

IMF STAFF DISCUSSION NOTE

Insolvency Prospects Among Small and Medium Enterprises in Advanced Economies: Assessment and Policy Options

Federico J. Díez, Romain Duval, Jiayue Fan, José Garrido, Sebnem Kalemli-Özcan, Chiara Maggi, Soledad Martinez-Peria, and Nicola Pierri

**Insolvency Prospects Among Small and Medium Enterprises in Advanced Economies:
Assessment and Policy Options**

Prepared by Federico J. Díez, Romain Duval, Jiayue Fan, José Garrido, Sebnem Kalemli-Özcan, Chiara Maggi, Soledad Martinez-Peria, and Nicola Pierri

Authorized for distribution by Gita Gopinath and Rhoda Weeks-Brown

DISCLAIMER: Staff Discussion Notes (SDNs) showcase policy-related analysis and research being developed by IMF staff members and are published to elicit comments and to encourage debate. The views expressed in Staff Discussion Notes are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

JEL Classification Numbers: E65, G33, G38

Keywords: Insolvency, Bankruptcy, "Quasi" Equity Injections, Small- and medium-size enterprises, COVID-19

Authors' E-mail Address: fdiez@imf.org, rduval@imf.org, jfan@imf.org, jgarrido@imf.org, kalemli@umd.edu, cmaggi@imf.org, mmartinezperia@imf.org, npierri@imf.org

CONTENTS

EXECUTIVE SUMMARY	5
INTRODUCTION AND OVERVIEW	6
QUANTIFYING THE RISE IN SOLVENCY AND LIQUIDITY RISKS AMONG SMEs	10
A. Methodology and limitations	10
B. Projections	11
IMPLICATIONS FOR FINANCIAL STABILITY	14
DAMPENING THE RISE IN SME INSOLVENCIES	16
STRENGTHENING SME INSOLVENCY AND RESTRUCTURING PROCEDURES	20
A. Insolvency Regimes: Key Attributes	20
B. The COVID-19 Challenge	22
C. Policy Options to Cope with the Wave of SME Insolvencies	22
CONCLUSION	26
REFERENCES	28
BOXES	
1. Standardized SME Debt Restructuring in Iceland	24
FIGURES	
1. Increase in Share of Firms with Liquidity Gap or Negative Equity in 2020: By Region	11
2. Increase in Share of Firms with Liquidity or Negative Equity in 2020: by Industry	12
3. Share of Firms with Liquidity Gap or Negative Equity in 2021: Overall	12
4. Cumulative Share of Firms with Liquidity Gap or Negative Equity over 2021–21: Full Sample	13
5. Share of SMEs with ICR<1	13
6. Cumulative share of SME jobs at Risk in 2020 and 2021	13
7. Cumulative Share of SME Debt at Risk in 2020 and 2021	14
8. Cumulative Increase Solvency and Liquidity Risks under Downturn Scenario	14
9. Average Change in Banks' CET1R from Losses on SME Lending Due to COVID-19	15
10. Change in Banks' CET1R from Losses on SME Lending due to COVID-19 by Quintile of Assets	16
11. Impact of Loans and Equity Injections on the Share of Insolvent Firms	19
12. Distribution of Public Support Across Different Types of Firms by Type of Program	19
13. Share of Right Firms Escaping Insolvency under Blanket Versus Targeted Equity Injection	20

INSOLVENCY PROSPECTS AMONG SMALL AND MEDIUM ENTERPRISES

14. Examples of Insolvency Waves in Past Crises _____	22
-------------------------------------------------------	----

TABLES

1. Insolvency and Debt Restructuring Options for Different Types of Firms _____	21
2. Potential Measures to Address a Wave of Insolvencies _____	23

EXECUTIVE SUMMARY

The COVID-19 pandemic has increased insolvency risks, especially among small and medium enterprises (SMEs), which are vastly overrepresented in hard-hit sectors. Without government intervention, even firms that are viable a priori could end up being liquidated—particularly in sectors characterized by labor-intensive technologies, threatening both macroeconomic and social stability.

This staff discussion note assesses the impact of the pandemic on SME insolvency risks and policy options to address them. It quantifies the impact of weaker aggregate demand, changes in sectoral consumption patterns, and lockdowns on firm balance sheets and estimates the impact of a range of policy options, for a large sample of SMEs in (mostly) advanced economies.

Under current IMF projections, the note finds that the share of SMEs with negative equity—one definition of insolvency—may rise by 6 percentage points in 2020–21, threatening up to 1 in 10 SME jobs, or a number of jobs comparable to the total number of unemployed. This increase is similar to that seen in the five years after the global financial crisis, but it would occur over a much shorter period. In a downside scenario with extended lockdowns and persistently weaker demand, the share of insolvent SMEs would rise by 8 percentage points.

Rising SME insolvencies could reduce average banking systems' capital Tier 1 ratios by less than 1 percentage point. However, the fall in capital could be twice as large in hard-hit countries where SMEs are predominant, and a quarter of small banks could experience a drop of at least 3 percentage points. In a downside scenario, average banking systems' capital Tier 1 ratios could decline by an additional one-third to two-thirds relative to the baseline.

"Quasi"equity injections could address rising insolvency risks, conditional on adequate fiscal space, accountability, governance, and the capacity to reach the intended firms. Although technically challenging, these could take several forms, including (junior) "profit participation" loans—through either fresh loans or conversion of existing government loans. Governments may consider providing such quasi equity on generous terms, conditional on private investors injecting equity.

Policy simulations also illustrate the large efficiency gains, in terms of viable SMEs saved per dollar spent, from targeting solvency support—"quasi" equity injections can be over four times more effective if neither those firms that are solvent even with COVID-19, nor those that would also be insolvent even without COVID-19, receive support. Targeting will also contain the fiscal costs that could emerge, particularly if the economic recovery disappointed.

Solvency support should be complemented by an effective set of insolvency and debt restructuring tools, including dedicated out-of-court restructuring mechanisms, hybrid restructuring, and stronger insolvency procedures—including simplified reorganization for smaller firms, to raise the system's capacity. Because liquidations of a priori viable firms may occur even under adequate insolvency procedures, government incentives could be considered to tilt the balance toward restructuring.

INTRODUCTION AND OVERVIEW

1. **The pandemic is hitting small and medium enterprises (SMEs) disproportionately hard.**

SMEs account for 99 percent of all firms, more than 60 percent of jobs, and more than 50 percent of sales in most economies.¹ They account for an even larger share of jobs in services sectors that have been most affected by the COVID-19 outbreak and containment measures. For example, just before the onset of COVID-19, firms with fewer than 50 employees accounted for about two-thirds of jobs in food, accommodation services, and wholesale and retail trade, versus only one-third in manufacturing.²

2. **Major government interventions have mitigated liquidity risks, but they remain a concern.**

In advanced economies, announced liquidity support measures, including loans, credit guarantees, moratoria, and asset purchases were estimated to amount to 11 percent of GDP by October 2020, benefiting both larger firms and SMEs (IMF 2020a). These measures mitigated immediate risks that SMEs would run out of liquidity and go bankrupt (IMF 2020b), which would have risen sharply otherwise (Gourinchas and others 2020, 2021; IMF 2020c). However, many SMEs are likely to face continued liquidity pressures, especially in case of a premature withdrawal of public support.

3. **Rising insolvency risks among SMEs could take the centerstage and become a persistent drag on the economic recovery.**

Insofar as sales remain depressed while costs cannot be cut accordingly, a growing share of SMEs (and other firms) could accumulate losses and become insolvent, destroying millions of jobs, weakening the recovery, and also strengthening the market power of large firms in advanced economies (Akcigit and others 2021). Liquidity support cannot address insolvency risks.³ Further, for firms with weak balance sheets, large senior-debt claims held by banks or government agencies could discourage new (junior) financing—particularly given high uncertainty about many firms' recovery prospects, leading those firms to delay profitable investment opportunities and lay off workers which, in turn, would undermine the broader economic recovery.

4. **Governments may need to gradually shift away from liquidity toward solvency support, while also strengthening insolvency procedures.** Conventional policy advice involves 1) providing liquidity support to solvent but illiquid firms; 2) restricting any solvency support to—

¹ These statistics are derived from OECD's structural business statistics for a sample of European countries.

² For firms with fewer than 250 employees—the threshold used to define an SME in this note—corresponding figures are 80 percent in food, accommodation services, and wholesale and retail trade and 58 percent in manufacturing.

³ In this note, "insolvency" refers to so-called balance sheet insolvency, which arises when the value of a firm's assets is less than the value of its debts. "Bankruptcy" refers to a condition of financial failure that occurs when the firm does not have enough money to pay its debts. It encompasses but goes beyond the legal definition of bankruptcy, which denotes the legal process through which firms that cannot repay their debts seek relief for some or all of these debts—this process is called an "insolvency procedure" in the note. Finally, "illiquidity" in the note denotes a situation where a firm—even if solvent—cannot fulfill its immediate payment obligations for lack of sufficient cash reserves and access to new credit. "Viability," in the context of distressed firms, refers to a firm whose net present value of expected future earnings exceeds the liquidation value of existing assets; this differs from solvency—in particular, an insolvent firm may be viable.

typically large—systemic or strategic firms; and 3) restructuring insolvent but viable firms—those whose net present value of expected future earnings exceeds the liquidation value of existing assets—and liquidating others. However, during this crisis, a stronger case could be made for broader solvency support, because of the larger gap between the social cost (to the economy as a whole) and the private cost (to individual creditors and debtors) of letting firms fail. For example, risk-averse investors facing an uncertain post-COVID-19 economic landscape could fail to support viable firms, while overwhelmed courts could fail to restructure such firms and push them into liquidation.

5. At the same time, when it comes to SMEs both solvency support and restructuring are challenging, and ill-designed solvency support could entail sizable fiscal costs and economic side effects. Government agencies typically cannot directly inject equity in smaller non-listed firms. Moreover, in-court and out-of-court restructuring procedures work better for larger firms than for smaller ones, partly because the latter have smaller economic value relative to the complexity and costs of the procedures—they typically do not file for insolvency and are directly liquidated. The pandemic could heighten these challenges if it leads to large-scale equity needs and extreme pressure on restructuring mechanisms. Maximizing the efficiency of any “quasi” equity support would also be challenging; ill-designed schemes could entail large fiscal costs and sustain “zombie” firms that should instead be liquidated so their capital and workers can be reallocated.

6. Against this background, this note assesses the impact of the pandemic on SME insolvency risks and policy options to address them. The analysis builds on the framework of Gourinchas and others (2020), which maps the impact of the pandemic on (aggregate and sectoral) demand and supply shocks while allowing for firms to optimize their responses to them. Subject to these shocks, and assuming that firms are able to rollover existing maturing liabilities, balance sheets are projected for a large sample of SMEs in (mostly) advanced economies for 2020 and 2021. Even 2020 estimates can be critical for evidence-based, real-time policymaking given the long lags—several years—between SME liquidations and their reflection in official data estimates.⁴ These projections are used to quantify liquidity and solvency risks, assess their implications for employment, and draw implications for creditor banks balance sheets. The analysis then turns to possible options to dampen the rise in insolvencies, with particular focus on “quasi” equity injections. Finally, because some increase in SME insolvencies is likely unavoidable, this note presents policy options to strengthen SME insolvency procedures.

7. The upshot of this note is that SME distress is rising and needs to be addressed through a three-pronged-approach combining continued liquidity support, “quasi” equity injections, and comprehensive insolvency and debt restructuring tools. Specifically, the analysis in this note yields the following key findings:

⁴ In the case of the United States, for example, the official census data on firm exits in 2020 will be published in 2023 (Crane and others 2020). Regarding larger firms, preliminary evidence on bankruptcy court filings suggests a decline in 2020 in several jurisdictions, helped by public policy support and insolvency procedure suspensions and delays.

INSOLVENCY PROSPECTS AMONG SMALL AND MEDIUM ENTERPRISES

- *Solvency risks are projected to rise significantly among SMEs even if a solid economic recovery materializes.* Under the baseline projections published in the January 2021 *World Economic Outlook (WEO) Update*, the share of SMEs with negative equity—one proxy for insolvency—is projected to rise by about 6 percentage points (relative to a no-COVID scenario) across a large sample of SMEs from Europe and Asia-Pacific. Much larger increases are projected in some parts of Europe and among firms in the hardest-hit industries such as accommodation and food services or arts and entertainment. This rise is roughly comparable in magnitude to that in exit rates seen in the five years after the 2008–09 global financial crisis (GFC), but its effects would be much more dramatic as it is projected to take place over a much shorter period.
- *Should the economic recovery disappoint, particularly in hard-hit industries, the rise in SME solvency risks would be larger and exceed its cumulative post-GFC increase.* For example, in an illustrative scenario that combines an extended lockdown, more persistent shifts in consumer demand patterns across sectors, and weaker aggregate growth, the rise in the overall insolvency rate could be more than 30 percent larger than its projected increase under the baseline.
- *The deterioration of SME balance sheets puts significant shares of SME jobs and debt at risk.* Considering the cumulative effects over 2020–21, insolvent SMEs could account for up to 9 percent of overall SME debt and 11 percent of SME jobs (and nearly 40 percent in accommodation and food services, for example), corresponding to up to 20 million jobs at risk—a number roughly similar in size to the total number of unemployed in the advanced economies considered. Under an adverse scenario, up to 11 percent of SME debt and 13 percent of SME jobs could be at risk.
- *Overall, the implications of rising SME solvency risks for bank balance sheets could be significant for some countries and for some banks, especially smaller ones, and more broadly in a downside scenario.* Across most countries, reductions in banking systems' common equity Tier 1 ratios are projected to be below 1 percent of risk-weighted assets under the WEO baseline scenario. These modest reductions partly reflect the small weight of SME loans in systematically important banks' balance sheets—about one-tenth of overall bank assets. However, capital ratios could fall significantly, dropping by 2 percentage points in countries (mostly in southern Europe) where SMEs are predominant and have been particularly hard-hit by the crisis. Moreover, among small banks, which tend to lend more to SMEs, a quarter (10 percent) of these banks could experience a drop of at least 3 percentage points (7 percentage points) in capital ratios. In a downside scenario, average banking systems' capital Tier 1 ratios could decline by an additional one-third to two-thirds relative to the baseline, depending on the region and the measure of distress.
- *Equity injections into SMEs could mitigate their solvency risks.* As an illustrative example, if all SMEs were to benefit from an equity injection equal to 3 percent of their annual pre-COVID revenues (for a total cost of about 3.5 percent of GDP across the sample countries), the projected rise in the share of insolvent firms could be nearly halved in 2021.
- *Targeted equity injections will be far more efficient and powerful than blanket across-the-board injections.* This is because the latter benefits two types of firms that should not receive solvency

support, those that 1) do not need it because they are solvent even with COVID-19 and 2) would have been insolvent even without COVID-19 and should not have been saved—these also happen to be lower-productivity firms. As an illustration, for a one-off cost of slightly more than 1/2 percent of GDP, governments could in principle bring back into positive territory the net equity of nearly 90 percent of those SMEs that would have been solvent without COVID-19 but became insolvent because of it. By contrast, for the same overall cost, a blanket approach providing equity support to all SMEs would leave less than 20 percent of this group of firms in positive equity territory by end 2021—in other words, the fraction of this group of firms saved per dollar spent is more than four times larger under the targeted approach than under the untargeted one. In any event, the key is to target as much as possible those firms with sound post-COVID-19 (profitability and equity) recovery prospects.

- *In practice, equity injections into SMEs could take several forms.* One is for a government entity to inject quasi equity into an SME through a so-called “profit participation loan” junior to all other existing debt claims—through fresh loans or conversion of existing ones, whose remuneration should be partly indexed to the firm’s profits to enable the government to take an upside claim on the recovery. Because targeting the right SMEs—those with viable post-COVID business models, but that may be insolvent and/or go bankrupt without solvency support—is fraught with difficulties, governments may consider conditioning injections on investments by private banks and investors, which signal confidence in the firm’s viability. To incentivize private investors, which may otherwise be deterred by major existing uncertainty and do not internalize the positive macroeconomic effects of their injections, governments may consider providing quasi equity on generous terms, conditional on other investors injecting equity.⁵
- *The case for equity injections is stronger in countries with higher fiscal space and better governance, transparency, and accountability.* Even in such countries, over and above the difficulty of targeting the right firms, design challenges include ensuring the competitive neutrality of support, managing a large number of “quasi” equity stakes, adjusting support over time as more information about firm viability becomes available, and having a clear exit plan.
- *The wave of SME insolvencies should also be tackled with a comprehensive set of insolvency and debt restructuring tools.* These include dedicated out-of-court restructuring mechanisms, hybrid restructuring, as well as strengthened reorganization and liquidation procedures, including simplified reorganization procedures for smaller firms. In particular, out-of-court restructuring mechanisms and hybrid restructuring could be especially important in countries where restructuring is currently not an option for SMEs, given that the scope for increasing the capacity of judicial insolvency systems is more limited in the short term.
- *There is a case to be made for the government to subsidize restructuring and thereby alleviate excess liquidations.* The difficulty for banks and investors in identifying viable firms under high uncertainty and the drag on the broader economic recovery—ignored by firms, creditors, and

⁵ It should be noted, however, that this option is not feasible for unincorporated SMEs and could be problematic for those (typically family-owned) SMEs where transfer of shares is restricted.

judges alike—from mass liquidations, suggest that liquidations may be excessive even under well-functioning insolvency procedures. Financial incentives could help tilt the balance toward restructuring. For example, if fiscal space is available, governments could make debt forgiveness non-taxable, provide tax credits to creditors that grant haircuts to debtors, or apply larger haircuts on government claims (relative to private creditor claims) on SMEs conditional on restructuring.

QUANTIFYING THE RISE IN SOLVENCY AND LIQUIDITY RISKS AMONG SMEs

A. Methodology and Limitations

8. The empirical analysis uses firm-level data to quantify solvency and liquidity risks.

These data come from Orbis and include 20 countries from Europe and the Asia-Pacific region.⁶ Orbis data have the advantage of including comparable cross-country balance sheet and income statement information for both listed and privately held firms. SMEs are identified by restricting the sample to firms with fewer than 250 employees. After applying a cleaning procedure to the raw data and conditioning on non-missing key variables, the resulting data set includes about 1.25 million firms.⁷ The exercise employs 2017 data (the latest available year with consistently good coverage across the sample) and incorporates different COVID-related shocks to project the evolution of firms' balance sheet and corresponding solvency and liquidity indicators for 2020 and 2021.

9. **Insolvent firms are those whose total liabilities exceed their total assets, that is, those with negative equity value.** Further, to assess the dynamic effects of COVID-19 on equity and thereby project future insolvencies, the analysis relies on a law of motion for equity under which tomorrow's equity is equal to today's value plus the firm's retained earnings. Similarly, firms facing liquidity risks are those whose cash positions (initial cash stock plus the cashflow generated during the year) are insufficient to cover their financial obligations, assuming that existing maturing debt can be rolled over. It should be noted, however, that due to the nature of the Orbis data, this insolvency definition relies on book, rather than market, values of equity. Consequently, it could be subject to some measurement error as a firm's book values of assets and liabilities may differ significantly from its market valuations—when the latter exceed the former, as can be the case for young high-growth firms, for example, the estimates in this note will provide an upper bound for actual solvency risks. More broadly, firms with negative book values of equity need not necessarily exit and may end up recovering. At the same time, since SMEs are typically not publicly listed, they have no market value (since they are not traded in the marketplace) and, consequently, book values offer the best available gauge of the net value of their assets.

⁶ Australia, Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Norway, Poland, Portugal, Slovenia, Spain, Sweden, and the United Kingdom. Because these are mostly advanced economies, caution should be employed when extending conclusions to emerging market economies and developing countries with lower corporate transparency and accounting standards, less-efficient restructuring mechanisms, and weaker fiscal space.

⁷ The raw data are cleaned following closely Kalemli-Ozcan and others (2015). See also online Annex 1.

10. Firms balance sheets are projected through the lens of a model that allows them to optimize their responses to COVID-19. The analysis builds on the methodology of Gourinchas and others (2020), wherein firms optimize their input usage subject to COVID-related supply and demand industry shocks, as well as to an aggregate demand shock (calibrated based on IMF WEO projections).⁸ The industry-level shocks include, on the demand side, the impact of COVID-19 on consumption patterns and, on the supply side, the impact of containment measures (including lockdowns) on revenues and productivity. Importantly, the framework allows firms to reduce their variable inputs (labor and intermediate inputs) in response to a COVID-related drop in revenues, and even to cease operations temporarily in case staying open would generate losses (negative variable profits). The model provides an expression for how a firm's cash flow depends on the shocks through their effect on revenue and costs. The basic framework is extended to project the evolution of equity and, therefore, to assess solvency risks. Although the framework is very rich, at least two limitations should be borne in mind when interpreting the results: 1) this is a static, partial equilibrium framework in which firms' prices are fixed and their output is determined by the demand for their goods—a realistic assumption in the short term, less so over the longer term, and 2) most of the direct impact on firms' balance sheets of the support already provided by governments since the start of the pandemic is not directly taken into account, although it is indirectly reflected in the aggregate and sectoral economic projections that underpin the analysis.⁹

B. Projections

11. The fraction of firms in financial distress is projected to increase significantly due to COVID. Across the full sample of countries, the analysis points to an increase in the share of firms facing equity gaps (that is, estimated to have negative equity) or liquidity shortfalls (that is, insufficient cash at hand to cover immediate financial obligations) of more than 5 and 7 percentage points, respectively, by the end of 2020 and relative to a counterfactual scenario where COVID-19 does not occur (under which key drivers of firms' financial statements, such as profitability, would have remained equal to their precrisis values). In particular, the share of firms with negative equity increases from about 10 to 15 percent, and that of firms with liquidity gaps increases from 8 to 16 percent. The projected rise in insolvency rates is roughly comparable in magnitude to the firm exits seen in the five years after the GFC (including the European sovereign crisis), but it would take place over a much shorter period.

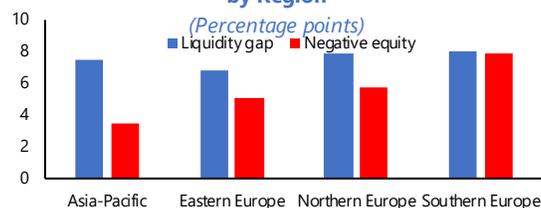
⁸ See online Annex 1 for a detailed description of the theoretical framework, including the laws of motion for equity and debt, employed for the projections.

⁹ IMF (2020c) and Gourinchas and others (2020) show that such measures dampened firms' liquidity risks. However, since most of these took the form of credit (loans, loan guarantees) rather than solvency support (like equity injections), they had a far more modest effect on firms' solvency risks. Furthermore, solvency support through job retention schemes is factored in the framework, which allows firms to adjust their labor input at no cost to them. Other solvency support, such as grants, is not accounted for, inflating insolvency risks, all else equal. At the same time, by using—due to data limitations—2017 rather than 2019 as the base (pre-COVID) year, the analysis tends to underestimate risks as firms had weaker balance sheets in 2019 compared to 2017 (see IMF 2019). Indeed, the small subsample of firms for which 2017 and 2019 data are available in Orbis show slightly higher leverage ratios in 2019.

12. The rise in distress among SMEs is heterogenous across countries and industries. Overall, firms in the Asia-Pacific region appear to be comparatively less affected by the rise in insolvencies, with an estimated 3.5 percentage points increase in the share of insolvent firms, whereas firms in southern Europe appear to be the most affected, with a projected increase of nearly 8 percentage points (Figure 1). Differences across sectors are even more sizable (Figure 2). The “accommodation and food services” sector is most severely affected, with a projected increase in the share of insolvent firms of 25 percentage points, reflecting how hotels and restaurants (among others) were hard-hit by changes in consumption patterns and containment measures. Similarly, firms in “arts and entertainment,” “education,” and “other services” are also estimated to be among the hardest hit. In contrast, firms in “agriculture,” “water and waste management,” and “mining” are estimated to have the smallest increases in insolvency rates, reflecting that these are among the least affected by the COVID-19 shock and social distancing. Similar sectoral patterns are observed regarding liquidity risks.

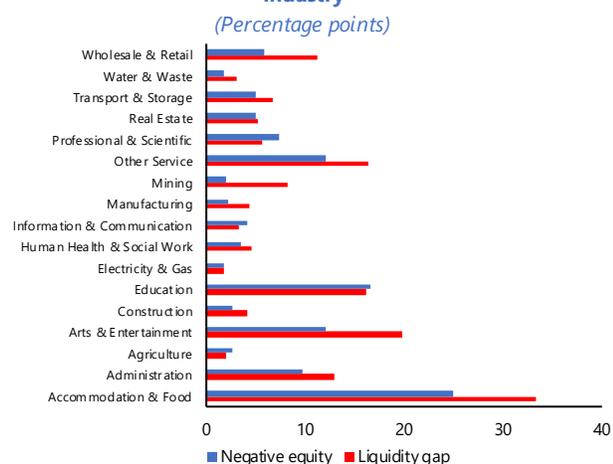
13. The cumulative risks for 2020–21 are projected to be sizable, despite the expected economic recovery in 2021. Economies are projected to recover throughout 2021, contributing to improve firms’ balance sheets, all else equal. However, the share of firms at risk in 2021 depends on whether and how the 2020 distress is resolved—specifically, it depends on whether those firms projected to be illiquid in 2020 exit the market that year, or instead manage to survive by accessing new loans to bridge their gaps.¹⁰ In the former case, the exit of troubled firms would mechanically result in smaller increases in the shares of projected distressed firms in 2021 (Figure 3).^{11,12}

Figure 1. Increase in Share of Firms with Liquidity Gap or Negative Equity in 2020: by Region



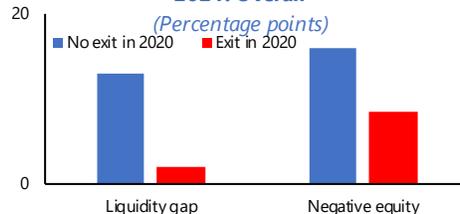
Source: Orbis; and IMF Staff calculations.
Note: Changes computed relative to a no-COVID scenario.

Figure 2. Increase in Share of Firms with Liquidity Gap or Negative Equity in 2020: by Industry



Source: Orbis; and IMF Staff calculations.
Note: Changes computed relative to a no-COVID scenario.

Figure 3. Share of Firms with Liquidity Gap or Negative Equity in 2021: Overall



Source: Orbis; and IMF Staff calculations.
Note: Blue bars show projected the share of firms in financial distress by the end of 2021, under the assumption that firms estimated to be illiquid by the end of 2020 ultimately manage to cover their liquidity gaps. Red bars instead assume that these firms exit at the end of 2020.

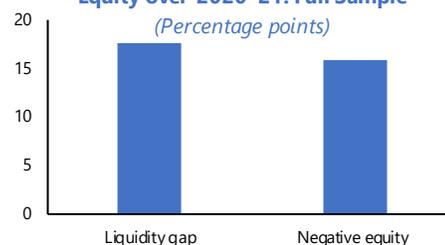
¹⁰ These firms may still become illiquid again if their cash position keeps deteriorating in 2021 (for example, via profit losses) as the new credit they are assumed to obtain in 2020 covers exactly their 2020 liquidity gaps. It should also be noted that the set of firms projected to be illiquid by the end of 2020 is related yet different from the set of firms projected to be insolvent—their correlation is about 0.5.

¹¹ The newly troubled firms would be those profit losses in 2021 and almost depleted equity cushions after 2020.

¹² The exit of illiquid firms at the end of 2020 would have adverse effects on firm balance sheets in 2021 through various channels, including spillovers to other firms (such as unpaid suppliers), or lower aggregate employment and consumption. These channels are not factored in the 2021 insolvency and illiquidity rate estimates provided here.

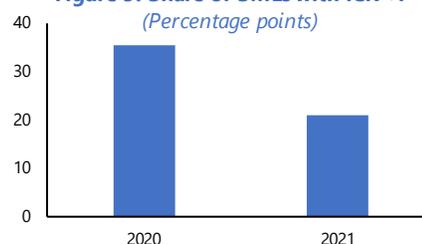
In contrast, if illiquid firms access fresh financing, they will remain active for some time, but some of them will still face distress in 2021, resulting in projected illiquidity. Overall, combining the risks for both years and even when focusing on the former case (exits of illiquid firms by the end of 2020), the share of SMEs at risk of being insolvent (illiquid) in 2020 or 2021 stands at about 16 (18) percent (Figure 4). Projections for other financial indicators confirm this buildup of corporate risks. The share of firms with a leverage ratio above 1 is projected to increase by 4 percentage points in 2021, relative to a no-COVID counterfactual. Further, the share of firms with an interest coverage ratio below 1 (a measure of financial distress that combines solvency and liquidity considerations) is estimated to have risen to more than 35 percent in 2020, partly reflecting the strong decline in earnings. It is estimated to fall back as earnings recover in 2021 while still remaining about 5 percentage points above pre-COVID levels (Figure 5) and to remain close to 2021 levels in 2022 assuming that SMEs manage to lift rates of return on their assets back to pre-COVID rates.¹³

Figure 4. Cumulative Share of Firms with Liquidity Gap or Negative Equity over 2020–21: Full Sample
(Percentage points)



Source: Orbis; and IMF Staff calculations.
Note: Each bar plots the fraction of firms projected to be under financial distress in either 2020 or 2021, assuming that firms estimated to be illiquid at the end of 2020 exit the market.

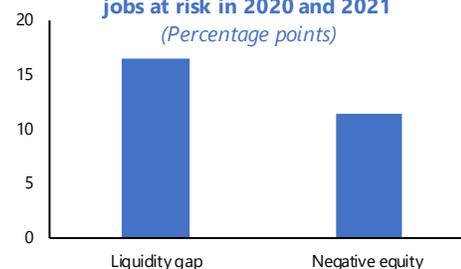
Figure 5. Share of SMEs with ICR < 1
(Percentage points)



Source: Orbis; and IMF Staff calculations.
Note: Each bar plots the share of firms with interest coverage ratio (ICR) less than one.

14. A sizable share of SME jobs is at risk, especially in contact-intensive sectors. Looking at the cumulative numbers, assuming illiquid firms exit at the end of 2020, about 11–16 percent of SME jobs may be at risk overall during the 2020–21 period (Figure 6), roughly twice the share without COVID. Again, firms in “accommodation and food services” are the most severely hit, with nearly 40 percent of their jobs at risk, followed by “arts and entertainment”, “education” and “other services.” At the other end of the spectrum, firms in “agriculture”, “mining” or “manufacturing” are estimated to have smaller shares of jobs at risk, and only minimal increases vis-à-vis a no-COVID scenario.

Figure 6. Cumulative share of SME jobs at risk in 2020 and 2021
(Percentage points)



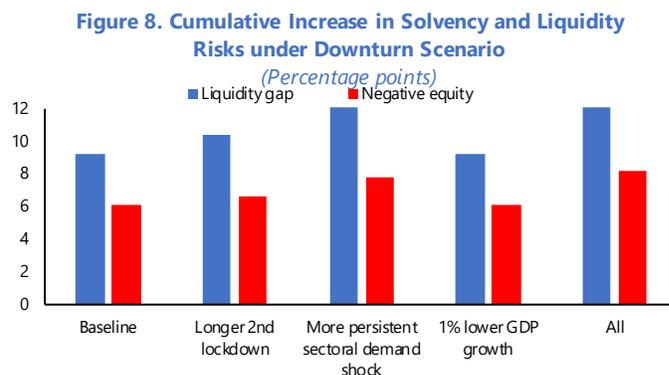
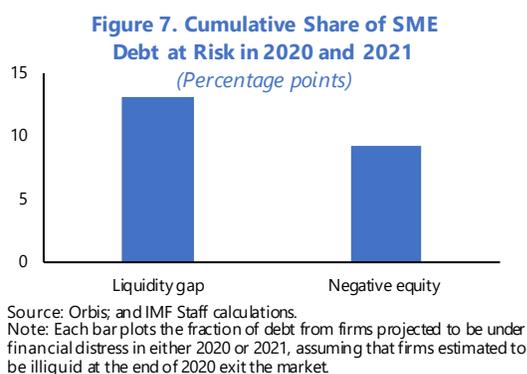
Source: Orbis; and IMF Staff calculations.
Note: Each bar plots the fraction of jobs from firms projected to be under financial distress in either 2020 or 2021, assuming that firms estimated to be illiquid at the end of 2020 exit the market.

15. Likewise, the pandemic is increasing the amount of SME debt at risk. Those firms estimated to be insolvent (illiquid) at the end of 2020 account for more than 9 (12) percent of the total SME debt stock—a 2 percentage point increase compared to the no-COVID scenario. When considering cumulative risks, the estimated debt at risk over 2020–21 accounts for 9–12 percent of

¹³ In addition to the projected earnings recovery, the low interest rate on new debt accumulated in 2020 —assumed to be equal to the average rate on existing debt—is another factor that explains why 2021–22 interest coverage ratios are only mildly above pre-COVID-19 levels.

total (initial) SME debt, depending on whether insolvency or liquidity risks are considered (Figure 7). This could have implications for creditors, particularly for banks, which are assessed next.

16. If the recovery were to disappoint, risks would worsen considerably. In particular, renewed lockdowns or more persistent shifts in consumption away from hard-hit industries could push insolvency rates significantly higher (Figure 8). Under an illustrative downside scenario combining a further one-month lockdown, weaker consumer recovery in hard-hit industries, and 1 percentage point lower aggregate demand growth, the rise in the share of insolvent or illiquid firms would be much larger than under the baseline scenario; the cumulative increase in the share of insolvent SMEs over 2020–21 would rise from 6 percent under the baseline to more than 8 percent under the downside scenario, while that of illiquid firms would rise from 9 to 14 percent. This would translate into 13 to 21 percent of SME jobs at risk and 11 to 17 percent of SME debt at risk due to solvency and liquidity concerns, respectively—increases roughly 40 to 50 percent higher than under the baseline scenario.



IMPLICATIONS FOR FINANCIAL STABILITY

17. The rise in SME financial distress could have a negative impact on financial stability (if as firm defaults increase, bank losses accumulate, and bank capital is eroded). Faced with negative equity or liquidity shortages, firms are unlikely to meet their financial obligations, given that owners may have minimal incentive (or possibility) to avoid default. As a result, lenders—mostly banks—could experience an increase in nonperforming loans and, eventually, face larger losses if payments are not resumed. Also, during a crisis, asset values may be depressed and—particularly this time around—insolvency courts may be overwhelmed, so recovery rates for creditors will likely drop, magnifying bank losses on defaulting loans.

18. A simple model is used to provide an illustrative quantification of the impact of the rise in SME financial distress on bank capital due to loan write-offs.¹⁴ The model takes as input

¹⁴ See online Annex 2 for details on the approach pursued to estimate banking system losses and changes in systemwide bank Tier 1 capital ratios associated with SME defaults. Due to data limitations, the analysis focuses on the impact from loan write-offs and increases in risk weights, and it does not consider differences in accounting

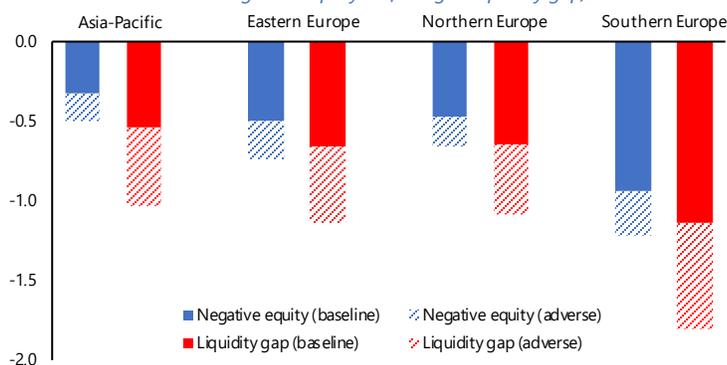
(continued)

the bank debt of firms in Orbis that are projected to become insolvent (with negative equity) or illiquid (facing liquidity gaps) in 2020 and 2021 to estimate default probabilities on the SME loan portfolio over this period.¹⁵ The default probabilities under the COVID-19 scenario are then used to infer COVID-driven bank losses on loans (relative to a scenario without COVID). These losses are then deducted from pre-COVID-19 bank capital ratios to obtain the projected changes in capital ratios that countries' banking systems might experience. This analysis, described in detail in online Annex 2, covers the same countries included in the previous section. The projections rely on cross-country and bank-level data sources, including the European Bank Authority Transparency Exercise, European Central Bank Consolidated Banking database, and Fitch Connect. The projections focus only on SMEs and do not include large borrowing firms; as such, they do not capture the full implications of COVID-19-related corporate sector distress on bank balance sheets.¹⁶

19. The projected average decline in banking systems' capital ratios across regions is small under the baseline but increases considerably in size in an adverse scenario.

The solid bars in Figure 9 show the changes in Common Equity Tier 1 ratios (CET1Rs) due to the impact of COVID-19 on SMEs during 2020 and 2021 in the baseline scenario (relative to a no-COVID-19 scenario). Average declines in CET1Rs are below 1 percentage point of risk-weighted assets, regardless of whether one considers the rise in insolvency or illiquidity as the source of losses, except for southern Europe where capital ratios drop between 0.9 and 1.1 percentage points.¹⁷ The

Figure 9. Average Change in Banks' CET1R from Losses on SME Lending Due to COVID-19
(Percentage points, based on probabilities of default for SMEs with negative equity or facing a liquidity gap)



Sources: European Banking Authority, European Central Bank, Orbis, and IMF staff calculations. Note: Averages across countries are weighted by risk-weighted assets. Solid bars refer to baseline scenario, shaded bars to the adverse scenario.

standards or coverage ratios across countries. Also, the analysis does not directly account for the impact of existing government measures to support firms. Firm distress is assumed to be instantaneously followed by defaults and write-offs. This simplifying assumption implies that the analysis provides an assessment of the overall impact of the shock, although losses may in practice take time to materialize and to be recognized. Online Annex 2 also provides details on analysis done at the bank level for a smaller set of European countries using data collected by the European Bank Authority on the largest euro area banks.

¹⁵ These forward-looking country-level estimates are calibrated to be consistent with historical data on defaults at the SME loan portfolio level. Consistency is achieved by (1) quantifying the relationship between the estimated probabilities using data on debt at risk held by insolvent or illiquid firms and observed data on loan defaults before the pandemic (at the country level) and then by (2) assuming such relationship also holds during the pandemic.

¹⁶ See IMF (2020b) for an analysis of the overall impact of the COVID-19 shock on bank capital and Aiyar and others (2021) for an assessment of the impact on European banks. Bearing in mind differences in methodology and firm coverage—which is not restricted to SMEs—these studies' results are largely consistent with those in the present note.

¹⁷ In this analysis, SMEs' insolvency or illiquidity are treated as two alternative sources of losses. They are not intended to be added up—in part because some firms may be both illiquid and insolvent and, more broadly, solvency and liquidity risks are correlated. If one considered firms that are insolvent or illiquid in the estimations of probabilities of default at the country level, the expected capital drop would be only slightly larger.

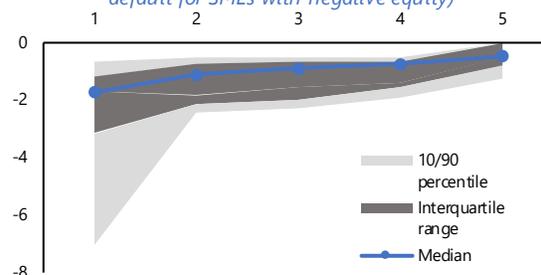
average hit to banks' CET1Rs is relatively small in absolute terms because the ratio of SME loans to banks' assets is, on average, lower than 10 percent. The drop in capital ratios could be an additional one-third to two-thirds larger in the adverse scenario, relative to the baseline. In such adverse scenario, the average decline is estimated to be between 1.2 and 1.8 percentage points in southern Europe and between 0.5 and 1.1 percentage points in the other areas (Figure 9, shaded bars).

20. Bank capital ratios could drop considerably in some countries and among some banks, especially the smaller ones.

Some banks in some jurisdictions—primarily in southern Europe—are expected to be affected 10 times more than in others, and the decline in CET1R could be more than 2 percentage points in the most exposed countries.¹⁸ These larger losses reflect both the larger economic impact of the pandemic on SMEs, and the greater exposure of banks to SMEs, in southern European countries. Additionally, even within a given country, some banks lend more to SMEs than others; these are usually the smaller banks. Analysis of the share of SME loans (as a percent of a bank's total loans) by bank size, detailed in online Annex 2, confirms

Figure 10. Change in Banks' CET1R from Losses on SME Lending due to COVID-19: Baseline Scenario

(Percentage points, based on probabilities of default for SMEs with negative equity)



Sources: European Banking Authority; European Central Bank; Fitch Connect Orbis; and IMF staff calculation.
Note: Average losses in baseline scenario by quintile of banks' total assets.

that the exposure of smaller banks (in the bottom quintile in terms of asset size) to SME lending is more than three times larger than that of larger banks (in the top quintile). Estimates of the capital drop for banks of different sizes are presented in Figure 10. They reveal the existence of a tail of weak banks: among the smallest banks, one-quarter is estimated to experience a decline in CET1R of more than 3 percentage points and 10 percent could experience a decline of 7 percentage points.

DAMPENING THE RISE IN SME INSOLVENCIES

21. In the context of this crisis, the case for “quasi” equity injections into SMEs is stronger than usual. The social value of alleviating mass insolvencies is greater than its private value (to individual creditors and debtors) for at least four reasons, providing a case for solvency support:

- Creditors do not internalize the impact that their specific insolvency proceedings have on the judicial system as a whole. In the context of mass insolvency, overwhelmed courts could fail to deliver timely restructuring of viable firms in 2021, pushing them into liquidation instead. The

¹⁸ The distribution of capital losses at the country level is illustrated in online Annex 2, which also features additional analysis that uses bank-level data from the European Banking Authority to investigate the impact of the rise in SME insolvencies on a sample of 89 large European banks, taking into account the propensity of each bank to lend to SMEs. It also considers each bank's exposure to specific nonfinancial industries. This analysis finds that 10 percent of these large banks could experience a decline of CET1R of 2.5–3.4 percentage points or more in the baseline.

risk of excess liquidations is even more acute for the smaller SMEs which, even when viable, often get liquidated without going through any restructuring procedure.

- Creditors do not internalize network and macroeconomic effects associated with individual bankruptcies. In tranquil times, these tend to be small, but in the context of a systemic crisis, they may prove much larger. At the current juncture, the macroeconomic costs of reallocating released workers and capital could be large compared to their benefits. Reallocation entails loss of sunk capital, job-match surplus (including firm-specific human capital), or network effects among firms, suppliers and consumers. Such costs need to be weighed against the gains from reallocating resources to other, potentially more productive uses. The more temporary the shock, the smaller those gains are. Insofar as the ongoing rollout of vaccines offers the prospect of a gradual normalization of economic life (in advanced economies) throughout 2021, some of the COVID-19 shock—on broad sectoral consumption patterns, in particular—may prove temporary, even though its impact on firm balance sheets and risks of debt overhang will persist.
- Heightened uncertainty regarding post-COVID-19 winners and losers within each industry makes it unusually challenging to identify firms with (un)viable business models, and may lead risk-averse investors to hold off. Essentially, it is harder to discriminate, among distressed firms, those that should be saved from those that should be let go.
- Macro-financial feedback mechanisms—already at play during the GFC—may further amplify the economywide cost of mass bankruptcies, such as weaker aggregate demand or weaker bank balance sheets and associated systemic financial risk.

22. Solvency support should be calibrated to country-specific circumstances and could take several forms. The case for equity injections is stronger in countries with higher fiscal space and better governance, transparency, and accountability. A government entity may inject quasi equity into an SME through a so-called “profit participation loan” junior to all other existing debt claims (and whose remuneration would be partly indexed onto the firm’s profits). Alternatively, it might consider “equity-like” injections in the form of grants combined with higher future corporate taxation of recipient firms—although this approach is less tested and would raise a host of legal and administrative issues, notably with respect to implementing, monitoring, and exiting such a scheme. Other design challenges include targeting the right firms under pervasive uncertainty regarding the post-COVID-19 world, ensuring competitive neutrality of support by avoiding picking winners and losers, managing a large number of “quasi” equity stakes and monitoring recipient firms,¹⁹ adjusting support over time as more information regarding firm viability becomes available, and having a clear divestment plan that ensures eventual exit from the scheme.

23. One particular challenge is how to target solvency support to the right firms under pervasive post-COVID-19 uncertainty. The right firms to target are those that are viable—the net

¹⁹ For example, absent careful monitoring (or co-investment with private investors), recipient firms may have incentives to reduce reported profits and divert their incomes.

present value of their expected future earnings exceeds the recovery value of their assets—but at risk of being insolvent and/or going bankrupt without support.²⁰ In practice, however, identifying and channeling support specifically to these firms is bound to be imperfect, for three reasons: 1) uncertainty surrounding the post-COVID-19 economic landscape and, therefore, the net present value of future earnings of individual firms; 2) information asymmetry between the firm and the government; and 3) limited capacity of government agencies to analyze the available financial information of, and channel support to, a very large number of firms. For SMEs, these challenges are magnified by lack of comprehensive and timely financial information and projections, which highlights the importance of enhancing SME reporting standards going forward.

24. In practice, government agencies may condition their injections on those of private banks and investors to extract information from them, and otherwise target firms imperfectly based on simple metrics. One way for a government agency to target viable firms under limited information is to inject equity into those SMEs that private banks and investors are also willing to invest into—an indication of the firm’s viability. However, there is a risk that private equity injections could be less than is socially desirable in the current context, given major existing uncertainty and the failure of private agents to internalize the positive macroeconomic effects of such injections. Therefore, governments may consider providing quasi equity on generous terms conditional on other investors injecting equity, depending on the SMEs’ characteristics. Insofar as government agencies invest on their own, they may have to target firms imperfectly based on simple viability metrics, such as pre-COVID solvency and profitability. To extract information on firms’ viability over time, they may also wish to start small and gradually reallocate new support away from less viable firms toward more viable ones as uncertainty surrounding their future prospects dissipates.

25. Bearing these difficulties in mind, the remainder of this section illustrates the potential solvency effects of “quasi” equity injections and the benefits of targeting such support, even imperfectly. The analysis compares the solvency effects of loans and untargeted (“blanket”) equity injections and then illustrates the efficiency gains from targeting to the “right” firms. Because these SMEs—viable but otherwise insolvent and/or bankrupt—cannot be observed in the data, for illustrative purposes the simulations consider another imperfect, but still-related definition of the “right” firms, namely those that are insolvent with COVID-19 but would be solvent without it.²¹ The analysis also ignores key practical issues, such as limited real-time information regarding SMEs’ balance sheets and challenges in delivering support; as such, the exercise provides an upper bound for the solvency effects of equity injections and the efficiency gains from targeting them.

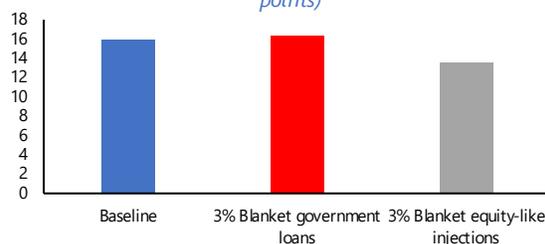
²⁰ This definition is broadly consistent with that retained in the May 2020 amendment to the European Commission’s State Aid Temporary Framework, for example.

²¹ One reason this definition imperfectly matches its theoretical counterpart is that, among those firms that are insolvent with COVID-19 but solvent without it, some may *not* have viable post-COVID-19 business models. For example, some previously successful retail stores whose customer base has now been permanently eroded by the pandemic.

26. “Quasi” equity injections, unlike government loans, bolster corporate solvency. Loan

and equity injections affect balance sheets in different ways—loans strengthen a firm’s cash position but increase its liabilities. They do not improve current net income (that would affect the equity position the following year) and, all else equal, worsen future net incomes due to the newly originated interest payments. Equity injections, by contrast, immediately strengthen both cash and equity positions. As an illustrative example, Figure 11 shows the impact on the share of insolvent firms in 2021 of a policy that, at the end of 2020, would provide each firm with 3 percent of its pre-COVID-19 operational income (for an overall cost slightly below 3.5 percent of GDP in the average country) in the form of either a loan or an equity injection.²² Although the illustrative loan support increases the share of insolvent firms relative to the baseline projection, the equity injection is found to reduce it by almost 2.5 percentage points by the end of 2021.

Figure 11. Impact of Loans and Equity Injections on the Share of Insolvent Firms
(Share of firms with negative equity by end-2021 under 3 alternative scenarios, in percentage points)

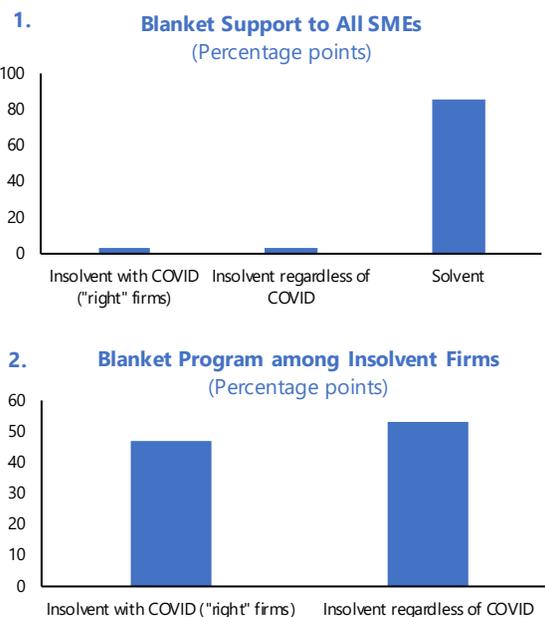


Source: Orbis; and IMF staff calculations.
Note: Each bar plots the projected fraction of firms with negative equity by the end of 2021 under a no-policy scenario (blue), a policy program providing 3% of pre-COVID income in the form of a loan (red), or the same amount in the form of an equity injection (grey).

27. Broad-based, “blanket” equity injections are inefficient, benefiting primarily firms that need not or should not be supported.

Although the illustrative “blanket” equity injection simulated above improves solvency, it is also wasteful because it does poorly in terms of reaching the “right” set of firms. This is because it also helps both those firms that are not in distress even with COVID-19, and those that would also be in trouble regardless of COVID-19—while they require little information and can be implemented easily, blanket policies divert scarce fiscal resources toward unwanted beneficiaries. This point can be illustrated as follows, using as an (imperfect) definition of the “right” firms those that become insolvent with COVID-19 but are solvent in a counterfactual scenario without it. Across the sample of countries, the cost of covering the 2020 equity gaps of those “right” firms is estimated to amount to a bit more than 0.5 percent of the total revenue of all SMEs. A blanket policy that gives each firm precisely 0.5 percent of its revenue would

Figure 12. Distribution of Public Support Across Different Types of Firms, by Type of Program



Source: Orbis; and IMF Staff calculations.
Note: For a given policy “blanket” support program, each panel bar the share of the total budget allocated to each type of firm.

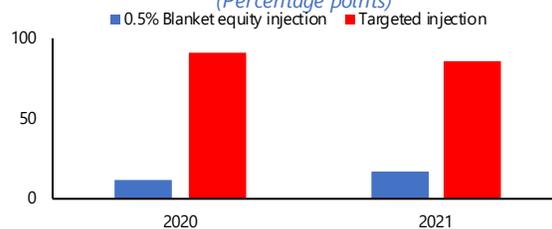
²² The exercise assumes that firms with liquidity shortfalls by the end of 2020 manage to find fresh funds and, consequently, do not exit at the end of 2020.

end up spending slightly more than 3 percent of its overall budget on the “right” set of firms, with the rest being spent on firms that are either solvent or would be insolvent even without COVID-19 (Figure 12, panel 1). An improved blanket policy would provide equity support only to all insolvent firms; it would still be inefficient, however, as more than half of its overall budget would be spent on firms that would have been insolvent without COVID-19 (Figure 12, panel 2).

28. A targeted approach would be far more efficient, saving a much larger fraction of the “right” firms per dollar spent.

As an illustration, if a budget of 0.5 percent of the total revenue of all SMEs was allocated only to the “right” firms (as defined in the simulations) in proportion to their 2020 equity shortfalls, these shortfalls would be almost fully addressed, and nearly 90 percent of these firms would still show positive net equity at the end of 2021 (Figure 13). That fraction would fall to slightly less than 20 percent under a blanket approach that would distribute that same overall budget to all SMEs in proportion to their sales. In other words, the fraction of “right” firms saved per dollar spent under the targeted approach is more than four times larger than under the blanket approach.

Figure 13. Share of “Right” Firms Escaping Insolvency under Blanket Versus Targeted Equity Injection
(Percentage points)



Source: Orbis, and IMF staff calculations.
Note: “Right” firms are defined as those that become insolvent with COVID-19 but are solvent in a counterfactual scenario without it.

29. Targeting solvency support would also be productivity-enhancing, including by reducing risks that low-productivity zombie firms linger on. Typically, firms that exit the marketplace are less productive than the average firm. Consistent with this historical pattern, those SMEs estimated to be insolvent at the end of 2020 have lower total factor productivity levels than other SMEs in the same country and industry. This difference, however, masks substantial heterogeneity within the group of insolvent firms; those firms that became insolvent only because of COVID-19 are 25 percent more productive than those that would be insolvent even without COVID-19—implying that targeting those “right” firms can help improve aggregate productivity. The empirical analysis also finds that firms facing liquidity problems have higher-than-average productivity levels, which underscores the need for continued liquidity support for illiquid-but-solvent firms.

STRENGTHENING SME INSOLVENCY AND RESTRUCTURING PROCEDURES

30. Policymakers should also cope with the SME insolvency wave, calling for insolvency and restructuring procedures that preserve SMEs with viable business models and swiftly liquidate unviable ones. Even with continued liquidity support and equity injections, a wave of SME insolvencies is likely unavoidable, and a comprehensive set of SME insolvency and debt restructuring tools is needed. These include dedicated out-of-court restructuring mechanisms, hybrid

restructuring, as well as strengthened reorganization and liquidation procedures—including simplified reorganization procedures for smaller firms.

A. Insolvency Regimes: Key Attributes

31. Insolvency and debt restructuring frameworks perform two crucial functions in addressing firm distress—restructuring viable firms and liquidating nonviable ones so their assets can be redeployed quickly to more productive uses (IMF 1999). Efficient and predictable insolvency regimes can improve the allocation of capital and labor in the economy, thereby increasing productivity and output. This is most important in the wake of major economic shocks such as the GFC or COVID-19 (Aiyar and others 2019). Restructuring of viable firms can be conducted out of court or in court, by way of reorganization proceedings. Liquidation of nonviable enterprises generally requires judicial proceedings.

32. Insolvency regimes apply to firms irrespective of their size, but they work better for larger firms than for smaller ones. The distinction between large firms and SMEs is purely economic and has no legal significance. However, insolvency regimes that follow the international standard²³ tend to work better for large and medium enterprises than for micro and small enterprises (MSEs), due to the complexity and cost of ordinary insolvency procedures (World Bank 2018)—fixed costs in dealing with insolvency are a greater burden for smaller firms. This explains the trend toward developing simplified insolvency regimes for MSEs (UNCITRAL 2020).

33. Out-of-court debt restructuring complements the insolvency regime, but is less effective for smaller firms. Out-of-court or “informal” restructuring frameworks are designed for complex multicreditor workout situations, with assistance of multiple financial, business, and legal experts. Over time, the practice of out-of-court debt restructuring has extended to SMEs by way of simplified restructuring schemes (Table 1). The dividing line between simplified and complex mechanisms differs between insolvency regimes and out-of-court restructuring: medium-sized enterprises fall under ordinary insolvency regimes, but they require simplified out-of-court debt restructuring, because multicreditor workouts are designed for large enterprises.

Table 1. Insolvency and Debt Restructuring Options for Different Types of Firms

	Insolvency Regime	Simplified Insolvency Regime	Out-of-Court Debt Restructuring	Simplified Out-of-Court Debt Restructuring
Large Firms	✓		✓	
Medium Firms	✓			✓
Micro and Small Firms		✓		✓

34. The quality of insolvency regimes and out-of-court debt restructuring practices varies widely across countries. Sound insolvency regimes must include options for firm reorganization

²³ The international standard is composed of the World Bank Principles for Effective Insolvency and Creditor Rights Regimes and the recommendations of the United Nations Commission on International Trade Law Legislative Guide on Insolvency Law.

and liquidation and enable viable firms to be restructured and nonviable firms to be liquidated. Reorganization of SMEs is less frequent, because they have smaller going concern value compared to the—partly fixed—costs of reorganizing them. Out-of-court debt restructuring is frequent in high-quality systems, due to the quality of advisors and the predictability of court outcomes. The practice originated with complex workouts of large companies, and it gradually extended to restructuring of SMEs. Paradoxically, in weak insolvency systems, out-of-court restructuring is also used, mainly because it is the only alternative to long and unreliable judicial procedures.

B. The COVID-19 Challenge

35. COVID-19 will put insolvency and debt restructuring systems under severe pressure.

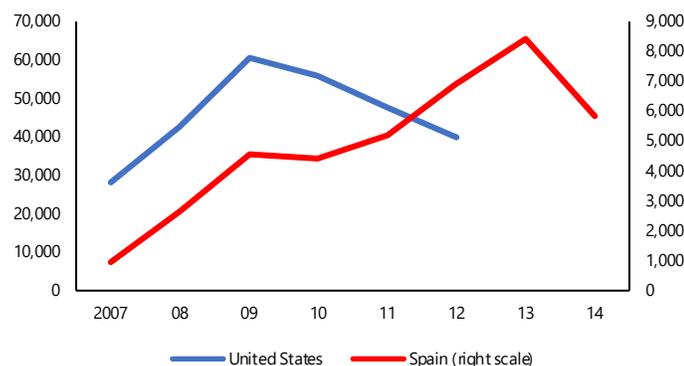
The pandemic not only increased insolvency risks, it also stopped the normal functioning of the debt resolution system, as insolvency procedures and debt enforcement activities were temporarily stopped in numerous countries. Among G20 countries France, Germany, India, Italy, Spain, and Turkey have introduced debt repayment or debt enforcement moratoria, and/or restricted access to the insolvency system for a long period. At this stage of the crisis, general moratoria should be lifted to avoid lasting damage to credit discipline. If necessary, limited measures for affected sectors could be envisaged, alongside support programs.

36. A sudden increase in insolvency cases could result in the congestion of the courts, creating risks of mass liquidation of viable firms.

As temporary support measures are scaled down and creditor rights restrictions are lifted, numerous countries could experience a wave of insolvencies and defaults. The extent to which this happens will depend on the persistence and severity of the crisis, the magnitude and effectiveness of mitigating measures, the extent to which economic actors consider insolvency procedures as an effective means of resolving debt problems, the trust on the court system to process insolvency cases, and the availability of alternatives to formal insolvency.

The projections discussed above, as well as the experience from past crises—such as in the United States during the GFC and Spain during the GFC and the euro area crisis (Figure 14)—point to sizeable risks of a sudden increase in insolvency cases, which could result in the congestion of courts, in turn, reducing the opportunities to effectively reorganize firms—particularly for smaller

Figure 14. Examples of Insolvency Waves in Past Crises
(Number of cases)



Source: Euler/Hemes.

ones, whose going concern values tend to be smaller too—and making it more likely that firms with viable business models be liquidated instead (Iverson 2018).²⁴

C. Policy Options to Cope with the Wave of SME Insolvencies

37. The wave of SME insolvencies could be tackled with a comprehensive set of insolvency and debt restructuring tools. These include dedicated out-of-court restructuring mechanisms, hybrid restructuring, as well as strengthened reorganization and liquidation procedures—including simplified reorganization procedures for smaller firms (Table 2; Liu, Garrido, and DeLong 2020). Among distressed but viable SMEs, those that need financial restructuring should be primarily restructured out of court or by hybrid restructuring, while those that require both financial and operational restructuring will need a judicial reorganization. Legal reforms require observance of legislative procedures, although they may take less time if they introduce surgical changes. The scope for increasing the capacity of bankruptcy courts is more limited in the short term since selecting, appointing, and training judges necessarily takes time. Other measures that increase the capacity of the courts, such as improving case management systems or appointing additional support staff, may be taken within a shorter timeframe, but their impact may be more limited.

Table 2. Potential Measures to Address a Wave of Insolvencies

Measures	Impact	Timing
Out-of-court restructuring for SMEs	High	Short
Hybrid restructuring	High	Short
Reorganization and liquidation reforms	High	Short/Medium
Simplified insolvency procedures for SMEs	Medium	Short/Medium
Increase court capacity	Medium/High	Medium/Long

38. The triage of SMEs will be difficult, calling for some government financial support to alleviate excess liquidations. Under any procedure(s), a triage is needed to distinguish between viable and nonviable firms, which is based on a comparison between the liquidation value of the firm's assets and its going concern value, based on future earnings, which is subject to the challenges described above (paragraph 23). Government financial support to restructuring—discussed below—could help alleviate excess liquidations of viable firms, in a context wherein banks and other investors may otherwise provide insufficient support given existing uncertainty and adverse externalities from mass liquidations. This case for government support to restructuring may be particularly strong where little-or-no government solvency support was provided to mitigate SME distress in the first place.

Out-of-court restructuring mechanisms

39. Out-of-court restructuring mechanisms are most effective at financial restructuring of viable SMEs. Financial restructuring refers to the reduction of the debt burden or other changes in

²⁴ In other words, court congestion could exacerbate so-called type-I errors—when a viable enterprise is liquidated—vis-à-vis type II errors—when a nonviable enterprise is restructured (for a discussion of these, see White 2016).

the capital structure, without significantly altering the business operations. It may involve rescheduling or writing down existing debt, or converting part of the debt into capital. An advantage of out-of-court frameworks is that they can be easily scaled up or down, since they rely on expertise available in the private sector, rather than on creating permanent judicial positions. Past cases include Iceland, which implemented an effective framework after the 2009 crisis, and Asian countries (Indonesia, Korea, Malaysia, and Thailand) after the Asian financial crisis, with more modest results.²⁵

40. Standardized solutions are particularly helpful. In essence, SME restructuring schemes are a simplified version of the out-of-court mechanisms designed for large enterprises. They rely on the cooperation of banks, as these tend to be the largest creditors and have restructuring expertise. Agreements with banks and the state can set the parameters for restructuring, and conflicts between debtors and creditors and among creditors can be resolved by swift alternative dispute resolution mechanisms. Because the high number and smaller scale of SMEs do not justify investing substantial resources in detailed viability studies and restructuring plans, an effective approach, as seen in Iceland, consists of providing standardized solutions for restructuring cases. SMEs are classified according to their restructuring needs, and a series of solutions are offered to them by the financial sector. These solutions are transparent and offered to all SMEs that comply with the requirements.

Box 1. Standardized SME Debt Restructuring in Iceland

As a result of the financial crisis in 2009, Iceland had to undertake an enormous effort of restructuring not only its banking sector, but also the debts owed by households and SMEs. The law adopted in October 2009 established that the creditors should develop transparent restructuring rules, generally applicable to borrowers. These rules would take into account the prospective cash flow of businesses and the value of their assets, among other aspects. The approach to restructuring the SME sector was agreed among financial creditors and was presented to the authorities in December 2010. Key measures included the following:

- *Only companies that could evidence future positive cash flow and had accounts for the previous two to three years were considered.*
- *Management should continue operating the business.*
- *In case the debtor had loans with several banks, one of the banks would act as coordinator.*
- *The debt could be written down to the discounted value of the cash flows generated by the business, or to the liquidation value of the enterprise, including any additional collateral.*
- *Loans could also be “deferred” by generating low interest during the first three years of the arrangement.*
- *Disagreements about the valuation of the going concern or the assets would be resolved by a third-party valuation.*
- *Disputes between creditors would be subject to arbitration.*
- *Tax claims could be reduced in the same proportion as the creditors’ write-down. The payment of remaining tax claims could be postponed. The rules for taxation for debt forgiveness were also amended to provide more relief to debtors.*

The approach simplified the restructuring of the SME sector: it avoided the collapse of the courts, reduced the number of liquidations, and provided creditors with higher returns.

²⁵ For an evaluation of the effects of these schemes, see Annex in Bergthaler and others (2015). For a discussion of current policy challenges and options to deal with rising corporate sector risks in Asia, see Bauer and others (2021).

41. Public support could incentivize SME restructuring over liquidation. Governments could provide incentives for SME debt restructuring, for example, through loss carry over rules (or by making debt forgiveness non-taxable)²⁶ or by granting tax credits to creditors that grant haircuts to debtors. Governments could also facilitate restructuring by taking a higher haircut on their claims than private creditors on theirs (Blanchard, Philippon, and Pisani-Ferry 2020). Because such a higher haircut would be conditional on restructuring rather than liquidating the firm, it would act as a “premium for continuation.” This approach would be most effective where governments have already provided sizeable financing to SMEs by way of direct loans or guarantees. In countries without such programs, the state tends to have other claims, such as taxes and social security contributions, on which the haircut could possibly be applied. However, a complicating factor for this haircut is that taxes and social security contributions may have priorities in the ranking of claims, and in any event have separate regimes and status from government loans. It is easier for the government to provide a haircut for claims that have unsecured status.

Hybrid restructuring

42. Hybrid restructuring can also contribute to the restructuring of a large number of SMEs. It seeks to improve on the functioning of out-of-court restructuring but without incorporating all the elements of judicial intervention of a formal insolvency procedure. Under a hybrid restructuring procedure, the court intervenes only at critical points—typically, at the start, to prevent creditors from taking action against the debtor, and at the end, to confirm the agreement negotiated between the debtor and the creditors—but during the rest of the time the process advances without judicial intervention. This is the approach supported by the EU in its 2019 European Restructuring Directive following the experiences of France, Italy, and Spain during the euro area crisis, and the United Kingdom in its recent insolvency reform as part of the 2020 Corporate Insolvency and Governance Act. The reduction in judicial intervention saves scarce judicial resources and increases efficiency. Other, less sophisticated examples of hybrid restructuring procedures can be found in common law countries (Australia, Canada, South Africa), that could be improved through targeted legal reforms.

43. A simple and highly effective hybrid restructuring technique is the “pre-packaged reorganization” plan. After an informal negotiation and agreement between creditors and the debtor is concluded, a reorganization procedure is opened just to confirm the “pre-packaged” reorganization plan.²⁷ There is ample experience with the use of pre-arranged and pre-packaged plans in the United States, as well as in other countries such as Argentina and Japan, for example. This option requires only minor legal changes and results in huge time reductions and minimal use of the resources of the courts. In the United States, for example, based on published information

²⁶ Under general tax rules, debt forgiveness generates an equivalent amount of taxable income for the debtor.

²⁷ Pre-arranged plans are those that have been negotiated with major creditors before the start of the case. Pre-packaged plans go one step further; they already have the support of the necessary majority of creditors, not just major ones. In both cases, the fact that the plan has already been designed shortens the process.

(The Deal Pipeline and FTI Consulting), ordinary reorganization procedures during 2011–18 lasted 504 days, while pre-packaged reorganizations lasted only 77 days, on average.

Enhanced reorganization and liquidation procedures

44. Firms that need both financial and operational restructuring will require judicial reorganization. The use of judicial resources should be prioritized in tackling those SMEs that require swift judicial actions to preserve their viability. For instance, Portugal has prioritized reorganization cases over the rest of insolvency proceedings (July 2020). Countries should assess their reorganization procedures and improve the features that will be most relevant during this crisis, namely debtor-in-possession, adequate rules for stay of creditor actions, financing and executory contracts, and provisions for cramdown in the approval or reorganization plans. EU countries can take the opportunity of incorporating the EU Restructuring Directive to improve their reorganization procedures. Countries should pay special attention to the rules that allow enterprises to receive new financing during the procedure. In addition to setting an appropriate set of rules, governments may need to provide financial support by establishing a special financing facility for distressed enterprises.

45. Countries may consider the introduction of simplified reorganization procedures for smaller firms. Since reorganization procedures may be designed for the needs of large or medium-sized firms, some countries such as Japan, Korea, or United States, have introduced simplified versions that reduce the cost and complexity of the process. Australia is the latest country joining this trend. These procedures simplify and reduce costs by eliminating creditor committees, reducing deadlines, and assisting the debtor in the preparation of a reorganization plan. Reforms to simplify reorganization for MSEs can be made by introducing amendments to ordinary procedures or by designing a completely new procedure—this second approach takes longer to implement but may be more effective in the longer term.

46. Firms without viable business models should be liquidated swiftly. Nonviable firms—irrespective of size—need to be liquidated so that their capital can be freed up and reallocated quickly. In some countries, judicial liquidation can be long and costly; this may lead firms without significant assets to simply close their doors and secured creditors to use just debt enforcement to seize collateral of those firms with valuable assets. Countries can introduce reforms to streamline their liquidation regimes. Promising opportunities arise from the use of new technology for the organization of online auctions of assets (recent examples include Italy, Greece, and Ukraine). Such reforms require not only legal amendments, but also the introduction of new technology and training of judicial and private actors. Other reforms can facilitate the acquisition of assets by creditors in exchange for their claims. Regarding MSEs, which often have no significant assets, the most important goal of the insolvency process should be to provide a debt discharge to “honest but unfortunate” entrepreneurs, so that they can start other economic ventures.

CONCLUSION

47. Increasing SME solvency risks raise important concerns regarding economic growth, jobs, and the financial strength of creditors. Even under a solid economic recovery, about a fifth of SMEs may have negative net equity by the end of 2021—if they do not exit earlier—and other insolvency metrics may deteriorate across the board. The deterioration of SME balance sheets may put up to 10 percent of their jobs at risk of being shed and 10 percent of their debts at risk of not being repaid. While contained overall, the implications for bank balance sheets are significant—notably for smaller banks, and in countries (such as southern Europe) where SMEs are predominant and have been particularly hard-hit by the COVID-19 crisis.

48. Well-designed “quasi” equity injections could bolster the solvency of SMEs. Although liquidity shortfalls remain a risk and should be addressed, getting SMEs access to new credit will not deal with deeper, slowly-building insolvency and debt-overhang problems. Addressing these requires “quasi” equity injections, for which there may be a stronger rationale during this crisis in countries with fiscal space. The note highlights the power of such equity injections in bolstering the solvency of SMEs, but also the large efficiency gains from targeting them to the “right” firms—those viable firms facing insolvency, but with clear post-COVID-19 recovery prospects. In practice, equity injections into SMEs could take several forms, including (junior) “profit participation” loans—either through fresh loans or conversion of existing ones. To maximize chances of targeting the “right” firms, governments may condition such “quasi” equity injections on injections by banks and other investors, and they may invest on generous (subsidized) terms to incentivize these private investors.

49. Because—even with continued liquidity support and equity injections—a wave of SME insolvencies is likely unavoidable, a comprehensive set of SME insolvency and debt restructuring tools is also needed, alongside government subsidies. Out-of-court restructuring mechanisms, hybrid restructuring, as well as strengthened reorganization and liquidation procedures—including simplified reorganization procedures for smaller firms—can all help. But given risks that a priori viable firms could still face liquidation risk even under well-functioning procedures, government incentives could be considered that tilt the balance toward restructuring—for example, by making debt forgiveness non-taxable, providing tax credits to creditors that grant haircuts to debtors, or applying larger haircuts on government claims (relative to private creditor claims) on SMEs conditional on restructuring. Although most relevant for SMEs, these policy options to dampen the rise in insolvencies and facilitate restructuring could also be helpful for larger firms.

REFERENCES

- Aiyar, S., J. Bluedorn, R. Duval, D. Furceri, D. Garcia-Macia, Y. Ji, D. Malacrino, H. Qu, J. Siminitz, and A. Zdzienicka. 2019. "Strengthening the Euro Area: The Role of National Structural Reforms in Enhancing Resilience." IMF Staff Discussion Note 19/05, International Monetary Fund, Washington, DC.
- Aiyar, S., M. Dao, A. Jobst, A. Mineshima, and S. Mitra. 2021. "COVID-19: How will European Banks Fare?" IMF Departmental Paper, International Monetary Fund, Washington, DC.
- Akcigit, U., W. Chen, F. Díez, R. Duval, P. Engler, J. Fan, C. Maggi, M. Mendes Tavares, D. Schwarz, I. Shibata, and C. Villegas-Sánchez. 2021. "Rising Corporate Market Power: Emerging Policy Issues." IMF Staff Discussion Note, International Monetary Fund, Washington, DC.
- Bauer, A., S. Craig, J. Garrido, K. Kang, K. Kashiwase, S-J Kim, Y. Liu, and S. Rafiq. 2021. "Flattening the Insolvency Curve: Promoting Corporate Restructuring in Asia and the Pacific in the Post-C19 Recovery." IMF Working Paper 21/16, International Monetary Fund, Washington, DC.
- Bergthaler, W., K. Kang, Y. Liu, and D. Monaghan. 2015. "Tackling Small and Medium Sized Enterprise Problem Loans in Europe." IMF Staff Discussion Note 15/04, International Monetary Fund, Washington, DC.
- Blanchard, O., T. Philippon, and J. Pisani-Ferry. 2020. "A New Policy Toolkit Is Needed as Countries Exit COVID-19 Lockdowns." Policy Brief 20-8, Peterson Institute for International Economics, Washington, DC.
- Crane, L., R. Decker, A. Flaaen, A. Hamins-Puertolas, and C. Kurz. 2020. "Business Exit During the COVID-19 Pandemic: Non-Traditional Measures in Historical Context." Finance and Economics Discussion Series 2020-089, Board of Governors of the Federal Reserve System, Washington, DC.
- Gourinchas, P.O., S. Kalemli-Ozcan, V. Penciakova, and N. Sander. 2020. "COVID-19 and SME Failures." IMF Working Paper 20/207, International Monetary Fund, Washington, DC.
- Gourinchas, P.O., S. Kalemli-Ozcan, V. Penciakova, and N. Sander. 2021. "COVID-19 and SMEs: A 'Time Bomb'?" NBER Working Paper No. 28418, National Bureau of Economic Research, Cambridge, MA.
- Kalemli-Ozcan, S., B. Sorensen, C. Villegas-Sanchez, V. Volosovych, and S. Yesiltas. 2015. "How to Construct Nationally Representative Firm Level Data from the ORBIS Global Database." NBER Working Paper No. 21558, National Bureau of Economic Research, Cambridge, MA.

- International Monetary Fund (IMF). 1999. *Orderly and Effective Insolvency Procedures*. Washington, DC.
- International Monetary Fund (IMF). 2019. "Global Corporate Vulnerabilities: Riskier Business." *Global Financial Stability Report*. Washington, DC, October.
- International Monetary Fund (IMF). 2020a. *Fiscal Monitor*, October, Washington, DC.
- International Monetary Fund (IMF). 2020b. "Bank Capital: COVID-19 Challenges and Policy Responses." *Global Financial Stability Report*, Washington, DC, October.
- International Monetary Fund (IMF). 2020c. "Corporate Liquidity and Solvency in Europe during the Coronavirus Disease Pandemic: The Role of Policies." *Regional Economic Outlook: Europe*, Washington, DC, October.
- Iverson, B. 2018. "Get in Line: Chapter 11 Restructuring in Crowded Bankruptcy Courts." *Management Science*. 64 (11): 5370–94.
- Liu, Y., J. Garrido, and C. DeLong. 2020. "Private Debt Resolution in the Wake of the Pandemic." *Special Series on COVID-19*, International Monetary Fund, Washington, DC.
- United Nations Commission on International Trade Law (UNCITRAL). 2020. Draft Text on a Simplified Insolvency Regime, W.P. 170, <https://undocs.org/en/A/CN.9/WG.V/WP.170>
- White, M. J. 2016. "Small Business Bankruptcy." *Annual Review of Financial Economics* (8): 317–36.
- World Bank. 2018. *Saving Entrepreneurs, Saving Enterprises: Proposals on the Treatment of MSME Insolvency*. Washington, DC: World Bank.