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Sweden's Corporate Vulnerabilities: A Focus on Commercial Real Estate

SWEDEN

Svetlana Vtyurina and Rhiannon Sowerbutts

SIP/2023/024

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on February 24, 2023. This paper is also published separately as IMF Country Report No 23/112.

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Sweden's Corporate Vulnerabilities: A Focus on Commercial Real Estate
Prepared by Svetlana Vtyurina and Rhiannon Sowerbutts

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ABSTRACT: Commercial Real Estate (CRE) debt constitute a large portion of corporate debt. Due to the funding structure this creates substantial risks for the financial system and the real economy, in general, due to broader spillover effects. Stress tests, conducted to assess the resilience of CRE sector, show that the median interest rate coverage would drop below one in a severe scenario, resulting in a ¾ of firms with debt-at-risk. CRE sector's concentration, interconnectedness and insufficient disclosure of liabilities calls for close monitoring of liabilities structure and adjusting banks' capital levels to better reflect current risks.

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Vulnerabilities: A Focus on
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SELECTED ISSUES

February 24, 2023

Approved By
**European and Money
and Capital Markets
Department**

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SWEDEN'S CORPORATE VULNERABILITIES: A FOCUS ON COMMERCIAL REAL ESTATE¹

Commercial Real Estate (CRE) debt constitute a large portion of corporate debt. Due to the funding structure this creates substantial risks for the financial system and the real economy, in general, due to broader spillover effects. Stress tests, conducted to assess the resilience of CRE sector, show that the median interest rate coverage would drop below one in a severe scenario, resulting in a ¾ of firms with debt-at-risk. CRE sector's concentration, interconnectedness and insufficient disclosure of liabilities calls for close monitoring of liabilities structure and adjusting banks' capital levels to better reflect current risks.

A. Overview

1. In recent years, Swedish CRE firms have experienced some of the largest price rises in the EU in parallel with increased leverage (Figure 1). CRE sector borrowing is high, accounts for a large part of corporate debt and greatly depends on bank financing. Between 2009 and 2021, net debt-to-net operating income grew from a ratio of around 10 to 15. Loans to CRE firms represent between 10 and 25 percent of banks' private sector lending. Driven by historically low interest rates CRE firms have made increasing use of non-bank debt, which now represents close to half of total outstanding bond market issuance.² While this helps diversify risks, this also elevates refinancing risks, which together with short interest rate fixation, could have an impact on macro-financial stability. Foreign holdings of CRE firms' bonds stand at 53 percent, exposing the sector to rapid selloffs, particularly during times of heightened global risk aversion. Among domestic investors, investment funds hold the largest share of CRE bonds, at around 21 percent. Ownership concentration has recently increased with some CRE firms buying into other CRE firms.

2. During the Covid-19 pandemic CRE firms' income potential came under pressure. During and after the pandemic, with a transition to a hybrid working model, vacancy rates rose sharply, with the sustainability of CRE firms' revenues becoming subject to risks. Office vacancy rates rose, for example, from about 3 percent in 2019 to close to 8 percent in 2021 in Stockholm, with similar trends in other major cities such as Gothenburg and Malmö. While vacancy rates recently show signs of levelling out, renting income may still come under stress from lower demand (e.g., continuing teleworking, general economic downturn). This, combined with the office yield trend, which was already declining from its pre-pandemic levels, is challenging CRE firms' credit rating and ability to roll over their existing debt securities.

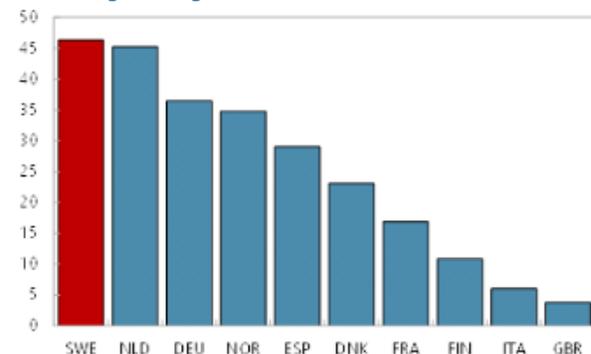
¹ Prepared by Svetlana Vtyurina (EUR) and Rhiannon Sowerbutts (external expert (Bank of England)). Analyses were conducted during the periodic surveillance under the Financial Sector Program (FSAP) that took place in 2022.

² Average loan duration is about 3.5 years, and bond maturity is about 5 years.

Figure 1. Selected CRE Indicators

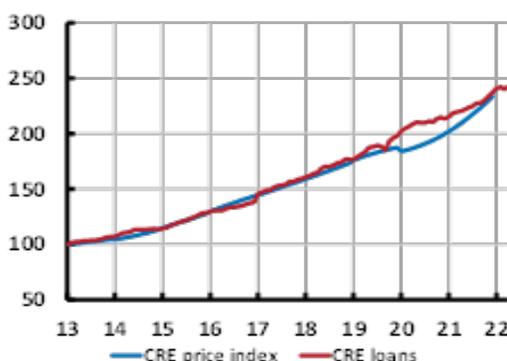
CRE Valuation Changes in 2015–21

(Percentage change)



Sources: MSCI; and IMF staff calculations.

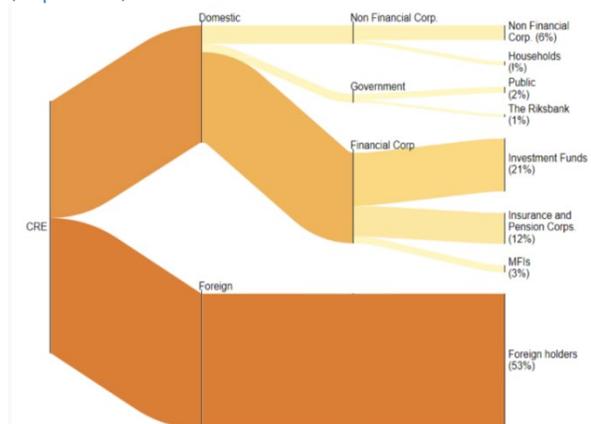
Increase in Debt for CRE Companies



Source: Riskbank.

CRE Firms Securities Holding Breakdown

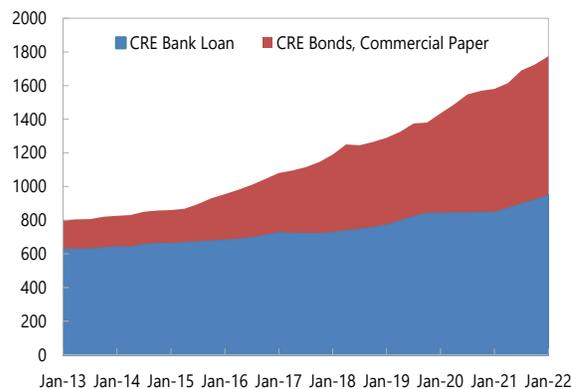
(In percent)



Source Riskbank.

CRE Securities and Bank Loans

(In SEK billion)



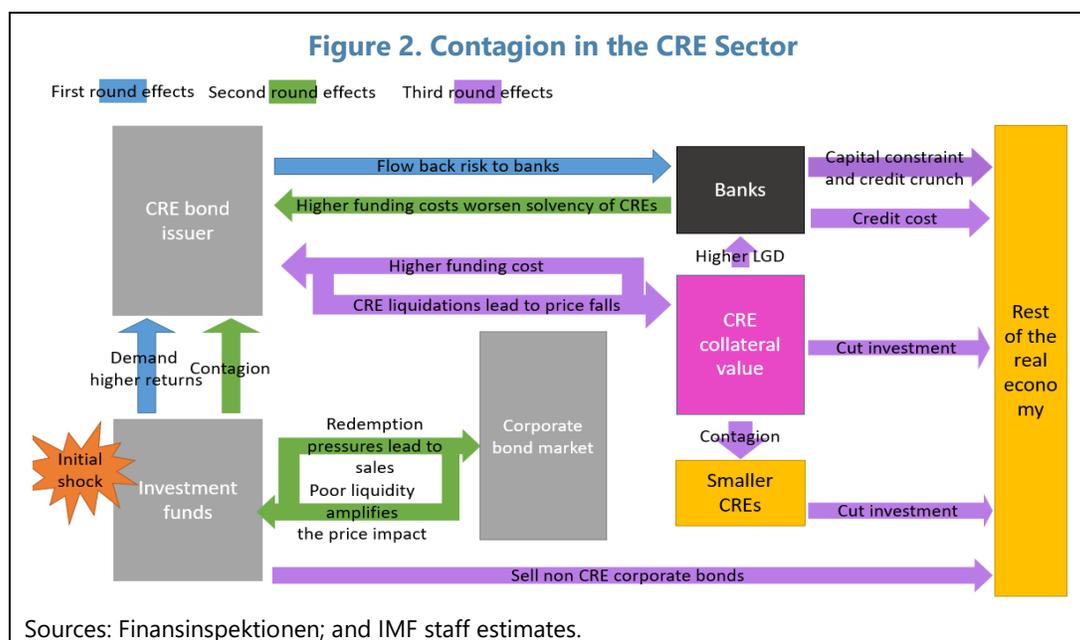
Source: Riksbank; and FI.

B. Vulnerabilities and Contagion Risks

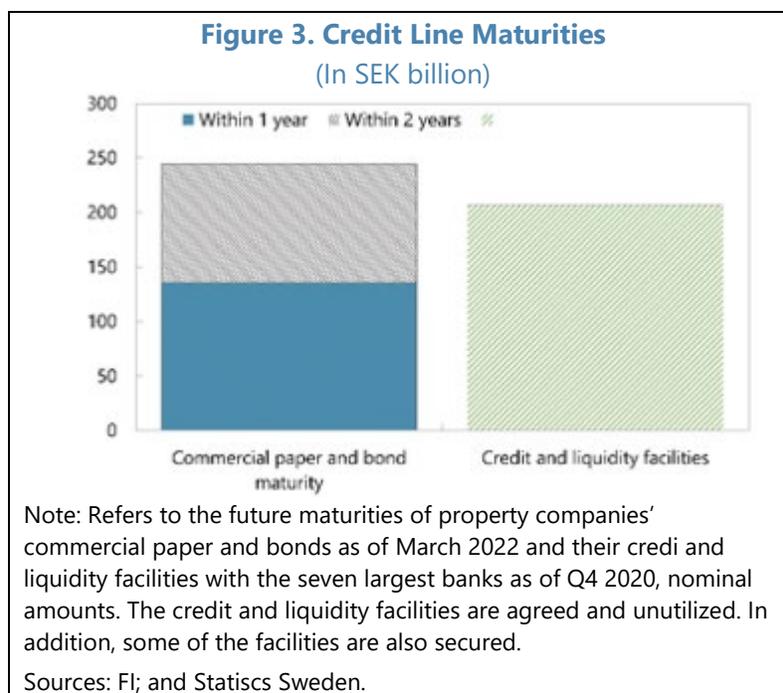
3. Historically, CRE firms, while being an attractive asset, constituted substantial risks to the financial system due to funding risks as well as broader spillover effects to the real economy. Problems on the CRE market have either triggered or amplified previous financial crises.³ The reasons for this are multi-fold as the CRE sector is sensitive to financial cycles and is large, primarily debt-financed, and thus strongly connected to the financial system. In the case of a future downturn, some CRE firms might be able to draw down contingent credit lines from banks, or even benefit from bank lending beyond that, albeit at higher cost. However, some may have to shed assets or declare insolvency. Several *amplification* mechanisms could worsen the outlook (Figure 2). Concentration among CRE companies could lead to contagion effects. Similarly, investors may pull back from CRE issuance with little discrimination for the quality of underlying assets due to

³ D. Jaffe, "The Swedish Real Estate Crisis", 1994; https://www.esrb.europa.eu/pub/pdf/other/2015-12_28_ESRB_report_on_commercial_real_estate_and_financial_stability.pdf

asymmetric and opaque information. Liquidity premia on funding costs will undermine CRE company profits and lead to further credit risk premia. And redemption requests following CRE firms' prices or sentiment declines, or a deteriorating performance, would further reduce liquidity and boost funding costs. In addition to amplification mechanisms, broader *spillover effects* could turn a CRE shock into macro-critical. Redemption requests could impact prices of securities more broadly. Liquidations of assets could lower property values across CRE sector and possibly residential real estate, weighing on consumption and investment, and bank capital. And hits on bank capital due to provisioning charges and/or outright losses could crowd out credit to the economy. Below are some of the risks are presented in more detail.



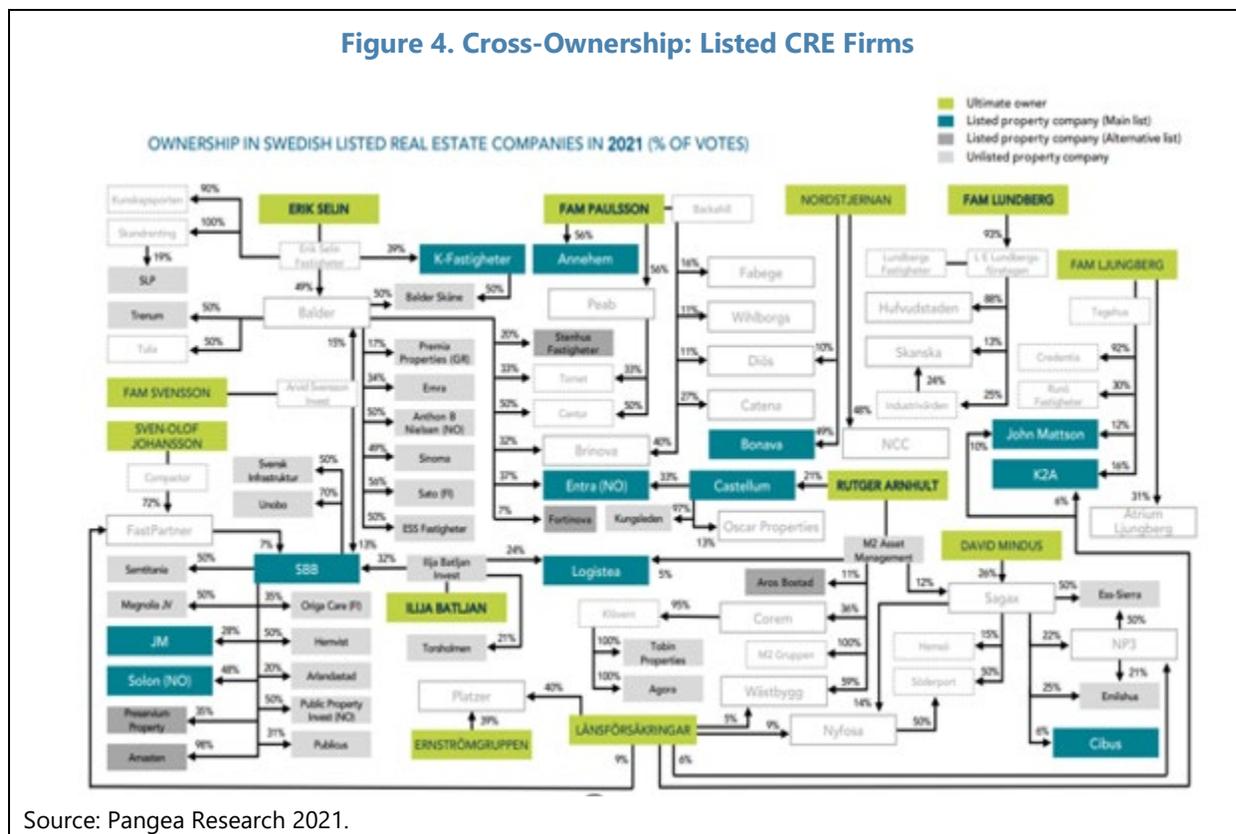
- **In order to repay bonds at maturity, or continue their operations, CRE firms may need to borrow more from banks.** As a first line of defense, and even if CRE firms do not have immediately maturing debt, they will have an incentive to draw on bank credit lines. Currently CRE firms have just under SEK 190 billion in contingent credit lines with banks which is enough to sustain funding for 2 years (Figure 3). It is uncertain whether banks would lend, however. If banks are willing to lend in addition to converting credit lines into loans, the FSAP stress test (see Sweden: Systemic Risk Technical Note) shows that, if willing, banks would be able to absorb 1/3 of CRE firms' market funding.
- **Liquidity premia on funding costs will undermine CRE profits and lead to the increase in credit risk premia, amplifying the original shock.** Switching from gaining funding from banks rather than financial markets is—all other things equal—than past funding costs on bonds, due to liquidity premia and the need to hold sufficient capital. In addition, the global shift in monetary policies and changes in risk sentiment means that CRE funding has already become significantly more expensive. CRE firms are highly sensitive to interest rates and this increase in funding cost is likely to considerably deteriorate their solvency position. This means that a liquidity shock can turn into a solvency shock, or the original solvency shock is worsened.



- Some CRE firms may have to shed assets to cover their funding shortfall or declare insolvency.** Liquidation of assets could lower property values across CRE sector. This can then affect the value of the smaller CRE firms which were not borrowing from the bond market, as well as worsen the liquidity and solvency position of the firms which were still issuing on the market. This can initiate a downward feedback spiral and lead to fire-sale prices. To the extent that the real estate itself is used as collateral both for banks in the covered bond market and for firms themselves – this can lead to a worsening in borrowing conditions, and a decline in credit provision. This will depend on the degree to which real estate is used as collateral.
- Concentration among CRE firms could also lead to contagion effects among CREs.** The market is highly concentrated (12 ultimate owners, although ownership may be partial), due to a large degree of cross-ownership of bond-issuing firms, and shocks could quickly become systemic (Figure 4)⁴. The trend towards cross-ownership and consolidation through the sale and placement of properties in joint ventures means that firms have revalued their properties to reflect the latest values without any significant change in the properties or their earning capacity.
- Hits on bank capital due to provisioning charges and/or outright losses could crowd out credit to the economy.** If some banks become undercapitalised and start facing funding pressures as they have to offer more collateral in the covered bond market, to preserve their capital positions they would reduce lending to the real economy.

⁴ These owners are at least part-owners of the companies illustrated in Figure 4, i.e., they do not own 100 percent of these companies but there are more equity shareholders.

Figure 4. Cross-Ownership: Listed CRE Firms



Source: Pangea Research 2021.

C. Stress Test

4. The CRE sector’s vulnerability has been assessed over the past decade. The Riksbank’s analysis (2017) of 100 largest Swedish-owned CRE companies valued at around 40 percent of GDP at the time, suggested that challenges in the sector could have tangible effects on banks. FI’s stress tests (2020) showed that refinancing risks were elevated when spreads increased, which together with higher financing costs, could have an impact on macro-financial stability, and put pressure on banks to cover the shortfall in financing. Further FI analysis (2021) suggested that the vulnerabilities of firms with bank loans increased under certain stress test scenarios.⁵

5. Staff assessed financial health and vulnerabilities of CRE firms based on most recent publicly available company financial data. Orbis database compiles balance sheet and income statements for over 20 thousand Swedish CRE firms.⁶ However, not all the necessary data series was available for this group of firms, therefore stress tests were conducted on a sample of firms, where

⁵ FI’s [stress tests](#) (2020) show that this may put pressure on banks to cover the shortfall in financing. According to FI’s analysis (2021), the vulnerability of CRE firms increased under certain [stress test scenarios](#) of firms with bank loans. FI stress tests include 15000 CREs, including small CREs, which stand for around 40 per cent of the loan amount and around 90 percent of the number of CREs. A study based on 2019–20 loan data included such scenarios as a drop in earnings of 25 percent because of structural changes; an interest rate increase of 3 percentage points; and a combination of scenarios. None of the scenarios consider any measures that the firms or banks may make to mitigate the effects once they have occurred.

⁶ No.68 Real estate activities is the NACE Rev. 2 main section L: Real estate activities.

the largest 100 companies in the sample hold aggregate assets of around 70 percent of GDP and debt of around 50 percent. The analysis focused on a set of customary financial ratios under current and stressed conditions (Figure 5).

6. A firm's capacity to service debt hinges on its interest coverage ratio (ICR).⁷ It is computed as EBIT/Interest Expense. The lower the ratio, the more the company is burdened by debt expense relative to earnings. An ICR of less than 1 implies that the firm is not generating sufficient revenues to service its debt without adjusting, such as reducing operating costs, drawing down its cash reserves, or borrowing more. In this analysis, an ICR threshold of 1.5 times is applied to account for potential vulnerabilities to funding risks, in addition to earnings risks. This is a widely used benchmark to gauge an early warning signal as firms with ICR below 1 may have already been in distress. Debt is then categorized into different risk buckets based on the level of ICRs. Debt in the bucket with lower ICR has higher probability of becoming non-performing. Firm profile is calculated as the proportion of firms with median ICR categorized within each bucket.

7. Stress tests indicate that CREs face debt servicing pressures even under a mild scenario.⁸ The analysis focused on a set of customary financial ratios under current and stressed conditions. Shocks reflecting the FSAP's adverse stress scenario were applied to gauge the response of firms' interest coverage ratio (ICR) to interest rate change, GDP change impact on revenues, and FX.⁹ The joint occurrence of shocks significantly weakened the ICR, with the median ICRs falling below 1.5, and under a more severe shock below 1 (Figure 6). Debt-at-risk was found to fluctuate between 20–35 percent. Medium and large-size firms were affected similarly.

D. Policy Considerations

The authorities should implement several actions to attenuate the amplification mechanisms discussed above. No one action will be a remedy by itself but by making each part of the system more resilient, several feedback loops and spillovers can be reduced.

8. The supervisory authorities and, potentially, also the Securities Market Association should encourage better disclosure. The bond issuance template should include disclosure on liabilities, especially those in foreign currency, and contingency plans when market funding dries up. This will help investors better assess the firm and improve overall market discipline. Firms with more viable contingent funding plans, or collateral whose valuation is less dependent on recent upturns in prices, will be able to fund themselves at a lower cost. Having better disclosure will distinguish between more solvent and less solvent firms reducing contagion across the sector. Knowing the

⁷ For the fuller description of the framework see the Technical Note and T. Chow (IMF Working Paper 15/216).

⁸ A sample of about 3,800 firms with total assets amounting to US\$482 billion (90 percent of GDP) and aggregate indebtedness of US\$ 363 billion (70 percent of GDP), or around 40 percent of NFC debt.

⁹ The impact was most pronounced from the changes in the first two variables (increase in advanced country policy rates (up to 400 basis points for the Swedish repo rate) and 38 percent decline in both residential and commercial real estate prices after two years).

ownership structure will help identify interlinkages across firms as well as the associated vulnerabilities.

9. Enhancements to data collection are imperative.¹⁰ It is advisable to further improve the comprehensiveness and periodicity of CRE data (e.g., on rents, vacancies, and transaction prices) and to integrate multisource data into a single database.

10. Improvements to the liquidity of the corporate bond market are needed. The introduction of the benchmark bonds can reduce the price impact of distressed sales¹¹ because of increased standardization. If successful, it will lead to improvements in the bond market's efficiency and increase demand, leading to lower funding costs in good times and boost resilience in times of stress.

11. The effect of a sudden call on bank contingent credit lines to CRE should be examined.

FI should adjust their solvency stress tests or apply supervisory intelligence to examine the impact on banks if all contingent credit lines were drawn down in a short period of time. A drawdown of funds should be stressed first, and then subject that portfolio to subsequent stress.

12. The authorities should evaluate the need to raise capital requirements for banks for CRE exposures. Based on the FSAP micro-prudential stress tests, concentration, structural issues, and feedback loops suggest that bank capital is insufficient. Ideally, all feedback loops will eventually be integrated in the stress-testing model. It is obviously challenging to quantify the size of these issues on potential credit losses; therefore, the FI should take a flexible approach when considering where in the capital stock they might wish to add additional capital or take a more intensive supervisory approach, if EU legislation permits.

13. The authorities should plan now for what a potential crisis intervention might be. Such intervention should be designed to limit moral hazard. Plans to restore market functioning should aim to incentivize participants to re-enter the market, while considering the costs and risks to the central bank and concerns about moral hazard. Any scheme should be transparent; ensure that equity holders have the chance to recapitalize the firm but be wiped out should the firm be insolvent; and bond holders take losses for example by write-downs or equity conversions. Ideally, interventions would be targeted to where the negative links to the real economy might be strongest.¹²

¹⁰ Monitoring of the CRE sector is hampered by data issues (Fitch December 2022, Sweden full rating report).

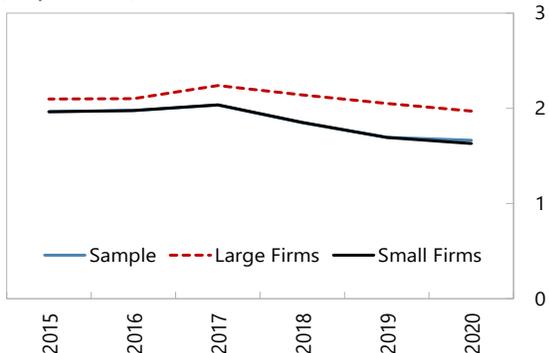
¹¹ <https://www.riksbank.se/globalassets/media/rapporter/riksbanksstudie/engelska/2021/towards-a-better-functioning-corporate-bond-market.pdf>; <https://www.fi.se/en/published/reports/stability-report/2021/stability-in-the-financial-system-20212/>

¹² [Managing Systemic Banking Crises: New Lessons and Lessons Relearned \(imf.org\)](https://www.imf.org/en/Publications/WP/Papers/2012/01/Managing-Systemic-Banking-Crises-New-Lessons-and-Lessons-Relearned)

Figure 5. Selected CRE Financial Ratios

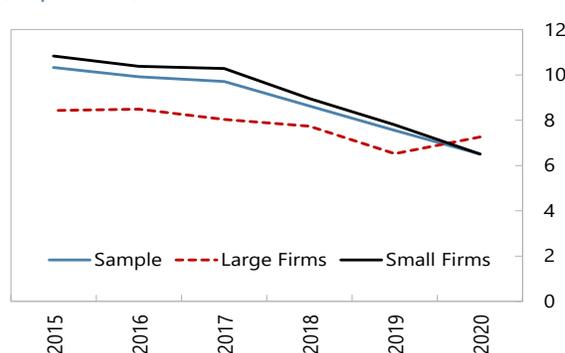
Median ROA

(In percent)



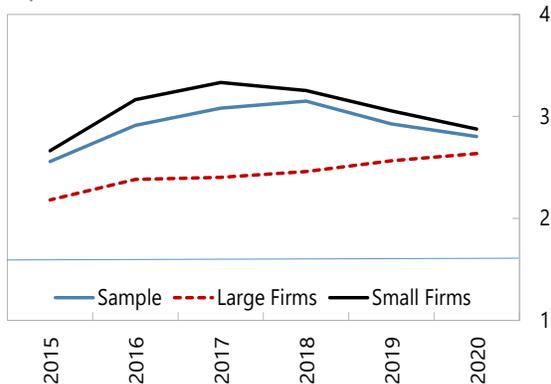
Median ROE

(In percent)



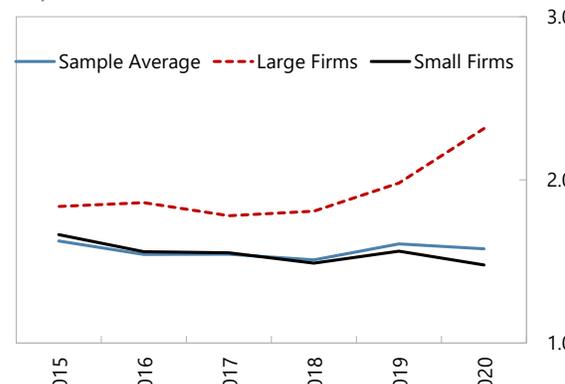
Median Interest Coverage Ratio

(In percent)

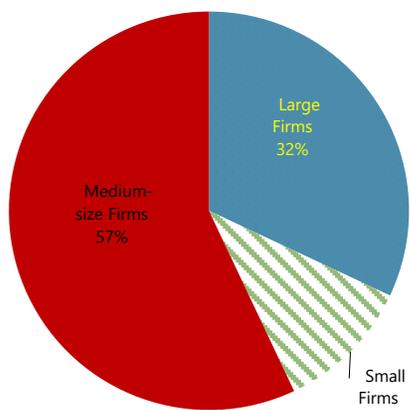


Median Total Debt/Total Equity

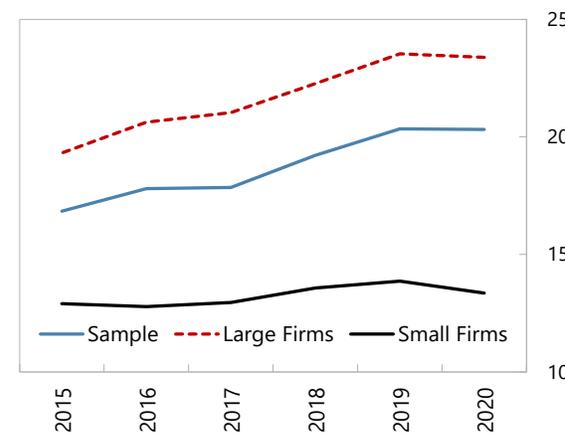
(In percent)



Debt at Risk by Firm Size



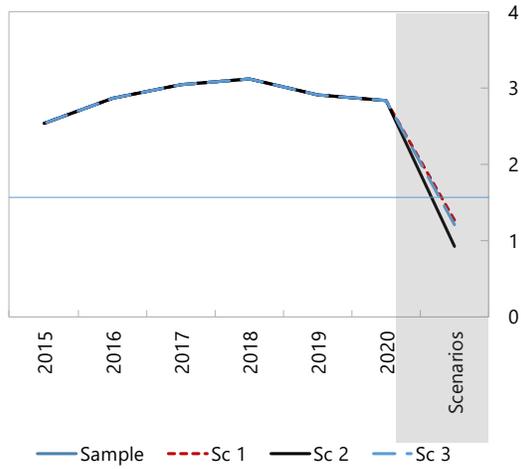
Median Net Debt/EBIT



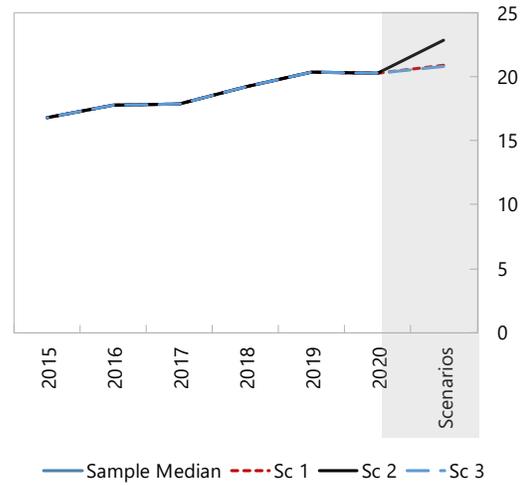
Sources: Orbis; and IMF staff estimates.

Figure 6. CRE Stress Test Results

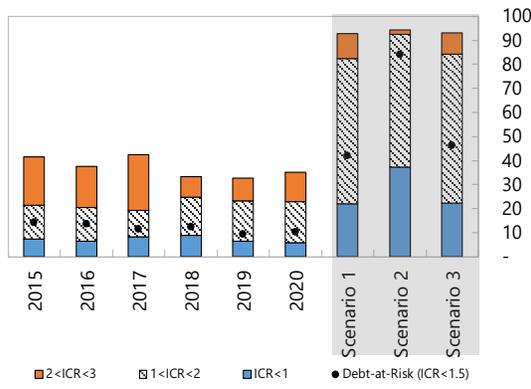
Median Interest Coverage Ratio



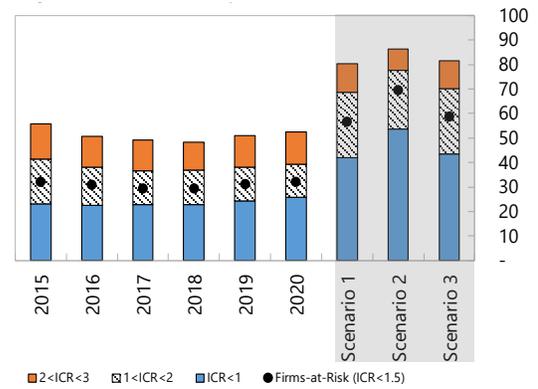
Median Net Debt to EBIT



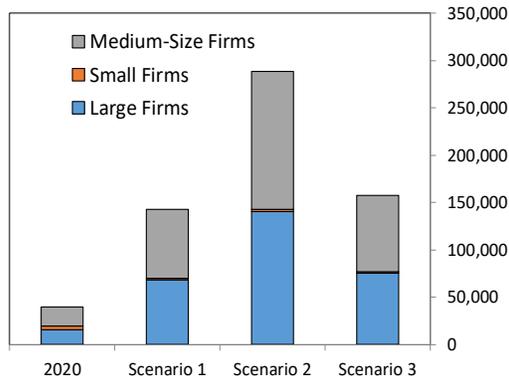
Impact on Debt at Risk
(Percent of total debt)



Impact on Firms at Risk
(Percent of total firms)

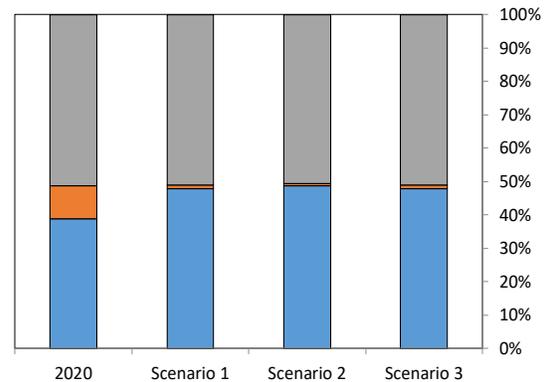


Debt at Risk by Firm Size
(US\$ Million)



**Firm size is derived from the country's sample firms by asset size: Large=Top 2

Debt at Risk by Firm Size
(Percent of total debt at risk)



h percentile; Small=Last 25th percentile; Medium=In between.

Sources: IMF staff estimates.