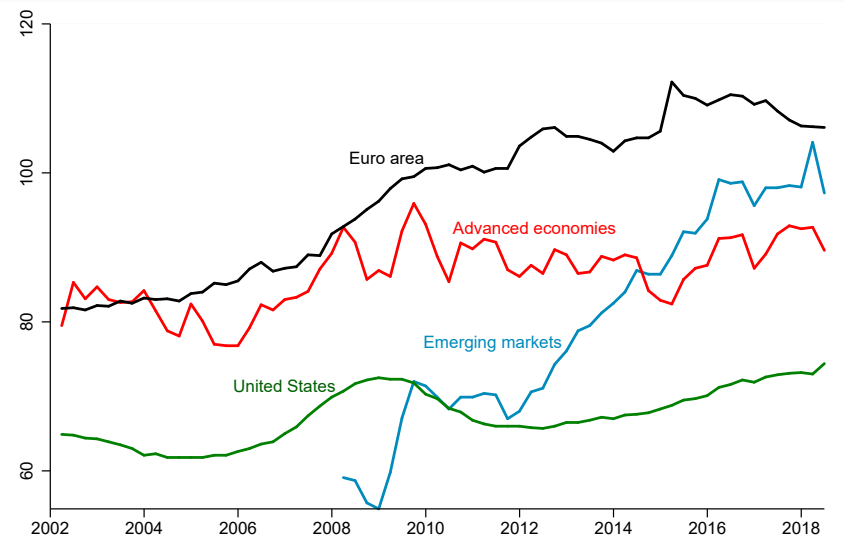
Corporate Leverage, Credit Cycles and Growth: Insights from Pre and Post COVID-19 Economies

Şebnem Kalemli-Özcan
University of Maryland, NBER, CEPR

PIIE

Corporate Debt/GDP: Advanced and Emerging Countries



I have been working on corporate debt-real outcomes-financial sector linkages:

Europe:

1. **Debt Overhang, Rollover Risk, and Corporate Investment: Evidence from the European Crisis, 2019** (with Luc Laeven, David Moreno)
2. **Capital Allocation and Productivity in South Europe**, *Quarterly Journal of Economics, 2017* (with Gopinath, Karabarbounis, Villegas-Sanchez)

U.S.:

1. **Risk-Taking and Monetary Policy Transmission: Evidence from Loans to SMEs and Large Firms, 2021** (with Caglio and Darst)
2. **Leverage over the life cycle of U.S. Firms, 2019** (with Dinlersoz, Hyatt, Penciakova)

TODAY's Talk:

1. **COVID-19 and SME failures, May 2020** (with Pierre-Olivier Gourinchas, Veronika Penciakova, Nick Sander)
2. **COVID-19 and SMEs: A 2021 Time Bomb**, *American Economic Review, P&P, May 2021* (with Pierre-Olivier Gourinchas, Veronika Penciakova, Nick Sander)
3. **Fiscal Policy in the age of COVID: Does it get into all of the cracks?**, *Jackson Hole Symposium, August 2021*

COVID-19 and Firm Failures

We ask:

1. What is the impact of COVID-19 on firm failures in a wide range of countries?
2. What is the cost/effectiveness of government interventions aimed at saving firms?
3. Does COVID-19 SME support policies create a “time bomb” of failures in 2021-2022 in terms of debt overhang and zombies?

Methodology to estimate firm failures in real time

- **Challenge**: To identify a liquidity shortage, need firm cashflow under COVID-19.

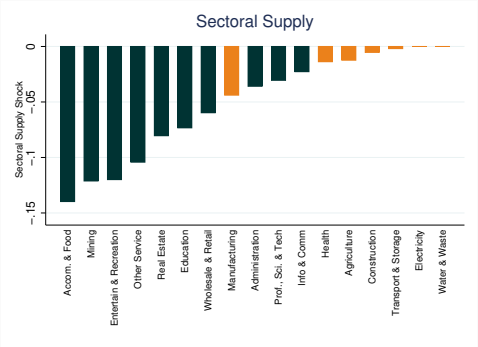
$$\text{cash} + CF_{\text{COVID}} < \text{financial expenses}$$

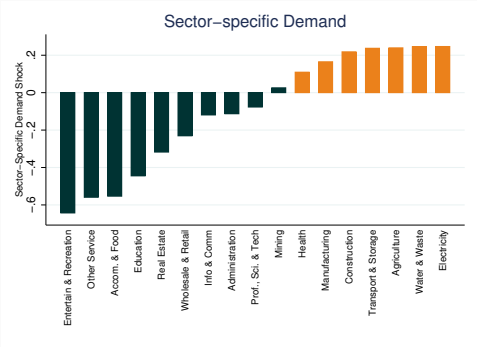
- **Approach**: Combine data with model to estimate CF_{COVID}
  - Representative firm-level financial data (ORBIS) from 27 countries.

$$CF_{\text{COVID}} = PY_{2018}\widehat{PY}_{\text{COVID}} - \text{COGS}_{2018}\widehat{COGS}_{\text{COVID}} - \text{Fixed Costs} - \text{Taxes}$$

  - Firm cost-minimizes over labor and materials given supply and demand shocks calibrated at sectoral level (4-digit).

Sectoral Supply & Demand Shocks





Baseline Failure Rates

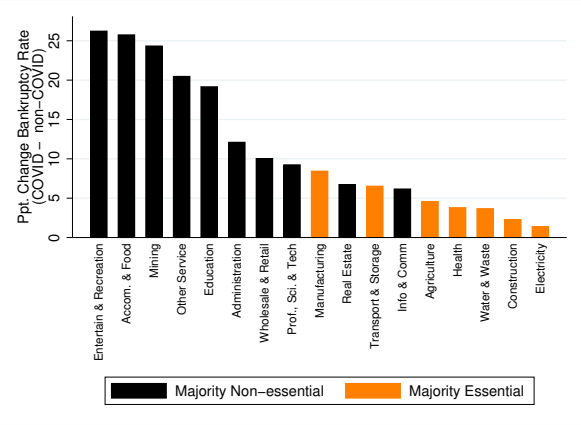
Aggregate SME Failure Rate (%)

	(1) Non-COVID	(2) COVID	(3) Δ
High coverage	9.61	18.66	9.06
All	9.43	18.41	8.98

Baseline scenario: Single 8 week lockdown

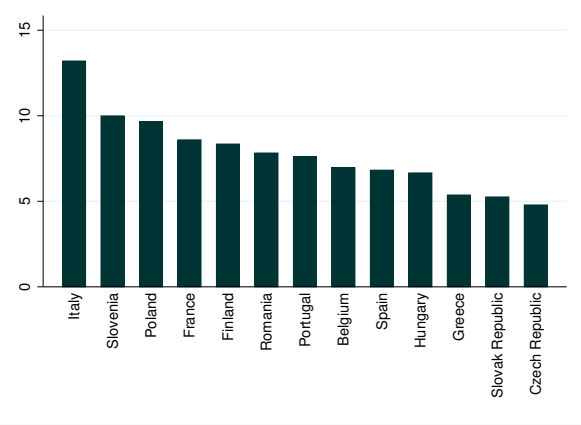
- No government intervention.
- The table reports the cumulative failure rate at the end of 2020.
- Aggregate failure rates mask heterogeneity across sectors and countries.

Sectoral Heterogeneity in Failure Rates (COVID - non-COVID)



- COVID impact ranges from 2 pct. pt. (Electricity) to 25 pct. pt. (Accommodation & Food Service) difference in failure rates.

Country Heterogeneity in Failure Rates (COVID - non-COVID)



- COVID impact ranges from 4.8 pct. pt. (Czech Republic) to 13.2 pct pt. (Italy) difference in failure rates.

COVID Risk to the Banking Sector

	CET1 ratio (risk-weighted)	Δ CET1R
Average	14.14%	-2.16 pct. pts.

- Data availability limits analysis to Belgium, Finland, France, Germany, Greece, Spain.
- **Little systemic risk from SME failures under COVID**:
  - CET1 ratio declines 2.16 pct. pts. from initial level of 14.1%
  - Initial level in 2018 more than double what it was in 2009.
  - EBA's 2018 adverse scenario stress test generated a 4 pct. pt. decline in CET1 ratio.

I-O Linkages, Flexible Prices and Policy Support

Aggregate SME Failure Rate (%)

	(1) Non-COVID	(2) COVID	(3) Δ (pp)
All	9.80	18.80	**9.00**
Advanced	7.88	13.53	5.65
Emerging	11.82	24.35	12.53

Baseline scenario:

- No government intervention—18AEs, 9 EMs.
- The table reports the cumulative failure rate at the end of 2020.
- Aggregate failure rates mask heterogeneity across sectors and countries.
- Extensive margin *reduces* failure rates;
- I-O structure accounts for AEs-EMs difference in failure rate (sourcing concentration).

Policy Support was Effective...

	No Policy Support		With Policy Support	
	(1) Δ (pp)	(2) Hypothetical Costs (%, GDP)	(3) Δ (pp)	(4) Actual Funds Disbursed (%, GDP)
All	9.00	0.80	4.30	4.05
Advanced	5.65	0.13	-0.43	6.08
Emerging	12.53	1.50	9.28	1.91

- Targeted Bailouts are cheap: 0.8% of GDP

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- Targeted Bailouts are cheap: 0.8% of GDP
- Full offset in AEs, due to size of fiscal support

Poorly targeted... but no 'Zombification'

Policy Targeting (excl. China)

	Funds (%, GDP)	Firms Saved (% of at risk)	Jobs Saved (% of at risk)
All Firms	**5.10**	36.0	46.8
Survive without Policy	4.53	0.00	0.00
Survive because of Policy	**0.29**	**36.0**	46.8
Of which, zombie firms	**0.10**	**13.0**	15.4

- Zombies account for 2% of the funds and 13% of firms at risk (i.e. fail in 2020 without support)
- In 2021: failure rate increases only by 2.6pp (relative to normal) even if firms have to repay pandemic loans. *Most saved firms are viable.*

What About 2021?— Most saved firms are viable, no future zombification

Policy Targeting (excl. China)

	All	Advanced	Emerging
Survive until end 2021	70.2	73.1	60.5
of which, zombie firms	22.6	22.9	21.6
Fail 2021	29.8	26.9	39.5
of which, zombie firms	13.3	13.5	12.7

- In 2021: failure rate increases only by 2.6pp (relative to normal) even if firms have to repay pandemic loans.
- 70.2% of firms that survived to the end of 2020 because of policy support also survive until 2021
- Of firms survive 2020 because of policy support, 22.6% are zombies that also survive to the end of 2021 and 13.3% are zombies that fail by the end of 2021

In 2021-2022, key risk to manage: financial market panic.

- U.S. Regulatory Y-14 data: During COVID-19, large firms can access credit markets and draw from credit lines, SMEs cannot; Policy 'filled-in' for credit markets for SMEs
  $\Rightarrow$ (e.g Chodorow-Reich, Darmouni, Luck, Plosser; Darst, Caglio, Kalemli-Ozcan, 2021)

Conclusion

Takeaways

- DURING COVID: Policies prevented firm failures and did not create zombies, however there is waste as most funds went to firms who did not need it
- POST-COVID: SMEs fundamentals are strong and don't need additional support unless uncertainty + monetary policy action lead to financial market panic increasing the debt burden of SMEs.