novel coronavirus (COVID-19) pandemic has led to a severe liquidity crunch among private firms. Yet, formal analysis of the impact of a liquidity crunch or access to finance on the performance of firms during the pandemic is limited. The present paper estimates the impact of access to finance in the period before the pandemic on the likelihood of a decline in sales of the firm during the pandemic. The results show a strong connection between the two. That is, firms with better access to finance are significantly less likely to experience a decline in sales, and this relationship is highly heterogeneous. First, better access to finance reduces the likelihood of a decline in sales much more for firms that have a stronger long-standing relationship with important stakeholders such as skilled workers and input

suppliers. These are firms that use more skilled relative to unskilled workers, firms in industries with a more complex network of input suppliers, and firms in countries where the cost of enforcing contracts with new input suppliers is high. Second, the impact of access to finance is less among firms that use more women relative to men workers. This is especially so in countries or societies that accord a higher value to women's caregiving role than to their work outside the home. The paper argues that both of these heterogeneities are along expected lines and derive from the specific ways in which access to finance benefits firms in fighting the pandemic. Thus, they help to raise confidence against endogeneity concerns about the main results.

This paper is a product of the Global Indicators Group, Development Economics. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at <http://www.worldbank.org/prwp>. The authors may be contacted at mamin@worldbank.org.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Does Better Access to Finance Help Firms Deal with the COVID-19 Pandemic? Evidence from Firm-Level Survey Data

Mohammad Amin^a and Domenico Viganola^b

Keywords: COVID-19, Access to Finance, Sales, Firm performance, Pandemic
JEL Codes: D22, G00, G10, L23, L25

^a Corresponding author. Senior Economist, Enterprise Analysis Unit, DECEA, World Bank, Washington, DC. Email: mamin@worldbank.org

^b Consultant, Enterprise Analysis Unit, DECEA, World Bank, Washington, DC. Email: dviganola@worldbank.org

The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

We thank the Enterprise Analysis Unit of the Development Economics Global Indicators Department of the World Bank Group for making the data available.

We would like to thank Jorge Luis Rodriguez Meza and Norman Loayza for providing very helpful comments. All remaining errors are our own.

1. Introduction

The novel coronavirus (COVID-19) pandemic has led to sharp disruption of economic activity across the globe. Lockdown and social distancing measures implemented by governments to limit the spread of the virus have forced many industries to cut production or shut down. Yet, there is lack of understanding about the way in which the pandemic affects private firms. Without this understanding, it is difficult to design policies to help private firms cope with the crisis. The present paper attempts to fill this gap in the literature by analyzing the relationship between firms' financial condition or access to finance prior to the shock and decline in sales during the pandemic. We focus on financial condition in the pre-pandemic period as this is relatively exogenous to the pandemic while correlated with the current financial condition of the firm. Our results point to a strong connection between the two. We find that the overall decline in sales during the pandemic is significantly lower for firms with better access to finance. However, this effect of access to finance is highly heterogeneous along predicted lines. The heterogeneities relate to the interplay between access to finance and two important aspects of the pandemic. The first aspect is the temporary nature of the pandemic that incentivizes firms to preserve their long-standing relationship with important stakeholders (skilled workers and intermediate inputs suppliers). The second aspect is the contraction in female relative to male labor supply due to school closures and the collapse of extra household child-care support. These heterogeneities are specific to the way access to finance affects firms' ability to fight against the pandemic and therefore unlikely to hold if access to finance were a mere proxy for other correlated factors. Thus, in the spirit of Rajan and Zingales (1998), the heterogeneities serve to raise our confidence against endogeneity concerns with our main result.

There is a growing body of work on the impact of the COVID-19 pandemic (henceforth, pandemic) on the private sector. This body of work suggests that the impact has been overwhelming. For instance, in the 34 countries included in the present study, about 69 percent of the private firms experienced a decline in sales in the last year, which overlaps with the pandemic period (post March 2020; henceforth, during the pandemic). The decline in sales averaged 28 percent of the pre-pandemic level among all firms, and about 44 percent among firms that experienced a decline. On the finance front, several studies have documented plummeting corporate revenues, dwindling cash flows, and depleted working capital due to the ongoing pandemic (Didier et al. 2020, Schivardi and Romano 2020, De Vito and Gomez 2020). External sources of finance such as banks and private investors are also restricted due to heightened uncertainty, lower profit margins, and difficulty in assessing firms' effectiveness in dealing with the pandemic. All in all, firms are facing a severe liquidity crunch which has forced them to cut production and postpone investments.

The problem of liquidity crunch has been discussed in the emerging literature on COVID-19, although not in a rigorous way (see for example, Acharya and Steffen 2020, Didier et al. 2020, Beck et al. 2020, Apedoh-Amah et al. 2020, Bartik et al. 2020, Bircan et al. 2020, Zhang 2020, OECD 2020a, and Boot et al. 2020). For instance, Acharya and Steffen (2020) argue that if the access to (committed) sources of liquidity helps firms to better weather the unexpected shock of the crisis, then stock prices should reflect it and the stock price performance should be better for those firms that have secured ex-ante access to liquidity. They confirm this intuition for a large sample of firms in the United States. For the case of China, Zhang (2020) estimates the percentage of SMEs that are expected to become bankrupt due to liquidity problems induced by COVID-19. They find that such firms account for 16.4 percent of all SMEs in the country and 13 percent of

national employment. Using data on mid-size and large publicly listed companies in the United Kingdom, Button et al. (2020) estimate that 60 percent of the sample firms suffer from a cash-flow deficit during the pandemic, more than double the level in the pre-pandemic period. They estimate the amount of cash-flow deficit at £160 billion during the pandemic versus about £80 billion in the pre-pandemic period. Bircan et al. (2020) use firm-level survey data on SMEs in 19 mostly emerging economies. Their estimates show that in many countries, cash buffers for most firms during the pandemic are lower than the predicted normal level. For instance, 60-80 percent of SMEs in Lithuania, Ukraine, and Morocco have below normal (pre-pandemic) cash buffers; and in most countries and for most firms, available cash buffers cover at most 2 months of the expected labor costs. Similarly, Brucal et al. (2020) use firm-level survey data collected by the World Bank and find that nearly two-thirds of the South Asian firms are likely to fall into arrears during the current pandemic. However, the impact of liquidity constraint on the performance of firms during the COVID-19 crisis remains to be properly explored. There are indications from earlier crises that liquidity is likely to play an important role (see for example Blalock et al. 2008, Campello et al. 2010, Duchin et al. 2010, Chodorow-Reich 2014, and Duygan-Bump et al. 2015).

The present paper contributes to the literature mentioned above in several ways. First, we highlight the importance of firms' access to finance on their ability to deal with the problems imposed by the pandemic, an important yet relatively under-explored issue. Second, we use firm-level survey data that allows us to control for heterogeneity across data points within a country. Third, we show that the impact of access to finance on the decline in sales during the pandemic is far from uniform. It varies depending on skill intensity of the workforce, how difficult it is for firms to establish a relationship with their suppliers, and the gender composition of the workforce. We argue below that these heterogeneities are consistent with a priori predictions about how access

to finance affects firms' ability to fight against the pandemic. Last, we pay due attention to endogeneity concerns with our main result. We do so by using the access to finance condition of the firms in the pre-pandemic period (pre-determined); by proxying a firm's financial condition with the financial condition of all other firms in the same country-industry cell, a strategy often used in the literature; by using a large number of controls including country fixed effects, industry fixed effects, firm-performance measures, business environment, etc.; and most importantly, by testing for several sensible predictions about how access to finance impacts firms' sales during the pandemic. These predictions are specific to access to finance and there is no evident reason to expect them to hold if our access to finance variable is a mere proxy for other correlated factors impacting sales. Briefly, we argue that firms forge important relationships with stakeholders like skilled workers and intermediate inputs suppliers. These relationships are costly to build and therefore firms would not like to lose them given that the pandemic and its effects are temporary. Thus, the incentive to use available finance to avoid production cuts is greater for firms that have more skilled vs. unskilled workers, in industries that are more "contract intensive", and in countries where the cost of enforcing contracts (with input suppliers) is high. Another prediction we test is based on the fact that having finance is ineffective in preventing output decline when workers do not want to work due to health or other reasons. This problem is especially pronounced for female workers who have been forced to leave their jobs to take care of family responsibilities. Thus, we predict that access to finance is less effective for firms that rely more on female relative to male workers, and especially so in countries where a woman's role as caregiver in the family is considered more important than her work outside the home.

Our results show that better access to finance prevents a decline in sales during the pandemic. This holds at the extensive margin (probability that a firm's sales decline) and the

intensive margin (percentage decline in sales). Figure 1 illustrates the point graphically using firm's own financial condition while figure 2 does the same using a proxy measure of the firm's financial condition (cell average) mentioned above and used in the regressions below. According to our final baseline specification, the probability of sales decline during the pandemic for a firm with the best access to finance is lower by 25.2 percentage points compared to a firm with the poorest access to finance; and the corresponding percentage decline in sales (intensive margin) is smaller by 14.3 percentage points. These differences are statistically significant (at the 5 percent level or less) and also robust to the tests mentioned above.

2. Data and Main Variables

2.1 Data description

The analyses in this paper are based mainly on two sources of data: the World Bank's Enterprise Surveys (ES) and the World Bank's Enterprise Surveys Covid-19 follow-up (COV-ES). The ES are firm-level surveys representative of a country's private sector. A standard sampling procedure based on location, sector, and size stratifications ensures representativeness both at the country level and at the sectoral level, while the use of a common questionnaire guarantees the comparability of the estimates across countries.¹ Informal firms, businesses operating in the agriculture and extractive sector, and establishments with fewer than five employees are excluded from the sampling universe. The ES included in this paper were conducted between 2016 and 2020 and all of them cover the pre-pandemic period. After the pandemic was declared, the same firms interviewed in the ES were re-contacted with the aim of measuring the effects of the pandemic (COV-ES). These interviews were administered over the phone. Out of the total of 18,677 firms

¹ For the full note on the ES methodology, refer to: <https://www.enterprisesurveys.org/en/methodology>.

in the ES, 13,649 firms were found to be operational at the time of COV-ES and were successfully interviewed in COV-ES. We complement ES and COV-ES with other data sources including World Development Indicators (WDI, World Bank), Doing Business project (World Bank), Inter Parliamentary Union (IPU), World Value Surveys (WVS). The sample used below consists of 9,436 firms across 35 countries.² These are all firms and countries for which data on the main variables used in the regressions are available. Table A1 in the Appendix provides the list of countries and the time covered by the two surveys. A formal definition of all the variables used in the regressions below is provided in table A2 in the Appendix.

2.2 Dependent variable

In the COV-ES, firms were asked if there was an increase, decrease or no change in their total sales last month compared to sales in the same month a year ago. In our baseline sample, about 8.4 percent of the firms reported an increase in sales, 22.7 percent reported no change, and the remaining 68.9 percent reported a decrease. Using this information, we define our main dependent variable as a binary variable equal to 1 if the firm reported a decline in sales and 0 otherwise (*Incidence of Sales Decline*). For firms that reported an increase or decrease in sales, the ES asked about the percentage change in sales. For robustness, we also use the percentage decline in sales as the dependent variable.

2.3 Main explanatory variable

Our main explanatory variable is a measure of firm's access to external finance. The outbreak of COVID-19 was unanticipated and therefore we can safely rule out any feedback effects from sales

² For countries with multiple rounds of ES and COV-ES, the latest round is used.

decline during the pandemic to the pre-pandemic financial condition of the firm (reverse causality problem). Thus, we base our main explanatory variable on the pre-pandemic data obtained from the ES. The ES asked firms if they applied for a loan during the last fiscal year. In case they did not apply, they were asked to choose the main reason for not applying from the following list: no need for a loan as the firm has enough internal funds; insufficient loan size and maturity; high collateral requirement; unfavorable interest rate; complex application procedures; and did not think it would be approved. For firms that applied for a loan, the survey asked if the loan application was rejected, still pending, approved partially, or approved in full. This information has been used in earlier studies to measure firms' access to finance and identify financially constrained vs. financially unconstrained firms (see for example, Kuntchev et al. 2013, Amin and Soh 2020a, and Distinguin et al. 2016). To prepare the ground for our main explanatory variable, we first define a firm as *financially unconstrained* if it either did not apply for a loan because it had enough internal funds (i.e. retained earnings), or if it applied for a loan and the loan amount was approved in full. The remaining firms are classified as *financially constrained*. Thus, financially constrained firms include firms that applied for a loan but were either fully, or partially rejected, and firms that did not apply for a loan because of reasons other than having sufficient internal funds (as listed above).

The financial constraint variable described in the previous paragraph cannot be directly used in the regressions as it is endogenous to various firm characteristics. For instance, it could proxy for larger and connected firms that are known to enjoy better access to finance. One solution suggested in the literature is to proxy the financial constraint experienced by a firm with the average level of financial constraint experienced by all other firms in the same "cell" (Aterido, Hallward-Driemeier, & Pagés, 2011; Fisman & Svensson, 2007; Amin and Soh 2020b). The cell is variously defined as the country, industry, country times industry group, etc. Note that the cell

average does not include the firm in question thereby significantly reducing the chances of omitted variable bias problem. Cell average also serves to guard against reverse causality problem, although we do not suspect reverse causality to be a problem for us given that our access to finance variable is pre-pandemic (as discussed above). Additionally, using the cell average helps to control for measurement error if some firms refuse to answer or misreport their financial condition (Paunov, 2016). Thus, we follow the strategy of using cell-averages and define our main explanatory variable, *Access to Finance*, as the cell average of the financially unconstrained dummy variable defined in the previous paragraph, where the cell is defined at the country times industry level. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All cells with fewer than 5 observations are excluded from the sample. In our baseline sample, there are 606 country-industry cells. The mean value of *Access to Finance* equals 0.728 and the standard deviation is 0.221.

2.4 Controls

As our second defense against endogeneity, we control for several country, industry, and firm characteristics in the regressions. The choice of controls is based on existing literature on the factors that affect firms' sales and are also correlated with firm's access to finance. Before introducing the controls, we provide a brief motivation.

Several studies show that the level of financial development in the country varies with the level of overall economic development. Anecdotal evidence also indicates differences in the intensity of the pandemic and its effect across countries and over time. These findings imply that our result for the relationship between access to finance and the probability of a decline in sales during the pandemic (henceforth, main result) could be spuriously affected by country level factors. The need for finance and its availability may also vary across sectors. For instance, Rajan

and Zingales (1998) suggest that there is a technological reason why some industries depend more on external finance than others. They note that some of these reasons may be related to differences across industries in the initial project scale, the gestation period, the cash harvest period, and the requirement for continuing investment. Similarly, growth and profitable opportunities and therefore availability of external finance may also vary by industry. If these industry-wide features are systematically correlated with differences across industries in the impact of the pandemic, our main result could suffer from omitted variable bias problem.

Firms may have different capacities to deal with the problems posed by the pandemic. For instance, larger and older firms, faster growing firms, and the more productive firms may have better resources and expertise to deal with the pandemic (see for example, Bloom et al. 2020, Guerini et al. 2020, Carletti et al. 2020, Kozeniauskas et al. 2020). They may also enjoy bigger profit margins that can provide an important cushion to weather the current problems. For instance, Bloom et al. (2020) show that the more productive firms have been more successful in maintaining their output and market share than the less productive firms. The impact of the pandemic may depend on the labor force composition in terms of gender and skills. Available evidence suggests that women workers have been particularly affected by the pandemic due to the collapse of child-care and school closures (Russell and Sun 2020, Bluedorn et al. 2021). Thus, firms that tend to rely more on female workers and managers are likely to suffer more during the pandemic. The impact of the pandemic may also vary between international and local markets. Trade across international borders is riskier than trading within national borders. This is because shipping goods internationally involves dealing with trading partners who are located far away, speak a different language, and are subject to different laws and regulations (Demir and Javorcik 2020). An unexpected adverse economic shock, such as the current pandemic, increases the risks of non-

payment or non-delivery of prepaid goods. This may affect exporters more than those selling in local markets. The importance of the existing business environment in dealing with the pandemic cannot be ruled out although there is little formal work on the issue. The erosion of profit margins and scale economies due to the pandemic has put enormous stress on the firms and reduced their ability to bear additional costs. Thus, if higher costs of operating due to corruption, stringent business regulations, etc., is a problem in normal times, it is likely to be a bigger problem during the pandemic. Several firms have adapted to the pandemic by allowing their workers to operate remotely, increasing business activity online, and suitably altering their products, and production and delivery methods (see OECD 2020b). Of course, the scope for these adaptations varies depending on the nature of the business activity and investments in ICT. Last, several firms are facing lower demand for their goods and services because of the pandemic. This is not specific to the current crisis but common to other crises such as the financial crisis of 2008 (see for example, Duygan-Bump et al. 2015, Siemer 2019). Note that demand shock will affect our results spuriously only when it varies systematically between firms with better vs. worse access to finance. There is no evident reason that this is the case.³ Besides, the endogeneity checks mentioned above are specifically designed to guard against spuriously picking up the effects of demand shocks. For instance, if demand shocks are driving our results, it must be true that demand shocks are stronger for firms that use more male relative to female workers in the pre-pandemic period, and this difference in demand is bigger in countries where women's role as caregivers is regarded by society to be more important than paid work outside home. Nevertheless, we do show that our main results survive controlling for a measure of demand shock available in COV-ES.

³ Duygan-Bump et al. (2015) make a similar point.

Based on the discussion above, we control for several country, industry, and firm characteristics. In the baseline model, all the controls are taken from the ES (pre-pandemic) and include the following: a set of dummy variables indicating the country where the firm operates (Country fixed effects); a set of dummy variables indicating the industry (2-digit ISIC Rev. 3.1) to which the firm belongs (Industry fixed effects); firm-size proxied by (log of) total number of permanent workers employed at the firm at the end of the last fiscal year (Firm Size); two measures of firm-performance which are (log of) real annual sales of the firm (in 2009 USD) divided by the number of workers (*Labor Productivity*), annual growth rate of employment at the firm over the last 3 fiscal years (*Employment Growth Rate*); (log of) age of the firm; a proxy for skill intensity of the workers which is (log of) wages paid per worker and expressed as a ratio of GDP per capita (*Wage Rate to GDP ratio*); proportion of permanent full-time workers at the firm that are females (*Female Workers*); dummy variable equal to 1 if the top manager of the firm is a female and 0 otherwise; dummy variable equal to 1 if the firm has at least one female owners and 0 otherwise; a dummy variable equal to 1 if the firm is a multi-establishment firm and 0 otherwise; a dummy variable equal to 1 if the firm spent on R&D activity during the last year and 0 otherwise; a dummy variable equal to 1 if the firm had its accounts audited last year and 0 otherwise. For the business environment, we use the cell-averages (at the country-industry level) of the following variables: total hours of power outages faced by a firm in a typical month over the last year, time tax or the percentage of firm's senior management's time spent in dealing with business regulations, dummy variable equal to 1 if a firm competes against informal sector firms and 0 otherwise, how severe is labor law (on 0-4 scale) as an obstacle for a firm's current operations; and how severe is tax rate (on 0-4 scale) as an obstacle for a firm's current operations.

In the robustness section, we include other variables that were highlighted above as potential drivers of firm's output during the pandemic. These controls include (log of) number of years of experience the top manager of the firm has working in the industry; a dummy variable equal to 1 if the firm has internationally recognized quality certificate and 0 otherwise; a dummy variable equal to 1 if the firm reports competing against informal sector firms and 0 otherwise to bolster the control for competition from informal sector in the baseline specification; a set of dummy variables indicating the legal organization of the firm; a dummy variable equal to 1 if the firm has its own website in the pre-pandemic time and 0 otherwise; a set of 5 variables for the online activity during the pandemic (taken from COV-ES) including a dummy variable equal to 1 if the firm started or increased business activity online during the last year and 0 otherwise, share of online sales last year, share of workers that are working remotely, and a dummy variable equal to 1 if the firm changed its production of service delivery in response to Covid-19. Our last control is a dummy variable equal to 1 if the firm believes that demand for its products/services declined in the last year (that is, during the pandemic) and 0 otherwise.

2.6 Endogeneity checks

Our next defense against endogeneity is to test for sensible predictions about the ways in which access to finance affects the incidence of sales decline during the pandemic. Since the predictions tested are specific to the way finance affects sales decline, there is little reason for them to hold in the data if the access to finance variable was a mere proxy for other correlated drivers of sales decline, or if causality runs from sales decline to access to finance (reverse causality). This way of guarding against the endogeneity problem has been used in the literature (see for example, Rajan and Zingales 1998, Nunn 2007, Distinguin et al. 2016). For instance, Rajan and Zingales (1998)

estimate the impact of financial development on industry level growth. They suggest that one way to make progress on causality is to focus on the details of theoretical mechanisms through which financial development affects economic growth and document their working. Building on this idea, they argue that financial markets and institutions help a firm overcome problems of moral hazard and adverse selection, thus reducing the firm's cost of raising money from outsiders. So financial development should disproportionately help firms (or industries) typically dependent on external finance for their growth. They note that such a finding could be the “smoking gun” in the debate about causality. Following this strategy, we propose several tests for the causality of our main result. These tests are as follows.

2.6.1 *Skilled workers*

Unlike unskilled workers, tasks performed by the skilled workers are more complex and often require knowledge accumulated over time as well as firm-specific knowledge. Thus, if the pandemic or its effects are temporary which seems to be the general belief, the incentive to retain labor (and maintain current output levels) is stronger among firms that use relatively more skilled workers. Didier et al. (2021) and Beck et al. (2020) elaborate on the issue and provide supportive evidence. Thus, we predict that while having better access to finance helps firms avoid output cuts, this effect is much stronger for firms that tend to use more skilled vs. unskilled workers. We test for this prediction using the interaction term between our access to finance variable and a measure of skill intensity of the workers at the firm and using the split sample estimation method. For skill intensity, we proxy this by the average of (log of) total wage bill per worker in the pre-pandemic period and expressed as a ratio of GDP per capita, where the average is taken over all firms in the country-industry cell excluding the firm in question (cell average). Note that the wage bill per

worker is normalized or divided by GDP per capita to ensure that the skill intensity measure does not pick up broader income differences across countries associated with overall economic development.

Information is also available in the ES about the difficulty that firms face in finding skilled workers. That is, firms were asked how severe is inadequately educated workers as an obstacle for the current operations of the firm. Responses of the firms were recorded on a 0-4 scale as no obstacle (0), minor (1), moderate (2), major (3), or very severe obstacle (4). Clearly, the logic of the discussion in the previous paragraph applies more in cases where finding skilled workers is relatively more difficult. We test for this predication using the triple interaction term between access to finance, skill intensity of the workers, and a measure of difficulty in finding skilled workers. This measure of difficulty in finding skilled workers is constructed by first computing the proportion of firms in the country-industry group that report inadequately educated workers as a major or very severe constraint as opposed to no obstacle, minor, or moderate obstacle. Next, we define a dummy variable that equals 1 for all country-industry cells with above median value of the proportion of firms that report inadequately educated workers as a major or very severe obstacle and 0 otherwise (*Skills Obstacle: High*). The prediction is that the triple interaction is negative.

2.6.2 *Intermediate inputs suppliers*

Another reason why firms may resist cutting output is the fear of losing their suppliers and customers. Re-establishing these networks or establishing new ones when the pandemic is over and normalcy returns can be costly and time consuming (see Beck et al. 2020, Didier et al. 2021). The higher is the cost of re-establishing or replacing the supplier networks, the greater is the

incentive for firms to use available resources including access to finance to minimize output cuts during the pandemic. This provides us with our next prediction that the impact of access to finance in preventing sales decline is much stronger for firms that face a higher cost of re-establishing the existing supplier networks once these are lost or replacing them with new ones. The first measure of the cost of re-establishing or replacing the existing supplier networks is the World Bank's Doing Business indicator of the cost of enforcing contracts (as a percentage of the contract amount) defined at the country-level. The prediction is that the interaction term between our access to finance variable and (higher) cost of enforcing contracts is negative. Estimation results using the split-sample method are also provided for the sample of countries with low vs. high cost of enforcing contracts. The second measure we use is borrowed from recent work on institutional dependence (contract enforcement and property rights) and product complexity based on intermediate good use. Given that contracts are incomplete, the cost of establishing supplier networks is a costly process. This cost is higher for industries that require a relatively large number of parties for production (the "contract intensive" industries), simply because there are more relationships that are potentially distorted due to imperfect contracts. Following Levchenko (2007) and the related literature, we compute the Herfindahl index of concentration for the various industries (at 4-digit ISIC Rev. 3.1 level) from the U.S Input-Output Use matrix for 2000. Since the index is based on US data, it is exogenous to our model. Our results are similar when we use the matrix for other years. Note that higher value of the Herfindahl index implies greater concentration and therefore lower cost of establishing networks to the firm. Thus, we predict that the impact of access to finance in preventing sales decline during the pandemic is bigger in industries with low values of the Herfindahl index. That is, the interaction term between our access to finance variable and the Herfindahl index is positive. Estimation results using the split-sample

method are also provided for the sample of industries with low vs. high values of the Herfindahl index.

2.6.3 *Women workers*

Suggestive evidence indicates that women have been particularly affected by the pandemic. In most countries, the responsibility of providing care in the family falls on women relative to men. The pandemic has led to school closures and a collapse of domestic help and child-care services. Thus, many women have been forced to leave their jobs to take care of children and other household duties. This withdrawal of females from the labor force is likely to be more pronounced in countries where society places greater emphasis on women's role as caregivers versus their paid work outside home.

The discussion in the previous paragraph gives two testable hypotheses. First, having the necessary finances will be less effective in retaining female workers than male workers. Thus, we predict that access to finance will have a much smaller impact on the incidence of sales decline during the pandemic for firms that tend to use more female relative to male workers. We test for this idea using the interaction term between our access to finance variable and firm's dependence on female workers proxied by the average share of workers in the pre-pandemic period that are females, where the average is taken over all other firms (excluding the firm in question) in the same country-industry cell (cell average). Our null hypothesis is that the interaction term is positive. Split-sample estimation results are also provided. Second, the differential effect of access to finance on sales decline depending on the share of female workers is caused by the fact that women have to leave jobs to provide care in the family while men do not have to do so. The greater the pressure on women relative to men to leave jobs to take on family matters the bigger the stated

differential effect. Thus, we predict that the triple interaction term between access to finance, firm's dependence on female workers (as defined above), and the pressure faced by women to leave jobs to take care of family matters is positive. We test for the coefficient on the triple interaction term using two proxy measures of the pressure faced by women to leave jobs for family matters. The first proxy is based on a measure of women's lack of empowerment. It equals the proportion of seats in the national parliament held by men. The data source for the variable is the International Parliamentary Union (IPU). The second proxy measure equals the percentage of the population in the country that believes that when jobs are scarce, men have more rights to jobs than women. The data source for the variable is the World Value Surveys (WVS). Note that WVS are not conducted annually. Thus, we use any survey conducted in the period between 1997 and 2020 (see table A2 for more details).

2.6.4 Additional controls for the interaction term results

For the interaction term results discussed above, additional concerns arise regarding the omitted variable bias problem. For instance, it is possible that a higher wage rate may be correlated with other firm characteristics such as its size and labor productivity. Thus, the differential effect of access to finance on firms with low vs. high wage rate may be spuriously picking up the differential effect of access to finance on large vs. small firms or less vs. more productive firms. Note that while such spurious effects cannot be completely ruled out, there is little theoretical reason for it. Nevertheless, we guard against the possibility of such spurious effects by controlling for the interaction term between access to finance and the following variables: firm-size, labor productivity, and overall economic development proxied by (log of) GDP per capita (constant 2010 Int'l. Dollars, average value over 2016-2018) and some others (discussed in section 5).

3. Base Regression Results

The baseline regression results are provided in table 1. The dependent variable is the dummy indicating a decline in sales of the firm during the pandemic (*Incidence of Sales Decline*). The estimated coefficient values shown in the table are log-odds ratios obtained from logit estimation. The associated marginal effects are provided in Panel B of table 1 and discussed below. All the specifications in the table control for country and industry fixed effects. The results in table 1 reveal a large and negative relationship between better access to finance and the probability that a firm's sales declined during the pandemic. This negative relationship is significant at the 1 percent level in all the specifications shown. Without any other controls (except for country and industry fixed effects), the estimated coefficient value of financial access variable equals -1.19 (column 1). The coefficient value remains relatively stable, rising marginally (in absolute value) as we add the various baseline controls to the specification (columns 2-5). For our final baseline specification which includes all the baseline controls, the coefficient value equals -1.28 (column 5) compared to -1.19 with no baseline controls (column 1). The associated marginal effects in Panel B reveal a similar picture. The marginal effect of the access to finance variable is large, negative, and significant at the 1 percent level in all the specifications. It varies between -23.8 and -25.2 percentage points across the baseline specifications. According to our most conservative estimate so far (column 1), an improvement in access to finance from its smallest (0) to highest (1) value is associated with a decrease in the probability of a firm experiencing a decline in sales during the pandemic by 23.8 percentage points (marginal effect). This is a large effect given that in the full sample about 69 percent of the firms suffered a decline in sales during the pandemic.

Regarding the controls in table 1, some of them are significant. The relatively large firms and the more productive firms are less likely to experience a decline in sales, significant at the 1 percent level. This finding is consistent with those in some of the other studies using firm-level data. Multi-establishment firms are also less likely to see a decline in sales compared to the remaining firms, but this difference is significant only at the 10 percent level. In contrast, the probability of a decline in sales is higher for firms with a higher proportion of workers that are female (significant at the 1 percent level) and for firms that pay higher average wage rate (significant at the 5 percent level). The remaining controls do not show any significant relationship (at the 10 percent level or less) with the dependent variable.

4. Robustness

4.1 Intensive margin results

Regression results using the decline in sales at the intensive margin as the dependent variable are provided in table 2. The qualitative nature of the results discussed above is preserved. That is, better access to finance is associated with a much smaller percentage decline in sales during the pandemic. This negative relationship is large and statistically significant at the 1 percent level in all the baseline specifications. The estimated coefficient value of access to finance equals -14.2 without any controls (column 1). It remains roughly unchanged when the baseline controls are added to the specification. According to the most conservative estimate in table 2, the decline in sales is lower by 14 percentage points for a firm with the best access to finance compared to a firm with the worst access to finance. The sample mean of the percentage decline in sales equals 28.1 percent.

4.2 Demand shock

Next, we check if our main result is robust to changes in demand for firm's products during the pandemic. Thus, we repeat the regression exercise in the baseline model (table 1) adding the dummy variable for the decline in demand for firm's products during the pandemic in all the specifications. Regression results are provided in table A5 in the Appendix. These results show that the relationship between access to finance and the incidence of sales decline remains large, negative, and statistically significant at the 10 percent level in one specification and at the 5 percent level in the remaining specifications including the final one. The same holds for the associated marginal effects (see Panel B, table A5). However, controlling for demand causes the estimated coefficient value of the access to finance variable to become smaller (in absolute value). The coefficient value (log odds ratios) declines from -1.276 (column 5, table 1) to -1.024 (column 5, table A5). The decline is bigger for the marginal effect. It declines from - 25.2 percentage points (column 5, Panel B, table 1) to -13.5 percentage points (column 5, Panel B, table A5).

4.3 Additional controls

Regression results with additional controls added to the final baseline specification are provided in table 3. The negative relationship between better access to finance and the incidence of sales decline remains. As above, the estimated coefficient value of access to finance variable is large, negative, and is significant at the 1 percent level in all the specifications. Even its magnitude changes only marginally from -1.276 (column 5, table 1) to -1.239 (column 3, table 3).

4.4 Sample alteration

To ensure that our results are not driven by a single outlier country, we repeated the final baseline regression dropping one country at a time. Doing so did not change the qualitative nature of the results. That is, the estimated coefficient value of access to finance variable remained large, negative, and significant at the 1 percent level in all the regressions (35 of them).

4.5 Female workers and wage rate

In the baseline model, we included controls for the wage rate and the proportion of female workers employed at the firm in the pre-pandemic period. In a later section, we look at these variables in more detail replacing them with their respective cell averages due to endogeneity concerns. Thus, we check if our main result in the baseline model holds if we replace the controls for wage rate and female workers by their respective cell averages. This is indeed the case. Replacing the controls for wage rate and the proportion of female workers in table 1 with their respective cell averages makes no qualitative difference to the estimated relationship between access to finance and the incidence of decline in sales (see table A6 in the Appendix).

5. Endogeneity Checks

In this section, we test for the predictions about the ways in which better access to finance affects the probability of a decline in sales. We do so by using interaction terms between access to finance and the relevant variables as well as the split-sample estimation method.

5.1 Skilled workers

Our first test is the differential effect of better access to finance on the incidence of sales declines among firms that use more vs. fewer skilled workers. To test this, we re-estimate the baseline

model adding the interaction term between access to finance and the average wage paid (cell average). Additional controls for the interaction terms between access to finance and firm-size, labor productivity and GDP per capita are also included as controls. The prediction is that the interaction term is negative. For the split sample method, we estimate the baseline model separately for firms with above median and below median values of the average wage paid (cell average).

Regression results for the interaction term are provided in columns 1-3 of table 4. For brevity, results are shown only for a few baseline specifications. Results for the other baseline specifications are qualitatively similar. As predicted, the interaction term is negative and statistically significant at the 1 percent level in some specifications and 5 percent level in others. This holds even when we control for the interaction terms between access to finance and firm-size, labor productivity, and income levels (column 3). Split sample results are provided in table A7 in the Appendix. These results clearly show a large, negative, and statistically significant relationship between access to finance and the dependent variable for above median values of the wage rate (columns 1-3, table A7). However, there is no significant relationship between the two for below median values of the wage rate (columns 4-6). Results for the marginal effect of access to finance for these samples are qualitatively similar (see Panel B, table A7). This confirms our first prediction that access to finance helps more in preventing a decline in sales when firms have more skilled or educated workers.

Going beyond, we argued above that the differential effect of access to finance on the dependent variable (above) should be stronger (more negative) for firms that report facing difficulty in finding skilled labor. As mentioned in section 2, we test for this using a triple interaction term between access to finance, wage rate, and whether the firm reports inadequately

educated workers as a major or very severe obstacle in the pre-pandemic period (cell average). Regression results for the triple interaction term are provided in columns 4-6 in table 4. As predicted, the triple interaction term is negative. It is significant at the 1 percent level in some specifications and at the 5 percent level in others. This confirms our second prediction that the finance-skilled workers nexus is stronger when firms face greater difficulty in finding skilled workers.

5.2 Female workers

The next prediction we test relates to how the impact of access to finance on sales decline is mediated by the gender composition of the workers at the firm. The estimation method and the controls used are the same as in section 5.1 above. The first prediction we test is that the impact of access to finance is more beneficial in preventing a decline in sales when firms use more male relative to female workers. This is tested using the interaction term between access to finance and the proportion of workers that are males (cell average). As above, we also use the split sample method by separately estimating the impact of access to finance on the probability of sales decline for firms with above and below median values of the share of male workers (cell average).

Regression results for the interaction term are provided in columns 1-3 of table 5. As predicted, this interaction term is negative and significant at the 5 percent level or close to 5 percent level with or without the various controls. The split sample results are provided in table A8 in the Appendix. As predicted, the relationship between access to finance and the dependent variable is negative, large, and significant at the 1 percent level for the sample of firms with above median share of male workers in their workforce but weak and insignificant for firms with below median values of the same. These split sample results hold for the estimated log-odds ratios and the

marginal effects. This confirms our third prediction that having better access to finance is more effective in preventing sales decline when there are more male (or fewer female) workers at the firm.

Next, we check if the finance-male workers relationship in the previous paragraph is more pronounced (more negative) when women's primary role is considered as providing care as opposed to paid employment. This is done in two ways. First, we use the triple interaction term between access to finance, the share of male workers, and the share of men in the national parliament. Results are provided in columns 4 and 5 of table 5. Second, we use the triple interaction term between access to finance, the share of male workers, and the proportion of the population that believes that men have more right to scarce jobs than women. Results for this interaction term are provided in columns 6 and 7 of table 5. Both the triple interaction terms are negative, and statistically significant at the 5 percent level in some cases and 1 percent level in other cases. This confirms our prediction above that the finance-female workers nexus is stronger in countries where women find it more difficult to work during the pandemic.

5.3 Contract enforcement

Our last endogeneity check relates to the cost of contract enforcement and the Herfindahl index of intermediate inputs supplies. The prediction here is that access to finance is more effective in preventing a decline in sales in countries with relatively high costs of enforcing contracts and in industries with less concentrated inputs suppliers (low values of Herfindahl index). We test for these predictions using interaction terms and the split sample method. Regression results for these two interaction terms are provided in table 6. Columns 1-3 contain results for the cost of contract enforcement while columns 4-6 contain the results for the Herfindahl index. For brevity, results

are shown for only some of the baseline specifications. Results for the other specifications are qualitatively similar. Table 6 confirms our predictions. The interaction term for the cost of enforcing contracts is large, negative, and significant at the 1 percent or 5 percent level across the specifications shown. The same for the Herfindahl index is positive, large, and significant at the 1 percent level.

Split sample results using above and below median values of the cost of enforcing contracts are provided in table A9 in the Appendix. Corresponding results for above vs. below median values of the Herfindahl index are provided in table A10 in the Appendix. Both these tables confirm the interaction term results above. That is, access to finance has a large, negative, and significant relationship with the probability of a decline in sales during the pandemic in countries with above median cost of enforcing contracts and weak and insignificant in countries with below median values of the cost of enforcing contracts. Similarly, the relationship is negative, large, and significant for industries with below median values of the Herfindahl index and weak and insignificant for industries with above median values of the Herfindahl index. These results hold for the estimated log-odds ratios and the marginal effects (see Panel B, table A9 and A10).

6. Conclusion

The advent of COVID-19 has led to a sharp downturn in business activity, employment, and economic welfare of individuals around the globe. These economic problems have added to the hardships imposed on the health front. There is a lack of understanding about how the pandemic affects businesses. Which factors magnify the adverse effects of the pandemic and which ones mitigate them? Are better-off firms in the pre-pandemic period better able to fight the pandemic? Does the institutional environment in terms of regulations, corruption, contract enforcement, etc.,

matter in the fight against the pandemic? Answers to these and other such questions are critical for a better understanding of how to deal with the problems related to the pandemic. The present paper takes one step in this direction by highlighting how a firm's financial condition has affected its ability to withstand the pandemic. Our results show that the decline in output during the pandemic is less common among firms with relatively better access to finance in the period just before the pandemic. We also find that better access to finance helps those firms more that tend to use more skilled workers, firms that use fewer female relative to male workers, firms with a more diffused network of intermediate inputs suppliers, and firms located in countries where the cost of enforcing a contract is high. As we argued above, these heterogeneities are consistent with sensible predictions about how better access to finance helps overcome the problems stemming from COVID-19.

Several issues remain to be established. We highlight a few to motivate future research in the area. First, our analysis focuses exclusively on the period just after the onset of the pandemic. It is natural to expect that the pre-pandemic financial condition of the firms will play an important role in this period. However, it is not clear if the same continues to hold as the pandemic progresses. This is an important issue that future research can address. Second, access to finance is one of the most important determinants of firm performance, but it is not the only one. The question remains about how other factors such as management quality, regulatory environment, rule of law and contract enforcement, competition, etc., affect a firm's response to the pandemic. Third, while COVID-19 is not a financial but a health crisis, there is a looming concern that it might soon turn into a financial crisis. If firms are unable to borrow or repay their existing loans, it will put an enormous strain on the financial markets and the financial infrastructure. Thus, a

proper understanding of how the pandemic has affected firms' financial condition is important.

We hope that the present paper motivates future research in these and other areas.

References

- Acharya, V. V. and S. Steffen (2020). “The Risk of Being a Fallen Angel and the Corporate Dash for Cash in the Midst of COVID,” NBER Working Papers 27601, National Bureau of Economic Research.
- Amin, Mohammad and Yew Chong Soh (2020a). “Does Corruption Hurt Employment Growth of Financially Constrained Firms More?” Policy Research Working Paper No. 9286, World Bank, Washington, DC.
- Amin, Mohammad and Yew Chong Soh (2020b). “Does Greater Regulatory Burden Lead to More Corruption? Evidence Using Firm-Level Survey Data for Developing Countries,” Forthcoming *World Bank Economic Review*. <https://doi.org/10.1093/wber/lhaa007>
- Apedo-Amah, Marie Christine, Besart Avdiu, Xavier Cirera, Marcio Cruz, Elwyn Davies, Arti Grover, Leonardo Iacovone, Umut Kilinc, Denis Medvedev, Franklin Okechukwu Maduko, Stavros Poupakis, Jesica Torres, Trang Thu Tran (2020). “Unmasking the Impact of COVID-19 on Businesses: Firm Level Evidence from Across the World,” Policy Research Working Paper; No. 9434. World Bank, Washington, DC.
- Aterido, R., Hallward-Driemeier, M., & Pages, C. (2011). “Big Constraints to Small Firms' Growth? Business Environment and Employment Growth Across Firms,” *Economic Development and Cultural Change*, 59 (3): 609 – 647.
- Bartik, A.W., M. Bertrand, Z. Cullen, E. L. Glaeser, M. Luca, and C. Stanton (2020). “The Impact of Covid-19 on Small Business Outcomes and Expectations,” *Proceedings of the National Academy of Sciences*, 117(30):17656–17666.
- Beck, T., B. Flynn, and M. Homanen (2020), “Covid-19 In Emerging Markets: Firm-survey Evidence,” *Covid Economics*, Vetted and Real-Time Papers 38, VoxEU, 2020.
- Bircan, C., R. De Haas, H. Schweiger, and A. Stepanov (2020). “Coronavirus Credit Support: Don’t Let Liquidity Lifelines Become a Golden Noose,” Technical report, VOX CEPR Policy Portal.
- Blalock, Garrick, Paul J. Gertler and David Levine (2008). “Financial Constraints on Investment in an Emerging Market Crisis”, *Journal of Monetary Economics* 55(3): 568-591.
- Bloom. Nicholas, Philip Bunn, Paul Mizen, Pawel Smietanka, and Gregory Thwaites (2020). “The Impact of Covid-19 on Productivity,” NBER Working Papers 28233, National Bureau of Economic Research, Inc.
- Bluedorn, John C., Francesca G. Caselli, Niels-Jakob H. Hansen, Ippei Shibata, and Marina Mendes Tavares (2021), “Gender and Employment in the COVID-19 Recession: Evidence on “She-cessions”,” IMF Working Paper WP/2021/095, International Monetary Fund, Washington, DC.

Boot, A., E. Carletti, H. H. Kotz, J. P. Krahn, L. Pelizzon and M. Subrahmanyam (2020), “The Coronavirus and Financial Stability,” SAFE Policy Letter 78.

Brucal, Arlan Zandro Ilagan, Arti Grover and Santiago Reyes Ortega (2021). “Damaged by the Disaster: The Impact of COVID-19 on Firms in South Asia,” No 9604, Policy Research Working Paper Series, The World Bank.

Button, R., M. Rojicek, M. Waldron, D. Walker (2020). “Financing Larger U.K. Companies through COVID-19,” VoxEU.org, September 7. <https://voxeu.org/article/financing-larger-uk-companies-through-covid-19>

Campello, Murillo, John R. Graham and C. Harvey (2010). “The Real Effects of Financial Constraints: Evidence From A Financial Crisis,” *Journal of Financial Economics* 97 (3): 470-487.

Carletti, E, T. Oliviero, M. Pagano, L. Pelizzon and M. Subrahmanyam (2020). “The COVID-19 Shock and Equity Shortfall: Firm-level Evidence from Italy,” London, Centre for Economic Policy Research (CEPR). https://cepr.org/active/publications/discussion_papers/dp.php?dpno=14831

Chodorow-Reich, G. (2014). “The Employment Effects of Credit Market Disruptions: Firm-level Evidence from the 2008–09 Financial Crisis,” *Quarterly Journal of Economics* 129(1): 1–59.

De Vito, A. and J. P. Gomez (2020). “Estimating the COVID-19 Cash Crunch: Global Evidence and Policy,” *Journal of Accounting and Public Policy* 39 (2): 1-14.

Demir, Banu and Beata Javorcik (2020). “Trade Finance Matters: Evidence from the COVID-19 Crisis,” *Oxford Review of Economic Policy* 36(S1): S397-S408.

Didier, Tatiana, Federico Huneeus, Mauricio Larrain, Sergio L. Schmukler (2021). “Financing Firms in Hibernation during the COVID-19 Pandemic,” *Journal of Financial Stability*, 53 (100837): 1-14.

Distinguin, I., Rugemintwari, C., & Tacneng, R. (2016). “Can Informal Firms Hurt Registered SMEs’ Access to Credit?” *World Development* 84: 18 – 40.

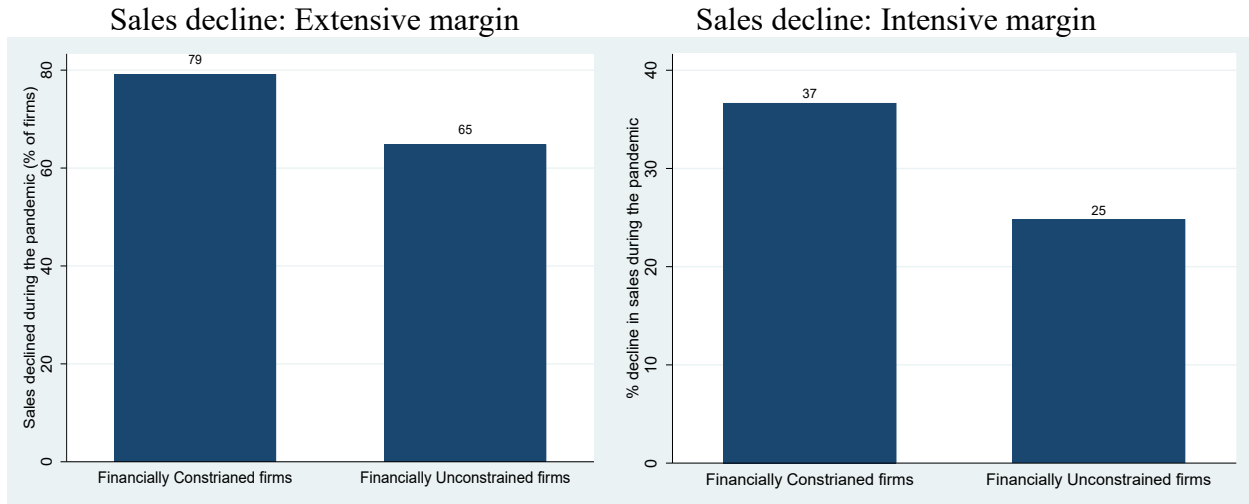
Duchin, R., O. Ozbas, B. A. Sensoy (2010). “Costly External Finance, Corporate Investment, and the Subprime Mortgage Credit Crisis,” *Journal of Financial Economics* 97(3): 418–435.

Duygan-Bump, Burcu, Alexey Levkov and J. Montoriol-Garriga (2015). “Financing Constraints and Unemployment: Evidence from the Great Recession,” *Journal of Monetary Economics* 75 (C): 89-105.

Fisman, R., & Svensson, J. (2007). “Are Corruption and Taxation Really Harmful to Growth? Firm Level Evidence,” *Journal of Development Economics* 83 (1): 63 – 75.

- Guerini, Mattia, Lionel Nesta, Xavier Ragot, Stefano Schiavo (2020). “Firm Liquidity and Solvency Under the Covid-19 Lockdown In France,” OFCE Policy Brief 76, July 6. <https://www.ofce.sciences-po.fr/pdf/pbrief/2020/OFCEpbrief76.pdf>
- Kozeniauskas, Nicholas, Pedro Moreira and Cezar Santos (2020). “Covid-19 and Firms: Productivity and Government Policies,” CEPR Discussion Paper No 15156, C.E.P.R.
- Kuntchev, Veselin, Rita Ramalho, Jorge Rodriguez-Meza, Judy S. Yang (2013). “What Have We Learned from the Enterprise Surveys Regarding Access to Credit by SMEs?.” Policy Research Working Paper No. 6670, World Bank, Washington, DC.
- Levchenko, Andrei (2007). “Institutional Quality and International Trade,” *Review of Economic Studies* 74(3): 791-819.
- Nunn, Nathan (2007). “Relationship-Specificity, Incomplete Contracts, and the Pattern of Trade,” *The Quarterly Journal of Economics* 122(2): 569–600.
- OECD (2020a). “Supporting Businesses in Financial Distress to Avoid Insolvency during the Covid-19 Crisis,” Technical report, OECD Policy Responses to Coronavirus (COVID-19), OECD, Paris.
- OECD (2020b). “E-commerce in the Times of COVID-19,” Policy Brief, Tackling Coronavirus (COVID-19) Series, OECD. https://read.oecd-ilibrary.org/view/?ref=137_137212-t0fjgnerdb&title=E-commerce-in-the-time-of-COVID-19
- Pounov, C. (2016). “Corruption’s Asymmetric Impacts on Firm Innovation,” *Journal of Development Economics* 118: 216 – 231.
- Rajan, R. G., and L. Zingales (1998). “Financial Dependence and Growth,” *American Economic Review* 88(3): 559-586.
- Russell, Lauren and Chuxuan Sun (2020). “The Effect of Mandatory Child Care Center Closures On Women's Labor Market Outcomes During the COVID-19 Pandemic,” *Covid Economics: Vetted and Real-Time Papers*, 62: 124 -154.
- Schivardi, F. and G. Romano (2020). “Liquidity Crisis: Keeping Firms Afloat during COVID-19,” VoxEU.org, July 18. <https://voxeu.org/article/keeping-firms-afloat-during-covid-19-crisis>
- Siemer, Michael, (2019), “Employment Effects of Financial Constraints during the Great Recession,” *The Review of Economics and Statistics* 101(1): 16-29.
- Zhang, X. (2020). “The Impact of COVID-19 on SMEs in China: Evidence from Two-Waves of Phone Surveys,” Technical report. <https://www.slideshare.net/ifpri/the-impact-of-covid19-on-smes-in-china>.

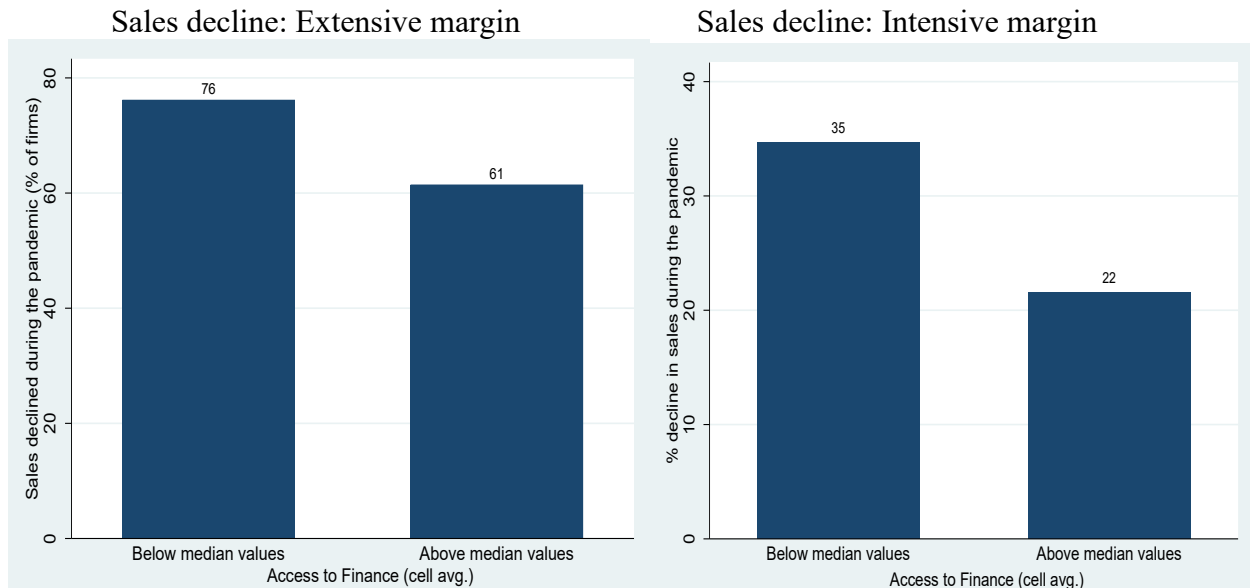
Figure 1: Sales decline during the pandemic



Note: Financially constrained and unconstrained firms are defined at the firm-level.

Source: Enterprise Surveys (ES) and Covid-19 follow-up surveys (COVID-ES) conducted by World Bank's Enterprise Surveys.

Figure 2: Sales decline during the pandemic



Note: Access to Finance (Cell avg.) is as defined in the text.

Source: Enterprise Surveys (ES) and Covid-19 follow-up surveys (COVID-ES) conducted by World Bank's Enterprise Surveys

Table 1: Base Regression Results

Dependent variable: <i>Incidence of Sales Decline</i> (dummy)	(1)	(2)	(3)	(4)	(5)
Panel A: Coefficient estimates from logit estimation (log-odds ratios)					
Access to Finance (cell avg.)	-1.191*** (0.322)	-1.231*** (0.316)	-1.263*** (0.316)	-1.275*** (0.319)	-1.276*** (0.322)
Firm Size (No. of workers, logs)		-0.191*** (0.052)	-0.197*** (0.051)	-0.175*** (0.055)	-0.174*** (0.054)
Labor Productivity (logs)		-0.104** (0.044)	-0.163*** (0.054)	-0.153*** (0.053)	-0.152*** (0.053)
Employment Growth Rate (% , annual)		0.001 (0.003)	0.001 (0.003)	0.002 (0.003)	0.002 (0.003)
Wage Rate to GDP ratio (logs)			0.139** (0.062)	0.139** (0.063)	0.140** (0.063)
Age of Firm (logs)			0.104 (0.090)	0.090 (0.088)	0.088 (0.088)
Exports (proportion of sales)			-0.090 (0.225)	-0.100 (0.229)	-0.103 (0.229)
Foreign Ownership (proportion)			0.019 (0.190)	0.057 (0.190)	0.060 (0.189)
Female Workers (share)				0.005*** (0.002)	0.005*** (0.002)
Firm has Female Owners Y:1 N:0				0.044 (0.120)	0.044 (0.121)
Top Manager is Female Y:1 N:0				-0.035 (0.127)	-0.035 (0.127)
Multi-establishment Firm Y:1 N:0				-0.241* (0.144)	-0.243* (0.143)
Firm has Accounts Audited Y:1 N:0				-0.042 (0.103)	-0.044 (0.103)
Firm Spent on R&D Y:1 N:0				-0.093 (0.150)	-0.091 (0.150)
Hours of Power Outages in a Month (cell avg.)					-0.000 (0.004)
Time Tax (cell avg.)					-0.002 (0.010)
How Much of an Obstacle? Tax Rates (cell avg.)					-0.018 (0.124)
Firm Competes Against					0.001

Informal Firms (cell avg.)					(0.003)
How Much of an Obstacle?					-0.033
Labor Laws (cell avg.)					(0.152)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	9,432	9,432	9,432	9,432	9,432

Panel B: Marginal effects

Access to Finance (cell avg.)	-0.238***	-0.244***	-0.250***	-0.252***	-0.252***
	(0.065)	(0.063)	(0.063)	(0.064)	(0.064)
Other controls (as above)	Yes	Yes	Yes	Yes	Yes
Number of observations	9,432	9,432	9,432	9,432	9,432

Huber-White robust standard errors clustered on country times industry in brackets. All coefficient values in Panel A are log-odds ratios. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables.

*** (1%), ** (5%), * (10%).

Table 2: Base Regression Results (Intensive margin, OLS)

Dependent variable: Percentage Decline in Sales	(1)	(2)	(3)	(4)	(5)
Access to Finance (cell avg.)	-14.151*** (3.818)	-14.013*** (3.719)	-13.916*** (3.704)	-14.312*** (3.719)	-14.033*** (3.655)
Firm Size (No. of workers, logs)		-3.055*** (0.675)	-3.371*** (0.691)	-3.322*** (0.747)	-3.288*** (0.747)
Labor Productivity (logs)		-1.628*** (0.531)	-2.025*** (0.679)	-1.850*** (0.661)	-1.819*** (0.661)
Employment Growth Rate (% annual)		0.021 (0.053)	0.035 (0.052)	0.044 (0.051)	0.045 (0.051)
Wage Rate to GDP ratio (logs)			0.796 (0.848)	0.754 (0.854)	0.694 (0.842)
Age of Firm (logs)			1.474 (1.107)	1.202 (1.103)	1.230 (1.105)
Exports (proportion of sales)			5.533* (2.903)	5.297* (2.950)	5.261* (2.962)
Foreign Ownership (proportion)			-0.681 (2.219)	-0.335 (2.250)	-0.256 (2.283)
Female Workers (share)				0.084*** (0.025)	0.087*** (0.025)
Firm has Female Owners Y:1 N:0				1.198 (1.636)	1.185 (1.620)
Top Manager is Female Y:1 N:0				-2.960 (1.982)	-2.944 (1.978)
Multi-establishment Firm Y:1 N:0				-2.260 (2.171)	-2.282 (2.192)
Firm has Accounts Audited Y:1 N:0				1.035 (1.353)	1.032 (1.361)
Firm Spent on R&D Y:1 N:0				-3.052 (2.136)	-3.109 (2.133)
Hours of Power Outages in a Month (cell avg.)					0.037 (0.046)
Time Tax (cell avg.)					-0.077 (0.111)
How Much of an Obstacle? Tax Rates (cell avg.)					1.532 (1.309)
Firm Competes Against Informal Firms (cell avg.)					-0.023 (0.031)

How Much of an Obstacle? Labor Laws (cell avg.)					-2.430 (1.792)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	9,209	9,209	9,209	9,209	9,209
R-squared	0.247	0.260	0.262	0.267	0.268

Huber-White robust standard errors clustered on country times industry in brackets. *** (1%), ** (5%), * (10%). The estimation method used is OLS with country and industry fixed effects.

Table 3: Additional Controls

Dependent variable: <i>Incidence of Sales Decline</i> (dummy)	(1)	(2)	(3)
Panel A: Log-odds ratios from logit estimation			
Access to Finance (cell avg.)	-1.358*** (0.342)	-1.309*** (0.340)	-1.239*** (0.339)
Firm Size (No. of workers, logs)	-0.204*** (0.057)	-0.188*** (0.055)	-0.192*** (0.060)
Labor Productivity (logs)	-0.147*** (0.057)	-0.138** (0.057)	-0.140** (0.059)
Employment Growth Rate (% annual)	0.002 (0.004)	0.002 (0.004)	0.001 (0.004)
Wage Rate to GDP ratio (logs)	0.132* (0.071)	0.131* (0.071)	0.141* (0.074)
Age of Firm (logs)	0.082 (0.105)	0.100 (0.106)	0.086 (0.107)
Exports (proportion of sales)	-0.057 (0.220)	-0.070 (0.219)	-0.095 (0.218)
Foreign Ownership (proportion)	0.195 (0.176)	0.209 (0.179)	0.309 (0.189)
Female Workers (share)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)
Firm has Female Owners Y:1 N:0	0.023 (0.122)	0.031 (0.116)	0.075 (0.116)
Top Manager is Female Y:1 N:0	-0.023 (0.132)	-0.026 (0.130)	-0.028 (0.131)
Multi-establishment Firm Y:1 N:0	-0.245* (0.145)	-0.234 (0.146)	-0.231 (0.145)
Firm has Accounts Audited Y:1 N:0	-0.029 (0.109)	-0.020 (0.109)	-0.017 (0.112)
Firm Spent on R&D Y:1 N:0	-0.120 (0.151)	-0.087 (0.148)	-0.094 (0.155)
Hours of Power Outages in a Month (cell avg.)	-0.000 (0.004)	-0.000 (0.004)	-0.000 (0.004)
Time Tax (cell avg.)	-0.000 (0.011)	-0.000 (0.011)	-0.003 (0.011)
How Much of an Obstacle? Tax Rates (cell avg.)	-0.065 (0.129)	-0.067 (0.129)	-0.086 (0.129)
Firm Competes Against Informal Firms (cell avg.)	-0.000 (0.003)	-0.001 (0.003)	-0.001 (0.003)
How Much of an Obstacle? Labor Laws (cell avg.)	-0.044 (0.156)	-0.043 (0.156)	-0.008 (0.157)
Quality Certificate Y:1 N:0	0.053 (0.120)	0.066 (0.121)	0.074 (0.121)

Top Manager Experience (years, logs)	0.056 (0.081)	0.048 (0.081)	0.074 (0.082)
Shareholding company with shares trade in the stock market Y:1 N:0		-0.665 (0.501)	-0.623 (0.502)
Shareholding company with non-traded shares or shares traded privately Y:1 N:0		-0.403 (0.432)	-0.405 (0.434)
Sole proprietorship Y:1 N:0		-0.412 (0.452)	-0.456 (0.455)
Partnership Y:1 N:0		-0.379 (0.479)	-0.315 (0.484)
Limited partnership Y:1 N:0		-0.295 (0.481)	-0.290 (0.488)
Firm has Own Website Y:1 N:0		-0.188 (0.117)	-0.135 (0.114)
Started or Increased Business Activity Online Last Year Y:1 N:0 (COV-ES)			-0.240* (0.145)
Share of Online Sales (COV-ES)			-0.001 (0.003)
Share of Workforce Working Remotely (COV-ES)			-0.000 (0.003)
Converted its Production or Services in Response to COVID Y:1 N:0 (COV-ES))			0.185* (0.105)
Industry fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Number of observations	8,760	8,742	8,388

Panel B: Marginal effects

Access to Finance (cell avg.)	-0.263*** (0.067)	-0.253*** (0.066)	-0.242*** (0.066)
All other controls (as above)	Yes	Yes	Yes
Number of observations	8,760	8,742	8,388

Huber-White robust standard errors clustered on country times industry in brackets. All coefficient values in Panel A are log-odds ratios. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables. *** (1%), ** (5%), * (10%).

Table 4: Skilled workers-Finance nexus

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)	(5)	(6)
Access to Finance (cell avg.)*Wage Rate to GDP ratio (logs, cell avg.)*Skills Obstacle: High (CI level)				-2.347*** (0.845)	-2.235*** (0.840)	-2.092** (0.840)
Access to Finance (cell avg.)*Wage Rate to GDP ratio (logs, cell avg.)	-1.203*** (0.450)	-1.240*** (0.446)	-0.993** (0.437)	0.009 (0.642)	-0.098 (0.623)	0.061 (0.624)
Skills Obstacle: High (CI level)				0.859* (0.498)	0.876* (0.496)	1.003** (0.503)
Wage Rate to GDP ratio (logs, cell avg.)*Skills Obstacle: High (CI level)				1.916*** (0.584)	1.836*** (0.603)	1.674*** (0.605)
Access to Finance (cell avg.)*Skills Obstacle: High (CI level)				-0.692 (0.609)	-0.664 (0.613)	-0.851 (0.620)
Access to Finance (cell avg.)	-1.522*** (0.369)	-1.593*** (0.362)	-8.200*** (2.598)	-1.135*** (0.440)	-1.223*** (0.439)	-7.085*** (2.613)
Wage Rate to GDP ratio (logs, cell avg.)	0.751** (0.306)	0.826*** (0.309)	0.712** (0.303)	-0.204 (0.400)	-0.076 (0.405)	-0.107 (0.407)
Firm Size (No. of workers, logs)		-0.185*** (0.055)	-0.547*** (0.146)		-0.177*** (0.053)	-0.505*** (0.143)
Labor Productivity (logs)		-0.095** (0.042)	0.058 (0.135)		-0.101** (0.043)	0.040 (0.139)
Employment Growth Rate (% annual)		0.001 (0.003)	0.001 (0.003)		0.001 (0.003)	0.001 (0.003)
Age of Firm (logs)		0.087 (0.088)	0.086 (0.087)		0.080 (0.087)	0.079 (0.087)
Exports (proportion of sales)		-0.067 (0.233)	-0.082 (0.235)		-0.067 (0.230)	-0.076 (0.232)
Foreign Ownership (proportion)		0.048 (0.187)	0.052 (0.190)		0.091 (0.191)	0.094 (0.194)
Female Workers (share)		0.005*** (0.002)	0.005*** (0.002)		0.005*** (0.002)	0.005*** (0.002)
Firm has Female Owners Y:1 N:0		0.057 (0.120)	0.060 (0.120)		0.066 (0.121)	0.065 (0.121)
Top Manager is Female Y:1 N:0		-0.073	-0.061		-0.081	-0.067

Multi-establishment Firm Y:1 N:0	(0.123)	(0.122)	(0.123)	(0.122)	(0.123)	(0.122)
	-0.263*	-0.257*	-0.260*	-0.259*	-0.260*	-0.259*
Firm has Accounts Audited Y:1 N:0	(0.144)	(0.143)	(0.140)	(0.140)	(0.140)	(0.140)
	-0.037	-0.059	-0.056	-0.071	-0.056	-0.071
Firm Spent on R&D Y:1 N:0	(0.106)	(0.104)	(0.104)	(0.103)	(0.104)	(0.103)
	-0.062	-0.089	-0.062	-0.086	-0.062	-0.086
Hours of Power Outages in a Month (cell avg.)	(0.153)	(0.152)	(0.154)	(0.154)	(0.154)	(0.154)
	-0.000	-0.001	-0.001	-0.001	-0.001	-0.001
Time Tax (cell avg.)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
	-0.002	-0.002	-0.004	-0.004	-0.004	-0.004
How Much of an Obstacle? Tax Rates (cell avg.)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
	-0.015	-0.015	-0.046	-0.040	-0.046	-0.040
Firm Competes Against Informal Firms (cell avg.)	(0.124)	(0.122)	(0.117)	(0.116)	(0.117)	(0.116)
	0.002	0.002	0.002	0.002	0.002	0.002
How Much of an Obstacle? Labor Laws (cell avg.)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	-0.019	0.001	-0.055	-0.037	-0.055	-0.037
Access to Finance (cell avg.)*Labor Productivity (logs)	(0.155)	(0.156)	(0.156)	(0.157)	(0.156)	(0.157)
		-0.206		-0.188		-0.188
Access to Finance (cell avg.)*Firm Size (No. of workers, logs)		(0.182)		(0.186)		(0.186)
		0.482**		0.435**		0.435**
Access to Finance (cell avg.)*GDP per capita (logs)		(0.189)		(0.188)		(0.188)
		0.856***		0.774**		0.774**
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,411	9,411	9,411	9,411	9,411	9,411

All coefficient values are log odds ratios obtained from logit estimation. Huber-White robust standard errors clustered on country (ES round) times industry in brackets. *** (1%), ** (5%), * (10%).

Table 5: Gender-Finance nexus

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Access to Finance (cell avg.)*Female Workers (share, cell avg.)*Men in Parliament (IPU)				0.257** (0.131)	0.299** (0.125)		
Access to Finance (cell avg.)*Female Workers (share, cell avg.)*Women Have Less Rights to Jobs (WVS)						0.141*** (0.047)	0.120*** (0.046)
Access to Finance (cell avg.)*Female Workers (share, cell avg.)	0.021** (0.009)	0.023** (0.009)	0.017* (0.009)	-0.190* (0.107)	-0.227** (0.102)	-0.270*** (0.091)	-0.232*** (0.089)
Female Workers (share, cell avg.)*Men in Parliament (IPU)				-0.265** (0.113)	-0.301*** (0.108)		
Female Workers (share, cell avg.)*Women Have Less Rights to Jobs (WVS)						-0.120*** (0.042)	-0.106** (0.041)
Access to Finance (cell avg.)*Men in Parliament (IPU)				-2.711 (5.880)	-2.521 (5.762)		
Access to Finance (cell avg.)*Women Have Less Rights to Jobs (WVS)						-3.156* (1.842)	-2.899 (1.949)
Access to Finance (cell avg.)	-1.841*** (0.458)	-1.982*** (0.462)	-9.098*** (2.634)	0.556 (4.699)	-7.216 (5.274)	5.494 (3.565)	5.399 (6.317)
Female Workers (share, cell avg.)	-0.019** (0.009)	-0.022** (0.008)	-0.018** (0.008)	0.198** (0.092)	0.228** (0.089)	0.232*** (0.083)	0.205** (0.081)
Firm Size (No. of workers, logs)		-0.174*** (0.055)	-0.505*** (0.145)		-0.512*** (0.144)		-0.523*** (0.149)
Labor Productivity (logs)		-0.158*** (0.054)	0.052 (0.138)		0.038 (0.137)		0.027 (0.135)
Employment Growth Rate (% annual)		0.002 (0.003)	0.002 (0.003)		0.001 (0.003)		-0.003 (0.004)
Wage Rate to GDP ratio (logs)		0.145** (0.063)	0.144** (0.063)		0.140** (0.063)		0.099* (0.057)

Age of Firm (logs)	0.099 (0.089)	0.100 (0.088)	0.109 (0.088)	0.144 (0.091)
Exports (proportion of sales)	-0.087 (0.229)	-0.102 (0.231)	-0.084 (0.230)	-0.222 (0.263)
Foreign Ownership (proportion)	0.055 (0.188)	0.063 (0.191)	0.066 (0.192)	0.022 (0.209)
Firm has Female Owners Y:1 N:0	0.065 (0.121)	0.066 (0.121)	0.063 (0.121)	0.131 (0.125)
Top Manager is Female Y:1 N:0	0.051 (0.123)	0.061 (0.122)	0.054 (0.122)	-0.056 (0.131)
Multi-establishment Firm Y:1 N:0	-0.217 (0.143)	-0.217 (0.143)	-0.220 (0.143)	-0.137 (0.140)
Firm has Accounts Audited Y:1 N:0	-0.046 (0.102)	-0.064 (0.102)	-0.074 (0.102)	-0.115 (0.107)
Firm Spent on R&D Y:1 N:0	-0.092 (0.150)	-0.116 (0.150)	-0.114 (0.150)	-0.229 (0.175)
Hours of Power Outages in a Month (cell avg.)	-0.001 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)
Time Tax (cell avg.)	-0.002 (0.010)	-0.001 (0.010)	-0.001 (0.010)	0.011 (0.009)
How Much of an Obstacle? Tax Rates (cell avg.)	-0.025 (0.123)	-0.027 (0.120)	-0.019 (0.119)	0.093 (0.117)
Firm Competes Against Informal Firms (cell avg.)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.003 (0.003)
How Much of an Obstacle? Labor Laws (cell avg.)	-0.002 (0.152)	0.026 (0.151)	0.043 (0.150)	-0.149 (0.148)
Access to Finance (cell avg.)*Labor Productivity (logs)		-0.287 (0.181)	-0.266 (0.179)	-0.220 (0.181)
Access to Finance (cell avg.)*Firm Size (No. of workers, logs)		0.443** (0.188)	0.449** (0.186)	0.510*** (0.196)
Access to Finance (cell avg.)*GDP per capita (logs)		1.040*** (0.300)	1.058*** (0.301)	0.057 (0.380)

Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,424	9,424	9,424	9,424	9,424	8,305	8,305

All coefficient values are log odds ratios obtained from logit estimation. Huber-White robust standard errors clustered on country (ES round) times industry in brackets. *** (1%), ** (5%), * (10%). Sample size varies due to missing data.

Table 6: Finance-Input suppliers' nexus

	(1)	(2)	(3)	(4)	(5)	(6)
Access to Finance (cell avg.)*Contract Enforcement Cost (DB)	-0.139***	-0.157***	-0.136**			
	(0.039)	(0.041)	(0.061)			
Access to Finance*Herfindahl (suppliers, year 2000)				6.524***	6.530***	6.379***
				(2.248)	(2.224)	(2.174)
Herfindahl (suppliers, year 2000)				-6.474***	-5.984***	-6.090***
				(1.846)	(1.807)	(1.795)
Access to Finance (cell avg.)	2.717***	5.520**	2.640	-1.822***	-1.905***	-9.718***
	(1.038)	(2.518)	(5.518)	(0.396)	(0.394)	(2.588)
Firm Size (No. of workers, logs)		-0.164***	-0.142		-0.173***	-0.512***
		(0.052)	(0.234)		(0.054)	(0.149)
Labor Productivity (logs)		0.017	-0.090		-0.147***	0.049
		(0.139)	(0.194)		(0.053)	(0.138)
Employment Growth Rate (% , annual)		0.002	0.002		0.002	0.002
		(0.003)	(0.003)		(0.003)	(0.003)
Wage Rate to GDP ratio (logs)		0.112*	0.094		0.134**	0.134**
		(0.059)	(0.059)		(0.064)	(0.064)
Age of Firm (logs)		0.098	0.094		0.085	0.087
		(0.089)	(0.089)		(0.088)	(0.088)
Exports (proportion of sales)		-0.099	-0.119		-0.130	-0.147
		(0.233)	(0.231)		(0.229)	(0.230)
Foreign Ownership (proportion)		0.042	0.031		0.062	0.067
		(0.195)	(0.194)		(0.189)	(0.192)
Female Workers (share)		0.005***	0.005***		0.005***	0.005***
		(0.002)	(0.002)		(0.002)	(0.002)
Firm has Female Owners Y:1 N:0		0.039	0.043		0.046	0.047
		(0.121)	(0.120)		(0.120)	(0.120)
Top Manager is Female Y:1 N:0		-0.016	-0.015		-0.044	-0.031
		(0.126)	(0.126)		(0.126)	(0.125)
Multi-establishment Firm Y:1 N:0		-0.200	-0.208		-0.249*	-0.244*
		(0.145)	(0.143)		(0.143)	(0.142)
Firm has Accounts Audited Y:1 N:0		-0.039	-0.055		-0.035	-0.053
		(0.103)	(0.103)		(0.103)	(0.102)
Firm Spent on R&D Y:1 N:0		-0.106	-0.124		-0.100	-0.132
		(0.152)	(0.152)		(0.151)	(0.150)
Hours of Power Outages in a Month (cell avg.)		-0.001	-0.002		-0.000	-0.001
		(0.004)	(0.004)		(0.005)	(0.004)
Time Tax (cell avg.)		-0.001	-0.001		-0.002	-0.001
		(0.010)	(0.010)		(0.010)	(0.010)
How Much of an Obstacle? Tax Rates (cell avg.)		-0.009	-0.022		-0.035	-0.035

		(0.122)	(0.120)		(0.124)	(0.121)
Firm Competes Against Informal Firms (cell avg.)		0.002	0.002		0.001	0.002
		(0.003)	(0.003)		(0.003)	(0.003)
How Much of an Obstacle? Labor Laws (cell avg.)		0.007	0.001		-0.012	0.013
		(0.155)	(0.154)		(0.151)	(0.148)
Financially Unconstrained (cell avg.)*Labor Productivity (logs)		-0.225	-0.273			-0.268
		(0.181)	(0.189)			(0.180)
Financially Unconstrained (cell avg.)*Firm Size (No. of workers, logs)			0.376**			0.455**
			(0.187)			(0.190)
Financially Unconstrained (cell avg.)*GDP per capita (logs)			0.198			1.073***
			(0.457)			(0.292)
Firm Size (No. of workers, logs)*Contract Enforcement Cost (DB)			-0.011*			
			(0.006)			
Labor Productivity (logs)*Contract Enforcement Cost (DB)			0.006			
			(0.005)			
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	9,008	9,008	9,008	9,430	9,430	9,430

All coefficient values are log odds ratios obtained from logit estimation. Huber-White robust standard errors clustered on country (ES round) times industry in brackets. *** (1%), ** (5%), * (10%). Sample size varies due to missing data.

Appendix

Table A1: Sample description

Country	Number of firms	Fiscal year covered by ES	Last completed month covered by COV-ES
Albania	238	2018	May, 2020
Belarus	452	2017	July, 2020
Bulgaria	318	2018	October-November, 2020
Chad	77	2017	May, 2020
Croatia	313	2018	August, 2020
Cyprus	126	2017/2018	October-November, 2020
Czech Republic	346	2018	August-September, 2020
El Salvador	278	2015	October-December, 2020
Estonia	213	2018	September, 2020
Georgia	309	2018	September-October, 2020
Greece	500	2017/2018	October, 2020
Guatemala	124	2016	November-December, 2020
Guinea	20	2015	May, 2020
Honduras	89	2015	October-December, 2020
Hungary	497	2018	August, 2020
Italy	346	2018	October-November, 2020
Jordan	185	2018	October-December, 2020
Latvia	148	2018	September-October, 2020
Lithuania	158	2018	September, 2020
Malta	159	2018	December, 2020
Moldova	209	2018	September-October, 2020
Mongolia	255	2018	July, 2020
Morocco	443	2018	June-July, 2020
Nicaragua	159	2016	November-December, 2020
Niger	25	2016	May, 2020
North Macedonia	172	2018	September, 2020
Poland	259	2018	October-November, 2020
Portugal	586	2018	August-September, 2020
Romania	399	2018	October-November, 2020
Russian Federation	713	2018	May, 2020
Slovak Republic	286	2018	August-September, 2020
Slovenia	182	2018	October-November, 2020
Togo	33	2015	May, 2020
Zambia	395	2018/2019/2020	May-June, 2020
Zimbabwe	424	2015	May-June, 2020
All firms	9436		

The sample used is the baseline sample for which information is available on all the variables used in the baseline regressions (as shown in table 1).

Table A2: Description of Variables	
Variable name	Variable description
Incidence of Sales Decline	<p>Dummy variable equal to 1 if the firm’s sales in the last completed month (at the time of the survey) were less than sales 1 year ago in the same month and 0 otherwise. The variable overlaps the period after COVID-19 was declared as a pandemic.</p> <p>Source: ES-COV, The World Bank www.enterprisesurveys.org</p>
Percentage decline in sales	<p>Decline in sales between last completed month and the same month 1 year ago and expressed as a percentage of the latter. The variable overlaps the period after COVID-19 was declared as a pandemic.</p> <p>Source: ES-COV, The World Bank www.enterprisesurveys.org</p>
Access to Finance (cell average)	<p>The proportion of firms in the country-industry cell excluding the firm in question that are financially unconstrained (defined below). Industry is defined at the 2-digit ISIC Rev. 3.1 level. All cells with fewer than 5 firms are excluded. The variable is for the pre-pandemic period.</p> <p>To identify financially unconstrained firms, we use information in the ES on whether the firm applied for a loan or not, and in the latter case, the reasons for not applying. That is, the ES asked each firm if it applied for a loan during the last fiscal year. In case it did not apply, the firm was asked to choose the main reason for not applying from the following list: no need for a loan as the firm has enough internal funds; insufficient loan size and maturity; high collateral requirement; unfavorable interest rate; complex application procedures; and did not think it would be approved. For a firm that applied for a loan, the survey asked if the loan application was rejected, still pending, approved partially, or approved in full.</p> <p>We define a firm as <i>financially unconstrained</i> if the firm either did not apply for a loan because it had enough</p>

	<p>internal funds (i.e. retained earnings), or if it applied for a loan and the loan amount was approved in full. The remaining firms are classified as <i>financially constrained</i>. Thus, financially constrained firms include firms that applied for a loan but were either fully, or partially rejected, and firms that did not apply for a loan because of reasons other than having sufficient internal funds (as listed above).</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Firm-size (No. of workers, logs)	<p>Log of number of full-time workers working at the firm at the end of the last fiscal year. Full-time workers include permanent plus temporary workers (adjusted for number of months worked during the year). The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Labor Productivity (logs)	<p>Log of total real annual sales of the firm (in 2009 USD) during the last fiscal year divided by the number of full-time workers employed at the firm at the end of the last fiscal year. Full-time workers include permanent plus temporary workers (adjusted for number of months worked during the year). The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Employment Growth Rate (% , annual)	<p>Annual growth rate of the number of permanent full-time workers at the firm between the last fiscal year and two fiscal years before. To avoid extreme values, we follow the ES methodology and express the growth as a percentage of the average level of workers at the end of the last fiscal year and two fiscal years ago. The variable is bounded between plus/minus 100. The variable is for the pre-pandemic period.</p>

	Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org
Wage Rate to GDP ratio (logs)	Log of the ratio of average wage paid by the firm to GDP per capita of the country. Average wage rate equals the total cost of labor during the last fiscal year divided by the number of full-time workers working at the firm at the end of the last fiscal year. Number of workers include full-time permanent plus temporary workers (adjusted for the number of months worked during the year). Total wage bill and GDP per capita are expressed in local currency unit. The variable is for the pre-pandemic period. Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org
Wage Rate to GDP ratio (logs, cell avg.)	Average value of the Wage Rate to GDP ratio (logs) as defined in the previous row, where the average is taken over all firms in the same country-industry cell as the firm in question. The average excludes the firm in question. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All country-industry cells with less than 5 observations are excluded. The variable is for the pre-pandemic period. Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org
Age of Firm (logs)	Log of age of the firm at the end of the last fiscal year. The variable is for the pre-pandemic period. Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org
Exports (proportion of sales)	The proportion of firm's annual sales made abroad during the last fiscal year. Only sales made directly by the firm abroad are included (that is, direct exports). The variable is for the pre-pandemic period. Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org

Foreign Ownership (proportion)	<p>The proportion of firm's ownership that is with foreign entities (individuals, companies, etc.) at the time the firm was surveyed by ES. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Female Workers (share)	<p>The proportion of full-time permanent workers employed at the firm at the end of the last fiscal year that are female. Data on temporary workers are not available separately for female and male workers. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Female Workers (share, cell avg.)	<p>Average value of the Female Workers (share) as defined in the previous row, where the average is taken over all firms in the same country-industry cell as the firm in question. The average excludes the firm in question. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All country-industry cells with less than 5 observations are excluded. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Firm has Female Owners Y:1 N:0	<p>Dummy variable equal 1 if the firm has at least one female owner at the time the firm was surveyed by ES and 0 otherwise. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
Top Manager is Female Y:1 N:0	<p>Dummy variable equal to 1 if the main decision maker of the firm is a female at the time the firm was surveyed by ES and 0 otherwise. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>

Multi-establishment Firm Y:1 N:0	<p>Dummy variable equal to 1 if the firm is part of a larger establishment the firm at the time it was surveyed by ES and 0 otherwise. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Firm has Accounts Audited Y:1 N:0	<p>Dummy variable equal to 1 if the firm had its annual financial statement checked and certified by an external auditor in the last fiscal year and 0 otherwise. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Firm Spent on R&D Y:1 N:0	<p>Dummy variable equal to 1 if the firm spent on R&D activity in the last fiscal year and 0 otherwise. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Hours of Power Outages in a Month (cell avg.)	<p>Average value of the total hours of power outages in a typical month in the last fiscal year experienced by the firm, where the average is taken over all firms in the same country-industry cell as the firm in question. The average excludes the firm in question. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All country-industry cells with less than 5 observations are excluded. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Time Tax (cell avg.)	<p>Average value of the percentage of firm's senior management's time that is spent in dealing with government regulations in the last fiscal year, where the average is taken over all firms in the same country-industry cell as the firm in question. The average excludes the firm in question. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All country-industry cells with less than 5</p>

	<p>observations are excluded. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
How Much of an Obstacle? Tax Rates (cell avg.)	<p>Average value of the firm’s self-report of the severity level of tax rates as an obstacle its current operations. The severity level is defined as no obstacle (0), minor obstacle (1), moderate obstacle (2), major obstacle (3), and a very severe obstacle (4). The average is taken over all firms in the same country-industry cell as the firm in question. The average excludes the firm in question. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All country-industry cells with less than 5 observations are excluded. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Firm Competes Against Informal Firms (cell avg.)	<p>Proportion of all other firms (that is, other than the firm in question) in the same country-industry cell as the firm in the question that report competing against informal sector firms at the time the firm was interviewed by ES. The average excludes the firm in question. Industry is defined at the 2-digit ISIC Rev. 3.1 level. All country-industry cells with less than 5 observations are excluded. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
How Much of an Obstacle? Labor Laws (cell avg.)	<p>Average value of the firm’s self-report of the severity level of labor laws as an obstacle its current operations. The severity level is defined as no obstacle (0), minor obstacle (1), moderate obstacle (2), major obstacle (3), and a very severe obstacle (4). The average is taken over all firms in the same country-industry cell as the firm in question. The average excludes the firm in question. Industry is defined at the 2-digit</p>

	<p>ISIC Rev. 3.1 level. All country-industry cells with less than 5 observations are excluded. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Industry fixed effects	<p>A set of dummy variables (one for each industry) indicating the 2-digit ISIC Rev. 3.1 industry to which the firm belongs at the time it was surveyed by ES. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Country fixed effects	<p>A set of dummy variables (one for each country) indicating the country where the firm operates at the time it was surveyed by ES. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Quality Certificate Y:1 N:0	<p>Dummy variable equal to 1 if the firm has internationally recognized quality certificate at the time the firm is interviewed by ES and 0 otherwise. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
Top Manager Experience (years, logs)	<p>Log of total number of years of experience the top manager of the firm has working in the industry at the time the firm is interviewed by ES. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank</p> <p>www.enterprisesurveys.org</p>
<p>Shareholding company with shares trade in the stock market Y:1 N:0</p> <p>Shareholding company with shares trade in the stock market Y:1 N:0</p> <p>Shareholding company with non-traded shares or shares traded privately Y:1 N:0</p> <p>Sole proprietorship Y:1 N:0</p>	<p>A set of 6 dummy variables indicating the legal form of the firm at the time the firm is interviewed by ES. The legal firms include: Shareholding company with shares trade in the stock market; shareholding company with shares trade in the stock market; shareholding company with non-traded</p>

Partnership Y:1 N:0 Limited partnership Y:1 N:0	shares or shares traded privately; sole proprietorship; partnership; and limited partnership. The omitted category is the residual category that includes all other legal forms. The variable is for the pre-pandemic period. Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org
Firm has Own Website Y:1 N:0	Dummy variable equal to 1 if the firm uses its own website to communicate with clients and suppliers at the time the firm is interviewed by ES and 0 otherwise. The variable is for the pre-pandemic period. Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org
Started or Increased Business Activity Online Last Year Y:1 N:0 (COV-V-ES)	Dummy variable equal to 1 if the firm started or increased business activity online in response to the COVID-19 pandemic and 0 otherwise. The variable covers the period after the outbreak of the COVID-19 pandemic. Source: COV-ES, The World Bank www.enterprisesurveys.org
Share of Online Sales (COV-ES)	Share of sales that are made online at the time the firm is interviewed by COV-ES. The variable covers the period after the outbreak of the COVID-19 pandemic. Source: COV-ES, The World Bank www.enterprisesurveys.org
Share of Workforce Working Remotely (COV-ES)	Share of workers at the firm that are working remotely at the time the firm is interviewed by COV-ES. The variable covers the period after the outbreak of the COVID-19 pandemic. Source: COV-ES, The World Bank www.enterprisesurveys.org
Converted its Production or Services in Response to COVID Y:1 N:0 (COV-ES))	Dummy variable equal to 1 if the firm converted its production or services in response to the COVID-19 pandemic and 0 otherwise. The variable covers the period after the outbreak of the COVID-19 pandemic. Source: COV-ES, The World Bank www.enterprisesurveys.org

Skills Obstacle: High (CI level)	<p>Dummy variable equal to 1 if the percentage of firms in the country-industry cell that report inadequately educated workers as a major or very obstacle to the firm’s current operations (as opposed to it being no obstacle, minor obstacle, or a moderate obstacle) is above its median level in the sample used in the baseline model and 0 otherwise. Industry grouping is at the 2-dgit ISIC Rev. 3.1 level. The variable is for the pre-pandemic period.</p> <p>Source: Enterprise Surveys (ES), The World Bank www.enterprisesurveys.org</p>
GDP per capita (logs)	<p>Log of average value of GDP per capita (at constant 2010 Int'l. \$) where the average is taken over 2016-2018.</p> <p>Source: World Development Indicators, World Bank.</p>
Men in Parliament (IPU)	<p>Proportion of seats in the national parliament that are held by men. Average values of the variable over 2013-2015 are used.</p> <p>Source: Inter-Parliamentary Union (IPU).</p>
Women Have Less Rights to Jobs (WVS)	<p>In the World Value Surveys (WVS), individuals were asked the following question: “Do you agree, disagree or neither agree nor disagree with the following statements? When jobs are scarce, men should have more right to a job than women”. Responses were recorded as Disagree (1), Neither agree nor disagree (2), and Agree (3). We use average value of the response is computed for each country. Since the survey is not conducted on annual basis, we use all the surveys between 1997 and 2020.</p> <p>Source: World Value Surveys (1997-2020)</p>
Contract Enforcement Cost (DB)	<p>The cost of enforcing a commercial contract as measured by the World Bank’s Doing project. The cost is expressed as percentage of the claim amount assumed to be equivalent to 200% of income per capita or \$5,000, whichever is greater. Three types of costs are recorded: average attorney fees, court costs and enforcement</p>

	<p>costs. For each country, we use average value of the cost over 2016-2018. Source: Doing Business, World Bank. www.doingbusiness.org</p>
<p>Herfindahl (suppliers, year 2000)</p>	<p>Sum of the square of each commodity's share (in USD) in the inputs used by the industry. Data on the value of commodities used as inputs by each industry is obtained from Input-Output Use matrix for the US for the year 2000 (lagged). The input-output matrix groups industries using NAICS 2017 classification (based on the 205 Order Industry Sectoring Plan by the US Bureau of Labor Statistics). These groups are mapped to the 4-digit ISIC Rev. 3.1 grouping in the ES. Details of this match and other details are available on request from the authors.</p> <p>Source: Author's own calculations based on the methodology in Levchenko (2007). Data for the input-output matrix for US is obtained from Bureau of Labor Statistics (BLS), USA. BLS uses data from Bureau of Economic Analysis (BEA), USA to compile the input-output matrix. Available at: https://www.bls.gov/emp/data/input-output-matrix.htm</p>

Table A3: Summary statistics

Variable	Mean	Standard deviation	Minimum	Maximum	Observations
Incidence of Sales Decline	0.23	0.42	0	1	9436
% change in Sales (Intensive margin)	28.06	32.15	-300	100	9209
Access to Finance (cell avg.)	0.73	0.22	0	1	9436
Firm Size (No. of workers, logs)	2.72	1.01	0	8.3	9436
Labor Productivity (logs)	10.7	1.54	3.76	17.73	9436
Employment Growth Rate (% , annual)	3.74	13.94	-89.47	100	9436
Wage Rate to GDP ratio (logs)	-0.23	1.15	-13.09	6.64	9436
Age of Firm (logs)	3.02	0.5	1.39	5.09	9436
Exports (proportion of sales)	0.07	0.2	0	1	9436
Foreign Ownership (proportion)	0.06	0.23	0	1	9436
Female Workers (share)	35.19	29.56	0	100	9436
Firm has Female Owners Y:1 N:0	0.35	0.48	0	1	9436
Top Manager is Female Y:1 N:0	0.18	0.39	0	1	9436
Multi-establishment Firm Y:1 N:0	0.14	0.35	0	1	9436
Firm has Accounts Audited Y:1 N:0	0.41	0.49	0	1	9436
Firm Spent on R&D Y:1 N:0	0.1	0.3	0	1	9436
Hours of Power Outages in a Month (cell avg.)	11.51	34.78	0	379.1	9436
Time Tax (cell avg.)	9.68	7.58	0	100	9436
How Much of an Obstacle? Tax Rates (cell avg.)	1.86	0.72	0	4	9436
Firm Competes Against Informal Firms (cell avg.)	45.23	27.67	0	100	9436
How Much of an Obstacle? Labor Laws (cell avg.)	1.02	0.55	0	3.77	9436
Wage Rate to GDP ratio (logs, cell avg.)	-0.25	0.68	-3.15	2.48	9415
Female Workers (share, cell avg.)	35.54	19.84	0	100	9428
Cost of enforcing contracts (DB)	29.01	13.38	12.7	83.1	9436
Herfindahl (suppliers, year 2000)	0.07	0.06	0.03	0.69	9434
Skills Obstacle: High (CI level)	0.54	0.5	0	1	9436
Men in Parliament (IPU 2013-2015 average, proportion)	0.79	0.08	0.59	0.9	9436

Table A4: Correlation between Access to Finance and baseline controls

	Access to Finance (cell avg.)
Access to Finance (cell avg.)	1
Firm Size (No. of workers, logs)	-0.008
Labor Productivity (logs)	0.239
Employment Growth Rate (% , annual)	0.000
Wage Rate to GDP ratio (logs)	-0.051
Age of Firm (logs)	0.080
Exports (proportion of sales)	0.075
Foreign Ownership (proportion)	-0.008
Female Workers (share)	0.097
Firm has Female Owners Y:1 N:0	0.041
Top Manager is Female Y:1 N:0	0.050
Multi-establishment Firm Y:1 N:0	-0.034
Firm has Accounts Audited Y:1 N:0	-0.051
Firm Spent on R&D Y:1 N:0	-0.031
Hours of Power Outages in a Month (cell avg.)	-0.323
Time Tax (cell avg.)	-0.003
How Much of an Obstacle? Tax Rates (cell avg.)	-0.044
Firm Competes Against Informal Firms (cell avg.)	-0.230
How Much of an Obstacle? Labor Laws (cell avg.)	-0.044

Table A5: Controlling for the Demand Shock

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)	(5)
Panel A: Coefficient estimates from logit estimation (log odds ratios)					
Access to Finance (cell avg.)	-0.998*	-1.063**	-1.102**	-1.045**	-1.024**
	(0.540)	(0.540)	(0.538)	(0.524)	(0.513)
Demand Declined Last Year Y:1 N:0 (COVe2b)	4.528***	4.536***	4.541***	4.561***	4.573***
	(0.186)	(0.185)	(0.184)	(0.183)	(0.183)
Firm Size (No. of workers, logs)		-0.104*	-0.116*	-0.071	-0.069
		(0.063)	(0.066)	(0.069)	(0.069)
Labor Productivity (logs)		-0.170**	-0.244***	-0.233***	-0.231***
		(0.071)	(0.080)	(0.079)	(0.080)
Employment Growth Rate (% , annual)		0.001	0.002	0.003	0.003
		(0.005)	(0.005)	(0.005)	(0.005)
Wage Rate to GDP ratio (logs)			0.165**	0.166**	0.166**
			(0.069)	(0.069)	(0.069)
Age of Firm (logs)			0.066	0.076	0.070
			(0.144)	(0.143)	(0.143)
Exports (proportion of sales)			0.107	0.061	0.052
			(0.305)	(0.312)	(0.313)
Foreign Ownership (proportion)			0.093	0.205	0.188
			(0.274)	(0.290)	(0.299)
Female Workers (share)				0.006*	0.006*
				(0.003)	(0.003)
Firm has Female Owners Y:1 N:0				0.042	0.043
				(0.185)	(0.186)
Top Manager is Female Y:1 N:0				-0.009	-0.004
				(0.212)	(0.211)
Multi-establishment Firm Y:1 N:0				-0.380*	-0.396*
				(0.223)	(0.222)
Firm has Accounts Audited Y:1 N:0				-0.250*	-0.253*
				(0.141)	(0.140)
Firm Spent on R&D Y:1 N:0				0.185	0.190
				(0.191)	(0.193)
Hours of Power Outages in a Month (cell avg.)					0.002
					(0.004)
Time Tax (cell avg.)					-0.014
					(0.018)
How Much of an Obstacle? Tax Rates (cell avg.)					-0.107
					(0.171)

Firm Competes Against Informal Firms (cell avg.)					0.001
					(0.004)
How Much of an Obstacle? Labor Laws (cell avg.)					-0.062
					(0.202)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	9,432	9,432	9,432	9,432	9,432

Panel B: Marginal effects

Access to Finance (cell avg.)	-0.135*	-0.143**	-0.148**	-0.139**	-0.135**
	(0.073)	(0.072)	(0.071)	(0.068)	(0.068)
Other controls above	Yes	Yes	Yes	Yes	Yes
Number of observations	9,432	9,432	9,432	9,432	9,432

Huber-White robust standard errors clustered on country times industry in brackets. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables. *** (1%), ** (5%), * (10%).

Table A6: Using cell averages for wage rate and female workers

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)	(5)
Access to Finance (cell avg.)	-1.191*** (0.322)	-1.231*** (0.316)	-1.219*** (0.315)	-1.216*** (0.319)	-1.223*** (0.322)
Firm Size (No. of workers, logs)		-0.191*** (0.052)	-0.206*** (0.053)	-0.186*** (0.057)	-0.186*** (0.057)
Labor Productivity (logs)		-0.104** (0.044)	-0.103** (0.044)	-0.097** (0.043)	-0.096** (0.043)
Employment Growth Rate (% annual)		0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
Wage Rate to GDP ratio (logs, cell avg.)			-0.019 (0.157)	-0.005 (0.159)	0.002 (0.161)
Age of Firm (logs)			0.099 (0.090)	0.093 (0.089)	0.091 (0.089)
Exports (proportion of sales)			-0.038 (0.231)	-0.035 (0.235)	-0.035 (0.235)
Foreign Ownership (proportion)			-0.000 (0.188)	0.039 (0.187)	0.046 (0.186)
Female Workers (share, cell avg.)				-0.002 (0.004)	-0.002 (0.004)
Firm has Female Owners Y:1 N:0				0.074 (0.121)	0.075 (0.121)
Top Manager is Female Y:1 N:0				0.023 (0.120)	0.023 (0.120)
Multi-establishment Firm Y:1 N:0				-0.232 (0.145)	-0.232 (0.144)
Firm has Accounts Audited Y:1 N:0				-0.047 (0.104)	-0.047 (0.103)
Firm Spent on R&D Y:1 N:0				-0.050 (0.152)	-0.046 (0.152)
Hours of Power Outages in a Month (cell avg.)					-0.001 (0.005)
Time Tax (cell avg.)					-0.002 (0.010)

How Much of an Obstacle? Tax Rates (cell avg.)					0.020
					(0.124)
Firm Competes Against Informal Firms (cell avg.)					0.001
					(0.003)
How Much of an Obstacle? Labor Laws (cell avg.)					-0.021
					(0.154)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	9,432	9,432	9,411	9,406	9,406

All coefficient values are log odds ratios obtained from logit estimation. Huber-White robust standard errors clustered on country (ES round) times industry in brackets. *** (1%), ** (5%), * (10%).

Table A7: Split sample results for skilled workers

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)
	Below median skilled workers		Above median skilled workers	
Access to Finance (cell avg.)	-0.601 (0.412)	-0.535 (0.414)	-1.912*** (0.567)	-1.977*** (0.547)
Wage Rate to GDP ratio (logs, cell avg.)	-0.252 (0.198)	-0.286 (0.199)	-0.133 (0.419)	0.010 (0.397)
Firm Size (No. of workers, logs)		-0.136** (0.065)		-0.228*** (0.083)
Labor Productivity (logs)		-0.098 (0.062)		-0.106 (0.065)
Employment Growth Rate (% , annual)		-0.002 (0.005)		0.003 (0.005)
Age of Firm (logs)		0.200 (0.126)		0.010 (0.127)
Exports (proportion of sales)		-0.176 (0.309)		0.014 (0.329)
Foreign Ownership (proportion)		-0.080 (0.304)		0.131 (0.221)
Female Workers (share)		0.002 (0.002)		0.011*** (0.003)
Firm has Female Owners Y:1 N:0		0.105 (0.116)		0.028 (0.212)
Top Manager is Female Y:1 N:0		-0.054 (0.144)		-0.201 (0.201)
Multi-establishment Firm Y:1 N:0		-0.446** (0.220)		-0.180 (0.191)
Firm has Accounts Audited Y:1 N:0		0.229 (0.152)		-0.330** (0.151)
Firm Spent on R&D Y:1 N:0		-0.228 (0.205)		-0.045 (0.217)
Hours of Power Outages in a Month (cell avg.)		-0.000 (0.003)		-0.001 (0.005)
Time Tax (cell avg.)		-0.010 (0.011)		-0.001 (0.016)
How Much of an Obstacle? Tax Rates (cell avg.)		0.064 (0.155)		-0.047 (0.187)
Firm Competes Against Informal Firms (cell avg.)		-0.001 (0.004)		0.001 (0.005)
How Much of an Obstacle? Labor Laws (cell avg.)		0.323 (0.205)		-0.311 (0.217)
Industry fixed effects	Yes	Yes	Yes	Yes

Country fixed effects	Yes	Yes	Yes	Yes
Number of observations	5,516	5,516	3,878	3,878
Panel B: Marginal effects				
Access to Finance (cell avg.)	-0.126	-0.114	-0.367***	-0.362***
	(0.086)	(0.085)	(0.110)	(0.100)
Other controls (as above)	Yes	Yes	Yes	Yes
Number of observations	5,516	5,516	3,878	3,878

Huber-White robust standard errors clustered on country times industry in brackets. All coefficient values in Panel A are log-odds ratios. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables. *** (1%), ** (5%), * (10%).

Table A8: Split sample results for male workers

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)
	Below median share of male workers	Above median share of male workers		
Access to Finance (cell avg.)	0.236 (0.437)	0.247 (0.427)	-1.753*** (0.427)	-1.860*** (0.437)
Female Workers (share, cell avg.)	0.002 (0.005)	-0.002 (0.005)	0.003 (0.012)	0.001 (0.011)
Firm Size (No. of workers, logs)		-0.114* (0.063)		-0.156** (0.071)
Labor Productivity (logs)		-0.250*** (0.068)		-0.046 (0.083)
Employment Growth Rate (% , annual)		-0.004 (0.005)		0.005 (0.005)
Wage Rate to GDP ratio (logs)		-0.002 (0.072)		0.196** (0.100)
Age of Firm (logs)		0.059 (0.108)		0.181 (0.148)
Exports (proportion of sales)		0.031 (0.283)		-0.331 (0.327)
Foreign Ownership (proportion)		-0.036 (0.223)		0.071 (0.316)
Firm has Female Owners Y:1 N:0		-0.011 (0.163)		0.101 (0.190)
Top Manager is Female Y:1 N:0		0.107 (0.151)		-0.249 (0.236)
Multi-establishment Firm Y:1 N:0		-0.044 (0.157)		-0.681*** (0.240)
Firm has Accounts Audited Y:1 N:0		-0.051 (0.137)		-0.062 (0.154)
Firm Spent on R&D Y:1 N:0		-0.225 (0.237)		0.041 (0.181)
Hours of Power Outages in a Month (cell avg.)		0.000 (0.007)		-0.004 (0.004)
Time Tax (cell avg.)		-0.009 (0.011)		0.004 (0.013)
How Much of an Obstacle? Tax Rates (cell avg.)		0.056 (0.145)		0.173 (0.147)
Firm Competes Against Informal Firms (cell avg.)		0.005 (0.004)		-0.006* (0.003)
How Much of an Obstacle? Labor Laws (cell avg.)		0.446**		-0.257

		(0.208)		(0.190)
Industry fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Number of observations	4,091	4,091	5,298	5,298

Panel B: Marginal effects

Access to Finance (cell avg.)	0.049 (0.091)	0.051 (0.088)	-0.340*** (0.081)	-0.353*** (0.081)
Other controls (as above)	Yes	Yes	Yes	Yes
Number of observations	4,091	4,091	5,298	5,298

Huber-White robust standard errors clustered on country times industry in brackets. All coefficient values in Panel A are log-odds ratios. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables. *** (1%), ** (5%), * (10%).

Table A9: Split sample results for Cost of Contract Enforcement

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)
	Below median Cost of enforcing contracts		Above median Cost of enforcing contracts	
Access to Finance (cell avg.)	-0.425 (0.385)	-0.330 (0.370)	-2.159*** (0.570)	-2.367*** (0.584)
Firm Size (No. of workers, logs)		-0.030 (0.052)		-0.346*** (0.083)
Labor Productivity (logs)		-0.115* (0.061)		-0.147* (0.087)
Employment Growth Rate (% , annual)		-0.003 (0.004)		0.009 (0.006)
Wage Rate to GDP ratio (logs)		0.001 (0.070)		0.174* (0.091)
Age of Firm (logs)		0.111 (0.109)		0.154 (0.158)
Exports (proportion of sales)		-0.169 (0.268)		-0.238 (0.393)
Foreign Ownership (proportion)		0.102 (0.282)		0.087 (0.257)
Female Workers (share)		0.003 (0.002)		0.009*** (0.003)
Firm has Female Owners Y:1 N:0		-0.023 (0.117)		0.170 (0.270)
Top Manager is Female Y:1 N:0		0.006 (0.132)		-0.161 (0.275)
Multi-establishment Firm Y:1 N:0		-0.445*** (0.141)		-0.033 (0.247)
Firm has Accounts Audited Y:1 N:0		0.007 (0.137)		-0.118 (0.176)
Firm Spent on R&D Y:1 N:0		0.002 (0.171)		-0.249 (0.249)
Hours of Power Outages in a Month (cell avg.)		0.039* (0.021)		-0.000 (0.005)
Time Tax (cell avg.)		-0.001 (0.013)		-0.006 (0.014)
How Much of an Obstacle? Tax Rates (cell avg.)		0.143 (0.131)		-0.353 (0.230)
Firm Competes Against Informal Firms (cell avg.)		0.003 (0.004)		0.003 (0.005)
How Much of an Obstacle? Labor Laws (cell avg.)		0.071 (0.193)		-0.172 (0.263)
Industry fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes

Number of observations	5,678	5,678	3,330	3,330
Panel B: Marginal effects				
Access to Finance (cell avg.)	-0.102 (0.092)	-0.079 (0.088)	-0.334*** (0.089)	-0.345*** (0.084)
Other controls (as above)	Yes	Yes	Yes	Yes
Number of observations	5,678	5,678	3,330	3,330

Huber-White robust standard errors clustered on country times industry in brackets. All coefficient values in Panel A are log-odds ratios. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables.

*** (1%), ** (5%), * (10%).

Table A10: Split sample results for Herfindahl index

Dependent variable: Incidence of Sales Decline (dummy)	(1)	(2)	(3)	(4)
	Below median Herfindahl index		Above median Herfindahl index	
Access to Finance (cell avg.)	-1.869*** (0.500)	-1.884*** (0.523)	-0.709 (0.454)	-0.775 (0.484)
Firm Size (No. of workers, logs)		-0.120 (0.079)		-0.209*** (0.069)
Labor Productivity (logs)		-0.083 (0.093)		-0.170*** (0.064)
Employment Growth Rate (% annual)		-0.002 (0.005)		0.004 (0.005)
Wage Rate to GDP ratio (logs)		0.099 (0.107)		0.158* (0.083)
Age of Firm (logs)		0.125 (0.156)		0.083 (0.101)
Exports (proportion of sales)		-0.123 (0.323)		-0.063 (0.327)
Foreign Ownership (proportion)		0.180 (0.278)		-0.074 (0.263)
Female Workers (share)		0.005 (0.003)		0.005** (0.002)
Firm has Female Owners Y:1 N:0		0.116 (0.181)		-0.033 (0.173)
Top Manager is Female Y:1 N:0		0.187 (0.191)		-0.196 (0.173)
Multi-establishment Firm Y:1 N:0		-0.157 (0.258)		-0.336** (0.163)
Firm has Accounts Audited Y:1 N:0		-0.199 (0.154)		-0.011 (0.145)
Firm Spent on R&D Y:1 N:0		-0.022 (0.204)		-0.262 (0.232)
Hours of Power Outages in a Month (cell avg.)		0.001 (0.004)		0.003 (0.006)
Time Tax (cell avg.)		-0.005 (0.014)		-0.010 (0.012)
How Much of an Obstacle? Tax Rates (cell avg.)		0.109 (0.157)		0.099 (0.167)
Firm Competes Against Informal Firms (cell avg.)		0.001 (0.004)		0.002 (0.004)
How Much of an Obstacle? Labor Laws (cell avg.)		0.115 (0.207)		-0.265 (0.183)
Industry fixed effects	Yes	Yes	Yes	Yes

Country fixed effects	Yes	Yes	Yes	Yes
Number of observations	3,742	3,742	5,665	5,665
Panel B: Marginal effects				
Access to Finance (cell avg.)	-0.357*** (0.094)	-0.358*** (0.097)	-0.148 (0.095)	-0.160 (0.100)
Other controls (as above)	Yes	Yes	Yes	Yes
Number of observations	3,742	3,742	5,665	5,665

Huber-White robust standard errors clustered on country times industry in brackets. All coefficient values in Panel A are log-odds ratios. Marginal effects in Panel B are evaluated at the mean value of all the explanatory variables. *** (1%), ** (5%), * (10%).