

# **SMEs and COVID-19: Financial Constraints and Role of Government Support**

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# Introduction

- The COVID-19 significantly impacted the world economy.
- Governments resorted to several measures that curb economic activities(Carnap et al., 2020).
- The intensity of the adverse effect fell severely on the small and medium enterprises (SMEs), which are more financially constrained (Cao and Leung, 2020; Baldwin and Mauro, 2020).
- Policy makers relied on various forms of short-run and long-run policies to support SMEs (see Humphries et al., 2020).
- **Objective:**  
explores the impact of the pandemic-led crisis on financially constrained SMEs and the role of government support to offset the perils of the economic shock.

# Introduction

- Previous studies:
  - SMEs are financially more constrained, and the presence of financial constraints poses a negative impact on the growth and survival of SMEs
- The COVID-19 pandemic has added to the existing woes of SMEs.
- Financial constraints could severely impact millions of jobs and, affect development goals
- The need for financial support for SMEs becomes imperative during the time of crisis

# Introduction

- **An important question-** whether these support measures have really succeeded in targeting financially vulnerable SMEs?
- Further, we examine whether financially constrained firms resize their workforce in response to the pandemic.

## **Contribution**

- Our study links firm survival with constraints to access to finance during the COVID-19 crisis
- We examine whether the government support measures are channelized to financially constrained firms, and how these measures have helped the firms to cope with the crisis
- Focus on employee layoffs during the time of crisis, and whether the firms have resized their workforce in response to the pandemic

## **Economy in the peril of COVID-19**

- COVID-19 shock turned out to be a leading factor for the current economic recession, which affected firms both from demand and supply sides (Baldwin and Mauro, 2020).
- The supply chain disruption led firms to shut down their operations and worker layoffs, which further accelerated the intensity of the crisis.
- Contraction in global GDP, shutting down of businesses, disrupted millions of lives and jeopardized decades of development progress.

# Economy in the peril of COVID-19

- MSMEs in emerging and developing economies faced the brunt of the widespread disruption.
- Sudden and prolonged lockdown led to widespread exit of SMEs since they are more financially constrained, heavily reliant on internal funds and informal sources of finance (Cao and Leung, 2020).
- The policy measures:
  - **SR measures**: income and profit tax deferrals, loan guarantees and direct lending, and wage subsidies to
  - **LR measures**: new alternative markets, teleworking and digitalization, innovation and training of the workers.

# Data

- ✓ World Bank COVID-19 Follow-up Enterprise Survey (CFES).
  - This survey is conducted during May-December 2020.
  - The CFES provides information on 25,114 firms belongs to 34 countries during the pandemic period.
  - We mainly use the information on operating status, issues related to finance issues, government support, employment, and adjustments in production/services.
- ✓ World Bank Enterprise Survey (WBES) - age, location, and international exposure.
- ✓ Matching WBES and CFES - 23,486 firms.
- ✓ **Data cleaning**
  - Omit firms with missing values for any of the variables - final sample **12,858** firms.



# Variables

## Financial Constraint:

- We utilize the survey question “*How Much Of An Obstacle: Access To Finance (k30)*”.
- Dummy variable that takes value 1 for the firms that face obstacles in accessing external finance; zero otherwise.

## Govt Support:

- We construct this variable using the responses to the survey question “*...has this establishment received any national or local government support in response to the COVID-19 crisis? (COVf1)*”.
- Dummy variable, which equals 1 if the firm has received government support or expect to receive within 3 months , and 0 otherwise.

# **Variables**

## **Government measures**

- ✓ Access to new credit (New Credit),
- ✓ Cash transfers for businesses (Cash Transfer),
- ✓ Deferral of credit payments, rent or mortgage, suspension of interest payments, or rollover of debt (Deferral),
- ✓ Fiscal exemptions or reductions (Fiscal Measures),
- ✓ Wage subsidies (Wage Subsidies),
- ✓ Support in other forms (Other Support).

# Variables

## Coping with Pandemic:

- Survey question “*Has this establishment adjusted or converted, partially or fully, its production or the services it offers in response to the COVID-19 outbreak? (COVc3)*”, which takes value 1, if the firm adjusted its production or services due to the pandemic; zero otherwise.

**Layoff:** ordinal variable from the responses to the survey question “*Has the number of permanent workers remained the same? (COVd3a)*”.

- It takes the value 1 if the firm reports that the number of permanent workers has increased, 2 if it has remained the same and 3 if it has decreased.

## Female-to-male layoff ratio:

This variable denotes the ratio of the number of female to male employees who have been laid off. This variable construction relies on the question “*Number of female workers laid off (COVd7)*” and *Total Layoff*.

# Does Government support target financially constrained firms

## Probit Model

$$Y_{i,c \text{ post}} = f(\text{Financial Constraint}_{i,\text{pre}}, \text{Firm Controls}_{i,\text{pre}}, \text{Country Dummies}, \text{Provincial Dummies}, \text{Industry Dummies}, \text{Survey Month Dummies}) \quad (1)$$

$$\text{Coping with Pandemic}_{i,\text{post}} = f(\text{Govt Support}_{i,\text{post}}, \text{Firm Controls}_{i,\text{pre}}, \text{Country Dummies}, \text{Region Dummies}, \text{Industry Dummies}, \text{Survey Month Dummies})$$

## Endogeneity concerns

- Endogeneity issue - reverse causality.
  - On the one hand, the government provides support to financially vulnerable firms during the crisis; on the other hand, lack of government support especially during a crisis period pushes firms to be more financially constrained.
- We estimate equation (1) using the instrumental variable probit model (IV-Probit).
- Requires valid instrumental variable that satisfies two conditions:
  - relevance and exogeneity condition.
- **Relevance condition** - instrument to be highly correlated with the endogenous variable, **exogeneity condition**- instrument should not have a direct role in our model.

## Endogeneity concerns

- Instrument - overdraft facilities available for firms.
  - a dummy variable that takes the value equal to one if a firm has an overdraft facility from any financial institution; zero otherwise (Overdraft).
- Financial institutions generally provide overdraft facilities for financially sound firms.
- Our instrument is highly correlated with our financial constraint measure and satisfies the **relevance condition**.
- **Exogeneity condition** – Govt support is not based on the availability of overdraft facilities of the firms or overdraft is a short-term borrowing, which is not enough for firms during the crisis period, the instrument is not directly correlated with the dependent variable.

**TABLE 2** Government support and financial constraints: IV-Probit

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Govt support	New credit	Cash transfer	Deferral	Fiscal	Wage subsidy
Financial constraint	0.573*** (0.133)	0.552*** (0.0329)	1.040*** (0.179)	1.447*** (0.126)	1.461*** (0.175)	0.681*** (0.210)
Age	-0.00393 (0.00659)	-0.0743*** (0.0108)	-0.00404 (0.00889)	-0.150*** (0.0441)	-0.0833*** (0.0184)	-0.0921*** (0.0219)
Size	-0.0509*** (0.0144)	0.0904** (0.0433)	-0.0834*** (0.0232)	0.0564 (0.0358)	-0.0245* (0.0146)	0.0332** (0.0151)
Export	0.0727** (0.0338)	0.0339 (0.0378)	-0.0977 (0.0739)	-0.0570 (0.0354)	-0.0430*** (0.00883)	-0.0131 (0.0139)
Subsidiary	0.107*** (0.0206)	0.0450*** (0.0107)	0.0981** (0.0456)	-0.0635** (0.0265)	0.0768* (0.0421)	0.0743* (0.0409)
Location	0.0512 (0.0395)	0.137*** (0.0219)	0.00132 (0.0299)	0.0643*** (0.0125)	-0.00373 (0.0269)	0.0405 (0.0305)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Provincial dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey month dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,264	4320	4438	4594	4315	4814

Note: This table provides the nexus between government support and financial constraints. The marginal effects are presented. Control measures are observed in pre-pandemic period. Standard errors in the parenthesis are clustered at country level.

**TABLE 3** Layoff and financial constraints

Variables	(1) Layoff (probit)	(2) Female-to-male layoff ratio (OLS)
Financial constraint	0.235*** (0.0762)	-0.486*** (0.146)
Firm-level controls	Yes	Yes
Industry dummies	Yes	Yes
Provincial dummies	Yes	Yes
Country dummies	Yes	Yes
Survey month dummies	Yes	Yes
Observations	12,552	814



**TABLE 4** Robustness check and further analysis—IV Regression

	(1)	(2)	(3)	(4)
Variables	New financial constraint measure	Lewbel estimation technique	Essential	Non-essential
Financial constraint2	1.396*** (0.325)			
Financial constraint		0.0194** (0.00819)	2.246** (1.106)	0.567*** (0.143)
Firm-level controls	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Provincial dummies	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes
Survey month dummies	Yes	Yes	Yes	Yes
Hansen <i>J</i> statistic ( <i>p</i> -value)	–	0.074	....	....
Observations	12,264	12,761	1550	10,521

Note: This table reports robustness check results of the nexus between government support and financial constraints. Government support is used as the dependent variable in all the estimation. Control measures are observed in pre-pandemic period. Standard errors in the parenthesis of column 1, 3, and 4 are clustered at country level, and robust standard error is reported in Lewbel estimation.

\*\*\* $p < 0.01$ ,; \*\* $p < 0.05$ .

**TABLE 5** Government support and coping with pandemic

Variables	(1) Cope with pandemic	(2) Cope with pandemic	(3) Cope with pandemic	(4) Cope with pandemic	(5) Cope with pandemic	(6) Cope with pandemic
Govt support	0.0983*** (0.0147)					
New credit		0.116*** (0.0177)				
Cash transfer			0.0202 (0.0269)			
Deferral				0.149*** (0.0338)		
Fiscal exempt					0.0745*** (0.0271)	
Wage subsidy						0.150*** (0.0493)
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Provincial dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey month dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,858	4568	4688	4657	4644	4845

Note: This table provides the nexus between government support and coping with pandemic. The marginal effects are presented. Control measures are observed in pre-pandemic period. Standard errors in the parenthesis are clustered at country level.

\*\*\* $p < 0.01$ .

# Conclusion

- Using rich firm-level data from 34 countries, we find that government support programmes are more inclusive as they target mostly financially constrained firms
- The result is robust to concerns arising from endogeneity of financial constraints and also to alternative measures of financial constraints.
- We find the same effect on both essential and non-essential good sectors, however, the magnitude of the effect is higher in the essential good sector.
- Further, we find this support is significant for SMEs to cope with the pandemic.
- Our final set of analyses reveals that financially constrained firms are more likely to sack workers; and there is evidence of male employees are losing more jobs.