

STUDY

Requested by the ECON committee



Non-performing Loans-new risks and policies?

NPL resolution after COVID-19: main
differences to previous crises



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PE 651.388- March 2021

EN

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NPL resolution after COVID-19: main differences to previous crises

Abstract

The COVID-19 crisis is a significant and exogenous shock to the EU corporate sector, with implications for the operations and funding of many businesses. We compare key indicators for the global financial crisis (GFC) and the current situation, and assess implications for the policy response. We find that while many policy actions taken in response to the GFC remain valid, the nature of COVID-19 suggests a more tailored response is appropriate, with support focused on sectors most directly affected and corporates whose continuation value exceeds their liquidation value.

This paper was prepared by the Economic Governance Support Unit (EGOV) at the request of the Committee on Economic and Monetary Affairs (ECON).

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

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The authors would like to thank Nick Dove, Julian Franks, Filippo Ippolito, Christoph Kaserer, Daniel Trinder and Vikrant Vig for their comments and input.

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Manuscript completed in March 2021

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LIST OF ABBREVIATIONS

BIS	Bank of International Settlements
COVID-19	Coronavirus
CET1	Common Equity Tier 1
CRE	Commercial real estate
CRD IV	Directive 2013/36/EU (the EU's fourth Capital Requirements Directive)
CRR	Regulation (EU) No 575/2013 (Capital Requirements Regulation)
EC	European Commission
EBA	European Banking Authority
ECB	European Central Bank
FAO	Food and Agriculture Organisation of the United Nations
GDP	Gross domestic product
ICR	Interest Coverage Ratio
IMF	International Monetary Fund
NPL	Non-performing loan
LGD	Loss given default
PD	Probability of default
RWAs	Risk-weighted assets
SME	Small and medium-sized enterprises
SSM	Single Supervisory Mechanism

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EXECUTIVE SUMMARY

The coronavirus (COVID-19) pandemic is first and foremost one of the gravest health crises of the past hundred years, but it also represents a significant yet unique challenge for economic and financial policy makers.

We were asked to assess if it seems likely that the non-performing loans (NPLs) resulting from the COVID-19 crisis can be resolved in the same way as those stemming from past crises.

Making the right policy choices in the current environment requires us to first understand the unique characteristics of the shock to the economic and financial system. The sudden and significant supply shock, triggered by the virus and the associated government restrictions, dramatically impacted supply chains and changed consumption patterns, leading to a collapse of revenues for firms in many sectors, with urgent liquidity needs to ensure business continuity. Importantly, to the financial system, the COVID-19 shock is purely exogenous. This is different from most serious financial crises, which typically gather momentum from the endogenous response of market participants. This has important implications for the appropriate policy response.

At present, corporates are being cushioned by various government support policy measures and it is natural to expect a rise in insolvencies once this support tails off. Risks will arise from either a premature end to the government support measures or from prolonged support.

The deleveraging of the corporate sector, build-up of bank regulatory capital and the development of NPLs skills and actors in the NPL market since the global financial crisis (GFC) in 2008 should help to support the recovery process post COVID-19 compared to the GFC. However, some forward-looking indicators, such as rating actions, and the below-average number of insolvencies last year, would tend to indicate an expectation for an increase in corporate defaults and NPLs in the coming years, once the government support tails off. Nevertheless, it is encouraging for those companies that need to refinance soon, that corporate spreads remain low and collateral prices have remained fairly resilient (with the exception of commercial real estate).

The banking sector has so far not been tested in the COVID-19 crisis. Banks generally went into the COVID-19 crisis with strong capital positions. Many banks took high provisions in the first half of 2020, however there is some uncertainty about the adequacy of the provisions. A large share of bank lending is with government guarantees or moratoria. Our analysis of the number of insolvencies and zombie firms in the early periods of the COVID-19 crisis suggests more losses may need to be anticipated and recognised, and therefore provisioned for, in the coming periods.

The key challenge for policymakers is to ensure that the financial system is well placed to support those firms whose continuation value is larger than their liquidation value. These are the (non-zombie) firms with viable business plans, which may need some liquidity support to help them through the crisis. Struggling non-zombie firms are also concentrated in certain sectors most affected by the COVID-19 shock.

The COVID-19 crisis is particularly acute for small and medium-sized enterprises (SMEs) which are less able to adapt to the restrictions, both from an operational and financial perspective. While large listed corporates have been able to raise external funding, SMEs in Europe are more reliant on bank funding. Governments can support these firms either directly (e.g. via guarantees, targeted tax reliefs) or indirectly via improving the incentives for banks to lend to SMEs.

The COVID-19 pandemic has brought back the debate on regulatory forbearance. Many of the policy responses relate to regulatory forbearance (e.g. rules on foreclosure and moratoria on payments), most likely in the belief that it is likely to be welfare improving for banks to renegotiate on loans with non-zombie firms facing short-term liquidity challenges. However, evidence from previous crises warns us

that forbearance can also create a vicious cycle whereby, once you allow banks to not recognise a loss, it is very hard for regulators to reverse the situation as it is not incentive-compatible for a bank to suddenly recognise its losses once the crisis normalises. Europe should seek to avoid risking a lost decade like Japan in the 1990s.

An alternative is to allow market-based solutions. Policymakers should create the incentives to enable NPLs to be traded easily on the secondary markets, and remove existing impediments in the regulatory framework that impede this. By creating capacity for different actors to take on more risk, it will become more cost-effective for bank lenders to anticipate and recognise losses and offload risks that they are less well placed to manage than specialists. This will also allow for a better resolution for the banks. It will be important to address the legal barriers and delays to the resolution process quickly in order to incentivise distressed debt investors to enter the European market. The risk is that this process will take time and Europe will be competing to attract these investors with NPL portfolios in other jurisdictions also affected by the COVID-19 crisis.

From a corporate perspective, our analysis identifies around 15% of European non-financial corporates may be 'zombies' (i.e. with poor financial performance over a sustained time period). Some of these may benefit from advisory support to turn around their business plans, and internal bank restructuring teams are well placed to help them with this. For those firms with debt overhang challenges, techniques such as debtor-in-possession financing can help. The remaining firms may have to be liquidated. Getting the optimal balance between excessive continuation of firms and excessive liquidation of firms is critical to the success of any policy response.

For the large number of firms whose continuation values are likely to be greater than their liquidation values, there should be more support and flexibility. Policymakers should target support to those sub-sectors that have been most affected by the COVID-19 crisis and will be providing important services to consumers that will still be in high demand once the various restrictions are removed. Of course, it is possible that the COVID-19 crisis will permanently change some consumer preferences, so lenders will also need to be mindful that certain industries may have changed for good.

1. INTRODUCTION

As a result of the COVID-19 pandemic, many European businesses and households have come under significant financial pressure. During crises, the number of loans that cannot be paid back increases. Although an unprecedented level of monetary, fiscal, and regulatory support measures have been put in place, it is expected that the volume of NPLs will rise across the EU.

Depending on how quickly the EU's economy recovers from the COVID-19 crisis, the credit quality of corporate sector lending and, in turn, bank balance sheets, could deteriorate. Given the importance of NPL reduction for bank lending capacity, economic recovery, and the historic challenges faced by many countries in implementing effective NPL resolution measures, ensuring an effective plan for NPL resolution after COVID-19 is a key policy issue for the European Union.

Oxera was asked to assess if it seems likely that the NPLs resulting from the COVID-19 crisis can be resolved in the same way as those stemming from past crises.

This paper assesses the impact of COVID-19 on the European corporate and banking sectors and the extent to which lessons learned from the GFC are applicable to the policies that should be put in place for NPL resolution after COVID-19. There are also important issues with respect to the impact and consequences of COVID-19 on consumer lending, which are not covered in this analysis.

This paper is structured as follows.

- Section 2 discusses the nature of the shock caused by the COVID-19 crisis and outlines some of the key differences from previous financial crises.
- Section 3 compares the performance of European businesses going into the COVID-19 crisis to the latest data, and to the start of the GFC in 2008. It analyses key metrics to show the impact of COVID-19 on the credit quality of businesses for the corporate sector as a whole and across sectors.
- Section 4 assesses the potential consequences for NPL resolution after COVID-19 on bank balance sheets, analyses the number of zombie firms that banks may still be lending to in the EU, and raises some important policy considerations for how to manage the volume of NPLs that may accrue.

2. THE CORONAVIRUS CRISIS

2.1. Nature of the crisis

The COVID-19 virus outbreak was triggered in December 2019 in the city of Wuhan, China, and spread across the world. The rapid spread of COVID-19 constitutes a major challenge to health systems in many countries. This has led many governments to attempt to slow down the rate of infection through a number of measures, including home confinement, travel restrictions, and the closing of certain businesses.

The nature of the COVID-19 shock is an external macro shock, with direct and indirect effects. The European Commission's (EC) Autumn 2020 Economic Forecast projects that the euro area economy will contract by 7.8% in 2020.¹

Government actions, while necessary, continue to have a direct impact on economies via different channels:

- direct effects—in terms of reduced production and sales in many sectors, where activity has dropped, either due to supply disruption (due to unavailability of inputs) or a fall in demand (due to the changes in consumption patterns) as a consequence of travel restrictions and increased uncertainty, for example;
- indirect effects—to the extent that the fall in output translates into reductions in employment, and subsequent loss of income and consumption.

In order to alleviate liquidity difficulties affecting households and businesses, and to support the economy, there has been an unprecedented fiscal and monetary policy response from governments across Europe.² Member states introduced support schemes, typically involving public guarantee schemes and/or payment deferrals ('moratoria').³ Complementing these measures, the EBA issued guidelines to provide banks with guidance on the treatment of moratoria.⁴ By the end of August 2020, guaranteed loans and loans under moratoria account for 7% and 15% respectively of the total stock of euro area corporate loans.⁵

In July 2020, the EC published a document setting out best practices in relation to the relief measures offered to consumers and businesses in the context of the COVID-19 crisis. This included recommendations to banks and non-bank lenders to, among other suggestions,:

- offer borrowers who temporarily find themselves in financial difficulties the possibility to defer the payment of the instalments of their credits for a period appropriate to their situation;⁶ and
- grant credits without prejudice to their financial stability and prudential obligations and maintain high standards of risk and creditworthiness assessment.⁷

¹ European Commission (2020b), 'European Economic Forecast Autumn 2020', November, ISSN 2443-8014, available at: https://ec.europa.eu/info/sites/info/files/economy-finance/ip136_en_2.pdf.

² For a more detailed overview see the IMF's policy tracker, available at: <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.

³ The EC adopted a temporary framework to enable member states to use the full flexibility of the State aid rules to support the economy in the context of the outbreak.

⁴ EBA (2020), 'Guidelines on legislative and non-legislative moratoria on loan repayments applied in the light of the COVID-19 crisis'.

⁵ ECB (2020c), 'Financial Stability Review', November, p. 12.

⁶ European Commission (2020a) 'Best Practices in relation to relief measures offered to consumers and businesses in the context of the COVID-19 crisis', p. 7, https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200714-best-practices-mitigate-impact-pandemic_en.pdf.

⁷ Ibid, p. 10.

There have also been a number of EU policy measures related to regulatory forbearance, including the relaxing of provisioning criteria and bank capital standards.⁸ For example, the EU legislators amended the EU banking rules to encourage banks to make full use of the flexibility of the EU prudential and accounting framework, granting preferential treatment to NPLs guaranteed by public sector entities for the purpose of the determination of the prudential backstop, and changing the calculation of the leverage ratio.⁹ These have been implemented with the aim of facilitating bank lending to the corporate sector.

2.2. Main differences to previous crises

While COVID-19 is having a strong impact on economies, there are important differences between this and previous financial crises.

First, to the financial system, the COVID-19 shock is purely exogenous. This is different to most serious financial crises, which typically gather momentum from the endogenous responses of market participants themselves.¹⁰

The GFC of 2008 was a typical example of an endogenous crisis. It was caused primarily by market participants themselves (concerned about the solvency of banks), who abruptly began to doubt assumptions previously held without question, and by a sudden loss of trust in the balance sheets of banks as reported in their accounts, due to the use of off-balance sheet instruments. This resulted in synchronised fire sales of assets, which, compounded with mistrust and risk aversion, consequently led to a severe lack of liquidity in the financial system and significant losses for the financial sector.¹¹

It is indeed possible that the COVID-19 crisis could evolve into an endogenous crisis if financial market participants lose confidence. However, there are also other key differences between the COVID-19 crisis and the GFC that may lead to different risks and policies.

- First, the COVID-19 crisis did not start with a credit boom in the financial system. Indeed, in many EU countries, the GFC followed a period of credit expansion, when debt to non-financial corporates (as a percentage of GDP) increased by 14% between 2005 and 2008 in the EU-27, and much more significantly in some member states (64% in Ireland, 28% in Spain, 26% in Greece, and 17% in Italy). In contrast, the COVID-19 crisis followed a period of slight credit contraction. Between 2016 and 2019, debt to non-financial corporates in the EU-27 as a percentage of GDP decreased by 3%.¹²
- Second, financial institutions went into the COVID-19 crisis with a much stronger capital position. At the end of Q3 2020, the average Tier 1 capital ratio for euro area banks amounted to 16.5% of their Risk Weighted Assets (RWAs), according to European Central Bank (ECB) data, when it was equal to 8.8% at the end of 2008.¹³ The liquidity coverage ratio (LCR) for significant financial institutions stood at a comfortable 170.9%.

⁸ Regulatory forbearance in a general sense refers to situations whereby, for example, regulators give market participants more flexibility and/or extended periods of time to comply with regulatory requirements, and/or signal unwillingness to take disciplinary action against problem for a certain period of time.

⁹ For example, a regulation of the European Parliament and the Council implemented amendments to Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic.

¹⁰ Danielsson, J. and Shin, H.S. (2002), 'Endogenous risk' in *Modern Risk Management — A History*, Risk Books.

¹¹ It is important to note that the GFC also then turned into a sovereign crisis as well as a financial crisis in the case of the euro area. This added an additional complication to the NPL resolution process in the last crisis.

¹² We note, however, that debt to non-financial corporates (in percentage of GDP) in the EU-27 remains at a higher level in 2019 (99.8%) than in 2008 (92.1%). Analysis based on Eurostat data.

¹³ As indicated in ECB (2020a), 'Financial Stability Review', May, p. 62.

- Third, the COVID-19 crisis is unprecedented in terms of the severity and speed of contraction. According to the International Monetary Fund (IMF), growth in advanced economies contracted by 4.9% in 2020, compared to a small growth of 0.2% in 2008 and a contraction of 3.3% in 2009. In the EU, GDP fell by 7.6% in 2020, compared to a small growth of 0.9% in 2008 and a contraction of 4.2% in 2009. Furthermore, there has also been a sharp increase in household savings ratios, up to 23.4% on average across the EU in Q2 2020, which is double the average rate in previous years. The change in the savings ratio gives an indication of the size of the change in consumption patterns. The maximum savings ratio during the GFC was 13.5%.¹⁴ The imbalance of the contraction across sectors also makes the two crises very distinct.¹⁵ The impact of the COVID-19 crisis across sectors is discussed in section 3.3.
- Fourth, there was a large, quick and coordinated fiscal and monetary policy response. The expansionary fiscal expansion in the EU (including measures provided through guarantees and tax deferrals) in response to COVID-19 represents almost 24% of GDP,¹⁶ and interest rates are at an all-time low. In response to the GFC the fiscal response was more moderate, with large variations across member states, and interest rates were higher.
- Fifth, the market for NPLs in Europe is more developed today than during the GFC.¹⁷ Servicers, banks and distressed debt funds have now had over ten years to understand these markets in Europe. There are now a decent number of market participants active in the market for distressed debt and NPLs in Europe,¹⁸ compared to the situation in 2008. This institutional knowledge and capacity in the European financial market should help to facilitate the transfer of risk among participants, although there are more limited options available to support SMEs.

The COVID-19 crisis is also quite unique in its effect on transportation costs and trade flows. In contrast to the GFC, when bulk transport costs initially reached an all-time high (before then sharply declining), COVID-19 initially led to bulk prices at near-record lows¹⁹ (before then recovering in Q3 2020) and sharp reductions in air traffic (discussed further in section 3.3). Container shipping rates (as measured by the Hamburg Index) are broadly comparable between the GFC and COVID-19, with a short period of squeezed freight rates in 2020, which have since tripled, in part due to COVID-induced blank sailings.

These differences have important implications for the appropriate policy response and the extent to which governments should intervene to support borrowers who may be struggling to meet their debt commitments. The case for political intervention into debt contracts and the policy implications for NPL resolution following COVID are further discussed in section 4.

¹⁴ Household consumption, on the other hand, has significantly fallen in the EU. According to Eurostat, actual final consumption per capita in the EU decreased by 9.9% in real terms in Q2 2020 compared to Q1, before growing by 11.4% in Q3. During the GFC, quarterly changes never exceeded +/- 1%.

¹⁵ For example, transport and tourism were significantly affected by stay-at-home orders.

¹⁶ European Commission (2020b), 'European Economic Forecast: Autumn Forecast', November, ISSN 2443-8014 (online), p. 55, https://ec.europa.eu/info/sites/info/files/economy-finance/ip136_en_2.pdf.

¹⁷ According to PwC data, NPL transactions in Europe increased considerably following the GFC, from €19bn traded in 2011 to €89bn traded in 2019, with a peak in 2015 at €122bn. These figures do not include securitisations. See PwC (2020), '€150 billion of non-performing loan portfolios expected to trade over the next 2 years across Europe', December.

¹⁸ The ECB calculated that between 2015 and 2017, 67 actors were involved on the buy side of 199 NPL transactions, accounting for a total gross book value of loans of €153bn. See ECB (2017), 'Financial Stability Review', November, Special Feature A.

¹⁹ The Baltic Dry Index provides a benchmark for the price of moving the major raw materials by sea. In the GFC, the Baltic Exchange Dry Index reached an all-time high of 11,793 in May 2008, before then sharply declining. At the start of the COVID-19 crisis, the Baltic Exchange Dry Index initially dropped to near-record lows of 376 on 12 May 2020, before recovering significantly in Q3 2020.

Table 2.1 Overview—comparing crises

	Global financial crisis	COVID-19	Source
GDP (% change, YoY)			
Advanced economies	+0.2% (2008); -3.3% (2009)	-4.9% (2020); +4.3% (2021 forecast)	IMF World Economic Outlook Update, January 2021
Emerging market and developing economies	+5.7% (2008); +2.8% (2009)	-2.4% (2020); +6.3% (2021 forecast)	
European Union ¹	+0.9% (2008); -4.2% (2009)	-7.6% (2020); +5.0% (2021 forecast)	
Equity prices (% change)			
Europe	-8.3% (end July 2008 vs end Dec 2009)	-4.3% (2020)	MSCI
Banks	-25.0% (end July 2008 vs end Dec 2009)	-14.4% (2020)	
World	-12.8% (end July 2008 vs end Dec 2009)	+11.7% (2020)	
Equity prices,² industry performance in Europe (% change)			
Most affected	Financial services, real estate: -24.7% (end July 2008 vs end Dec 2009)	Telecommunications: -16.1% over 2020	Oxera based on Refinitiv data
Least affected	Retail: +12.2% (end July 2008 vs end Dec 2009)	Retail: +9.4% over 2020	
	Global financial crisis	COVID-19	Source
Exchange rates	US dollar weakness	US dollar strength	ECB
Interest rates³	5.89% (end July 2008); 2.85% (end Dec 2009)	1.53% (end Feb 2020); 1.51% (end Dec 2020)	ECB
Bankruptcies	Increased as early as 2008	Decreased significantly during 2020, expected to increase in 2021	Euler Hermes data (GFC), Eurostat (COVID-19)
Transportation costs			
Bulk	Prices initially reached all-time highs followed by a sharp drop	Prices initially reached near all-time lows, followed by recovery during the second half of 2020	Baltic Exchange; FAO
Air freight	No major impact on capacity	Sharp decrease in capacity	FAO
Macro policy response			

Monetary	Beginning of QE	Multitude of QE and QE-like programs	
Fiscal	Moderate expansion, large differences across countries	Massive expansion: latest estimate of 4.5% of GDP in EU, almost 24% of GDP in EU (including public guarantees and tax deferrals). ⁴	EC 2020 Autumn Economic Forecast
Trade	Sharp contraction by 17%	Possible contraction by 9%, October estimates	WTO

Notes: ¹ October 2020 forecast. ² Equity returns are price returns (not total returns). ³ Interest rate refers to the ECB's corporate composite cost-of-borrowing indicator, calculated for euro area companies. ⁴ The higher estimate of the fiscal stimulus during the COVID-19 crisis includes tax deferrals and public guarantees.

Sources: IMF (2021), 'World Economic Outlook Update, January 2021', January; MSCI index performance, end of day history (<https://www.msci.com/end-of-day-history?chart=regional&priceLevel=41&scope=R&style=C¤cy=15&size=36&indexId=106>, accessed 22/02/2021); European Commission (2020b), 'European Economic Forecast: Autumn Forecast', November, ISSN 2443-8014 (online), https://ec.europa.eu/info/sites/info/files/economy-finance/ip136_en_2.pdf.

3. THE EU CORPORATE SECTOR AND COVID-19

This section compares the performance of European businesses, more specifically non-financial corporates, going into the COVID-19 crisis compared to the latest data, and the start of the GFC in 2008. It then analyses key metrics to show the impact of COVID-19 on the credit quality of businesses for the corporate sector as a whole and describes some of the key differences in terms of impact across sectors.

3.1. Leverage of the corporate sector

Leverage represents the portion of a company that is financed by debt and is a good indicator to assess the sustainability of a company's financial structure. If a company is primarily financed by debt, its risk will be perceived as higher by investors and they will require a higher return for financing the company. Carrying significant amounts of leverage, and in particular senior secured debt, limits the ability of corporates to access liquidity in times of economic stress.²⁰

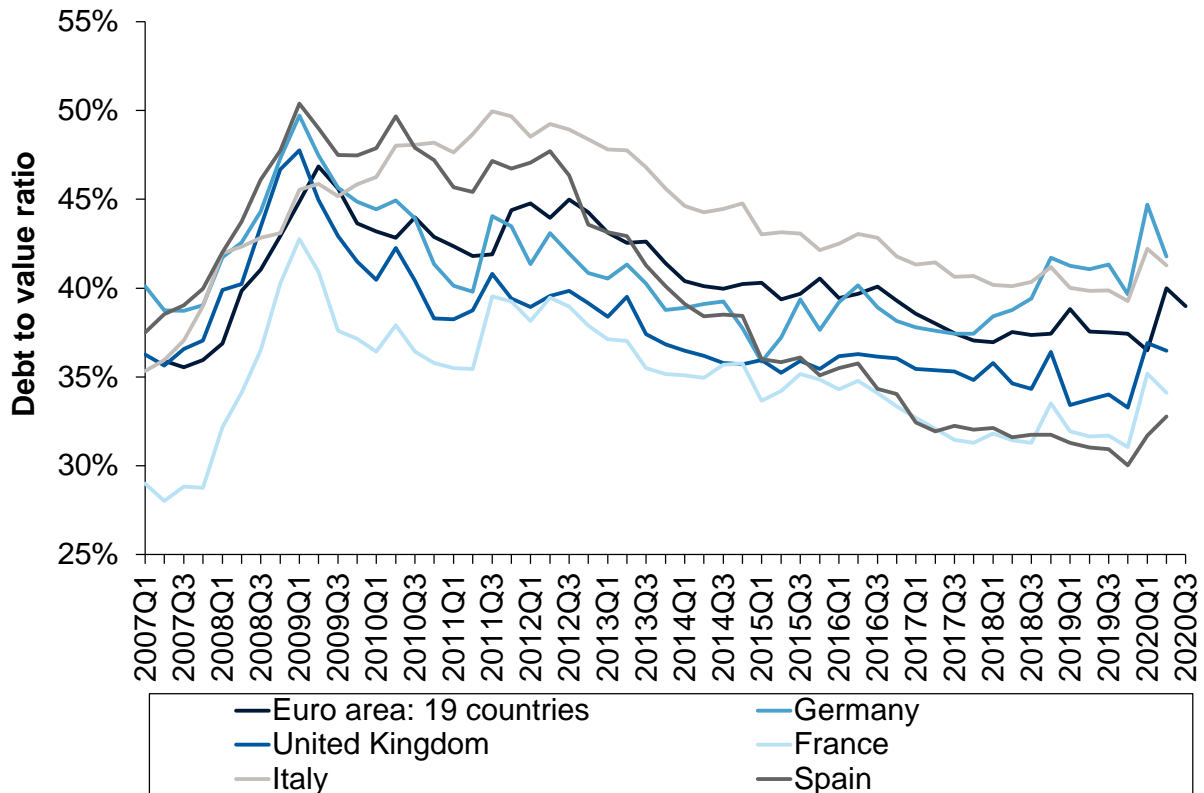
In the years that followed the GFC there has been a steady reduction in the leverage, as measured by the book debt-to-value ratio (i.e. the ratio of book debt to book debt plus book equity), of European corporates, as the growth in the value of equity has outweighed more moderate growth in the book value of debt over time.

The COVID-19 crisis initially led to a significant increase in the book debt-to-value ratio (shown by the uptick in Q1 2020 in Figure 3.1). This was driven by both the value of equity on corporate balance sheets dropping significantly, and companies taking on new debt to help them fund their operations when the drop in revenues associated with the travel restrictions meant they could no longer cover their operating costs with revenues.²¹ Thanks to the direct government support measures the debt increase was actually quite moderate. In Q2 2020, the book debt-to-value then reduced slightly due to an increase in equity issuance, but remained above the pre-crisis level. The data for Q3 2020 had not been published at a country level at the time of writing, but for the euro area the leverage ratio remained similar in Q3 2020 to Q2 2020.

²⁰ Shareholders of firms in financial distress may be reluctant to fund valuable projects if most of the benefits would go to the firm's existing creditors, and new creditors may be reluctant to provide funding if most of the benefits would go to the firm's existing (senior) debtors.

²¹ In the euro area, from the end of Q4 2019 to the end of Q3 2020 the value of book debt increased by 3.9%, while the value of book equity decreased by 6.1% over the same period. In fact, the book value of equity was lower at the end of Q2 2020 (down -12.5% compared to Q4 2019), and then increased slightly in Q2 and Q3 2020.

Figure 3.1 Debt-to-value ratio of non-financial corporates in the euro area and selected EU countries since 2007



Note: debt is calculated by summing the 'debt securities' and 'loans' instruments provided by Eurostat.

Source: Oxera analysis based on Eurostat data.

Since the COVID-19 crisis started, the maturity profile of debt at the euro area level has remained essentially the same as before the crisis: short-term debt (maturity less than one year) that will need to be refinanced stands at around 25% of total debt.²² Disparities across countries are however quite important, with higher shares of short-term debt in countries such as France and Germany (around 30% and 35% respectively), and lower shares in countries such as Spain and Austria (less than 10% and around 12% respectively).

While the impact of the COVID-19 crisis on the leverage of non-financial corporations is important, the increase has not been as significant as during the GFC. The particularity of the COVID-19 crisis, however, resides in the severe impact it has had on the activity of non-financial corporates in the EU, sometimes putting a complete halt to business in some sectors (e.g. restaurants, airlines). Therefore, although leverage has not increased in double-digit proportions, it has been harder for many companies to ensure debt repayment schedules are met. The extent to which credit quality has been deteriorating since the start of the COVID-19 crisis is discussed in the following section.

3.2. Evolution of credit quality

Although it is hard to predict with certainty how the corporate sector will perform in the future, it is still useful to look at metrics that indicate how credit quality in the corporate sector might evolve in the coming months and years ahead.

²² Oxera analysis based on Eurostat data.

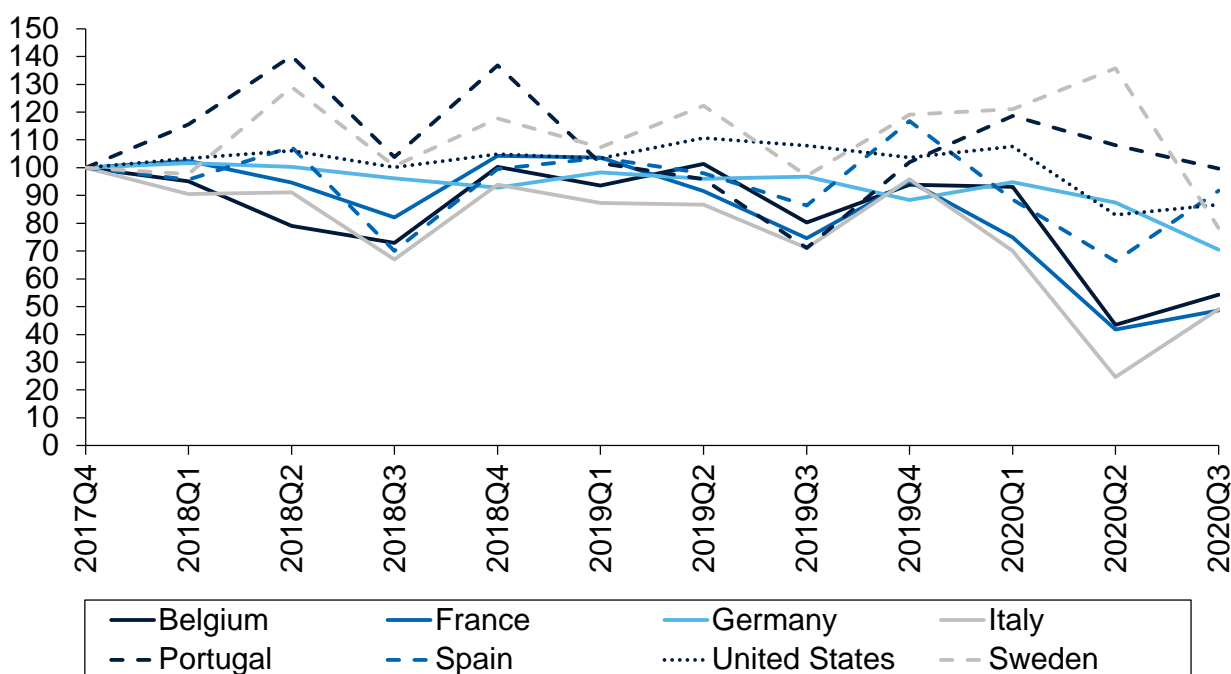
The outlook for credit quality will be a function of the shape of the economic recovery. Given the doubling of the savings ratio in recent months²³, many forecasters (including the EC, ECB and IMF) are expecting a sharp bounce back once government restrictions are removed. This would be a very different pattern to the shape of the recovery that followed the GFC. If there turns out to be a more sluggish recovery this would more severely damage the outlook for credit quality.

3.2.1. Insolvencies

Despite the fact that many businesses were forced to close (or substantially reduce their activities) as a result of government lockdown and stay-at-home orders, interestingly the number of bankruptcies *reduced (and not increased)* dramatically in 2020 compared to previous years in most countries, as shown in Figure 3.2 and Figure 3.3.

The largest reductions in bankruptcies have been in Italy and France, where the number of bankruptcies over the first three quarters of 2020 decreased by 40% compared to an average year. There were also reductions in other economies significantly affected by COVID-19. The number of insolvencies in first three quarters of 2020 was 25% lower than a typical year in Belgium, around 15% lower in Spain and Germany, and around 10% lower in the USA. In Sweden, where restrictions were not imposed as strictly, the number of bankruptcies increased by 6.5% compared to a typical year.

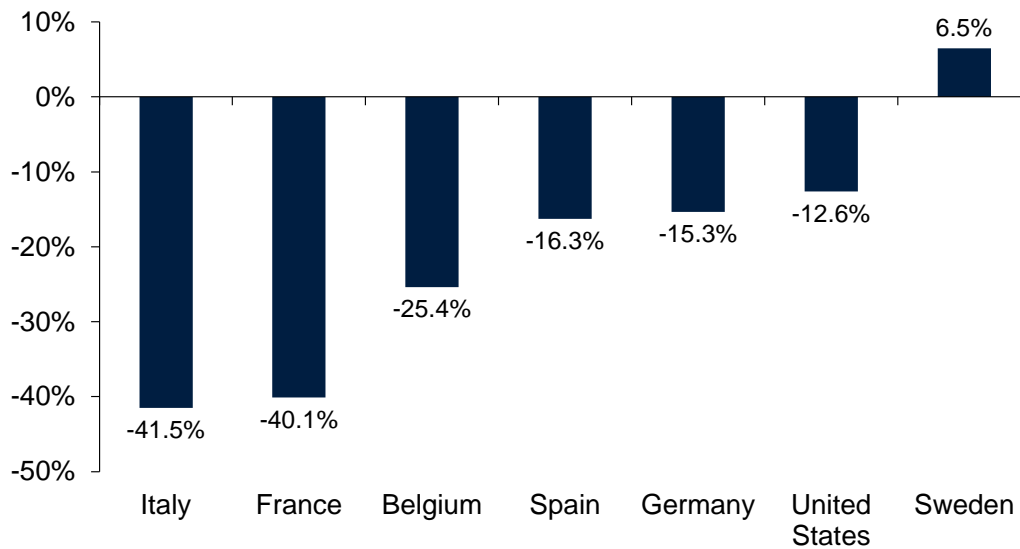
Figure 3.2 Quarterly number of bankruptcies (indexed) in selected EU countries and the United States since Q4 2017



Note: this chart shows the number of bankruptcies over time normalised to Q4 2017=100.

Source: Oxera analysis based on Eurostat, Epiq AACER and UC. data.

²³ According to Eurostat data, the seasonally adjusted household savings rate in the EU doubled to 23.4% during Q2 2020 from around 11.5% in the previous years.

Figure 3.3 Reduction in bankruptcies, 2020 vs average from 2017-2019

Note: this chart compares the average number of bankruptcies over the three first quarters in each country between 2017 and 2019 with the first three quarters of 2020. For Italy, the reduction is calculated by comparing the number of bankruptcies over the first 9 months of 2020 to the number of bankruptcies over the same period in 2019.

Source: Oxera analysis based on data from different statistics providers. For Italy, see Cerved (2020), 'Fallimenti, Procedure E Chiusura d'Impresa', December, p. 6.

In many countries it is clear that the strict lockdown rules have interrupted and/or delayed bankruptcy proceedings, artificially suppressing the number of insolvencies. For example:

- France temporarily suspended the duty on corporate directors to file for insolvency from 12 March to 24 August 2020.²⁴
- Belgium temporarily suspended the bankruptcy filing duty between 24 April and 27 June 2020, and then again between 24 December 2020 and 31 January 2021 for companies that were forced to close because of restrictions.²⁵
- Germany introduced a temporary suspension on the bankruptcy filing duty from 1 March 2020, which was recently extended until 30 April 2021.²⁶

On the other hand, in Sweden, which implemented less stringent lockdown orders and did not alter its bankruptcy rules,²⁷ the number of corporate bankruptcies was high in Q2 2020 relative to recent years.

It is also likely that the reduction in the number of bankruptcies in 2020, compared to previous years, is driven by the high level and indiscriminate nature of the government support measures adopted to support businesses through the COVID-19 crisis.

²⁴ DLA Piper (2020), 'An international guide to changes in insolvency law in response to COVID-19', December. In France, a company director is usually required to file for insolvency within 45 days of the company's state of insolvency. Following the temporary suspension, a director in France of a debtor who became insolvent after 12 March 2020 was therefore not obliged to file for insolvency proceeding, but could do so if wished. This suspension provision expired on 24 August 2020.

²⁵ DLA Piper (2020), 'An international guide to changes in insolvency law in response to COVID-19', December; and Bonne, M. and Matthys, H. (2021), 'COVID-19 – Statutory moratorium on creditor's rights ended on 31 January 2021', 10 February, <https://www.vbb.com/insights/covid-19-statutory-moratorium-on-creditors-rights-ended-on-31-january-2021> (accessed 23/02/2021).

²⁶ DLA Piper (2020), 'An international guide to changes in insolvency law in response to COVID-19', December; and Friel, A. and Ziegenhagen, A. (2021), 'Extension of the suspension of the obligation to file for insolvency due to the COVID-19-pandemic', 29 January, <https://www.idsupra.com/legalnews/extension-of-the-suspension-of-the-4995707/> (accessed 23/02/2021).

²⁷ DLA Piper (2020), 'An international guide to changes in insolvency law in response to COVID-19', December.

The number of bankruptcies is expected to increase as government support measures are lifted across the EU and bankruptcy proceedings are restarted. There is already some initial evidence of this. The slight increase in the number of bankruptcies in Q3 2020 compared to Q2 in some EU countries (e.g. France, Italy, Spain) corresponds with a time when support measures were somewhat lifted after the first wave of the COVID-19 pandemic receded. Indeed, BIS (2020) predicts, based on forecasts of economic growth and forward-looking indicators of default risk inferred from equity markets, that bankruptcies will rise significantly by the end of 2021.²⁸

While it is interesting to look at the number of bankruptcies as an indicator for the future evolution of NPLs in Europe, it is also fair to say that this is more of a backward looking indicator. Therefore, it is also important to look at more forward-looking indicators, such as actions taken by rating agencies, and signals implicit in market pricing. These are discussed in the next sections.

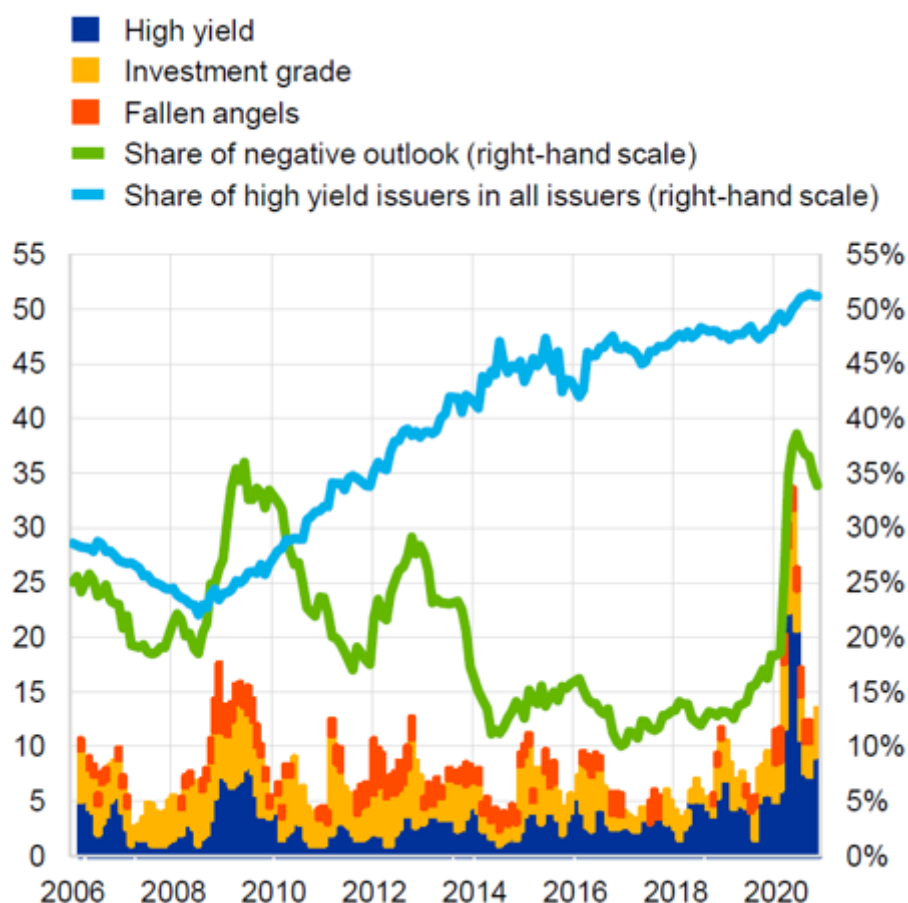
3.2.2. Ratings downgrades

Another indicator of performance is actions by credit rating agencies. Decisions taken by rating agencies are inherently forward looking as they assess the ability of companies to repay their debt in the future, based on all information available to the market. Rating actions impact on the cost of funding of corporates, as they provide a signal to the market of the credit quality of the corporate. As a corporate becomes riskier, their cost of debt increases.

Over the last year there have been many negative rating actions against EU companies as a consequence of the impact of COVID-19 on business activity. As shown in Figure 3.4, there was a significant spike in credit rating downgrades in March and April, sharper than the spike of the GFC, and particularly for corporates with a 'high yield' rating. More than a third of rated companies have been put on negative watch as a reflection of the weakened outlook for EU companies due to the impact of COVID-19. Due to these rating actions, many firms (the so-called 'fallen angels') have fallen from investment to speculative (or 'high-yield') grade status. Indeed, the number of 'high-yield' issuers in the euro area is now higher than the number of investment grade issuers, which is indicative of a crisis affecting primarily more fragile companies.

²⁸ BIS (2020), 'The outlook for business bankruptcies', *BIS Bulletin*, no. 30, 12 October 2020.

Figure 3.4 Credit rating downgrades, negative credit rating outlook and share of high yield issuers in the euro area



Note: negative outlook refers to the number of firms with a negative credit watch or negative outlook in relation to the total number of issuers. Downgrades are three-month averages. Fallen angels are defined by Standard & Poor's as companies that were downgraded into speculative grade from an initial investment-grade rating.

Source: ECB (2020c), 'Financial Stability Review', November.

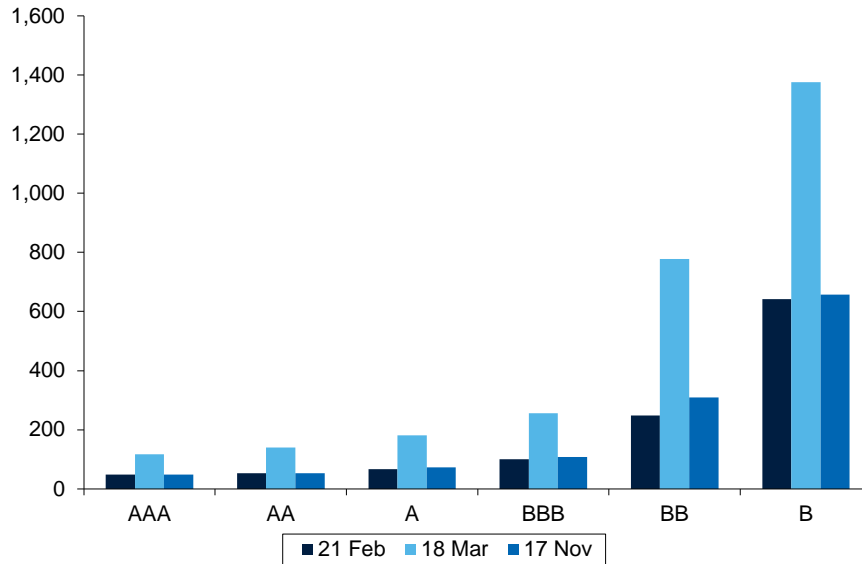
3.2.3. Borrowing rates and collateral quality

Given the constraints around leverage discussion in section 3.1, it is also important to look at the cost of borrowing to European corporates and the quality of the collateral, which they may use as security against current or future lending.

Despite the unprecedented contraction in economic activity, discussed in section 2, many financial asset prices have so far actually remained quite resilient. For example, credit spreads were back to their pre-COVID-19 crisis levels in November 2020 (across all grades, as shown in Figure 3.5 below), and close to their long-run levels,²⁹ mainly as a result of monetary and fiscal support, which led to a compression of debt risk premia. Although some sectors either have not yet fully recovered or are still too hampered by restrictions, many equity prices in other sectors less affected by the crisis have recovered from sharp declines in March 2020 (as discussed in section 3.3).

²⁹ As reported in <https://creditmarketdaily.com/corporate-bond-index-spread-data/investment-grade-corporate-bond-index-spreads-yields/> and here: <https://creditmarketdaily.com/corporate-bond-index-spread-data/high-yield-corporate-bond-index-spreads-yields/> (accessed 15/02/2021).

Figure 3.5 Corporate bond spread by rating category (in basis points) during the COVID-19 crisis

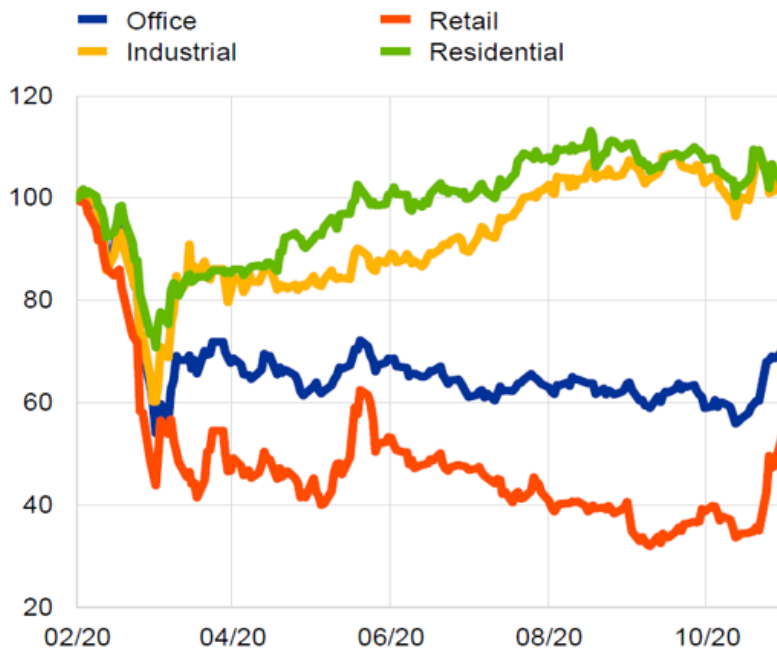


Source: ECB (2020c), 'Financial Stability Review', November, Chart 2.7, left panel.

As companies take on more debt to absorb the economic shock caused by the COVID-19 crisis and struggle to service liabilities, the consequences could feed through to the financial sector not only through credit risk, but also via collateral prices.

As shown in Figure 3.6 below, the sectoral Real Estate Investment Trust (REIT) price indices, which can be used as a proxy of real estate prices, all decreased sharply during the first two months of the crisis. Recovery ensued, albeit in an uneven way: as the price indices of industrial and residential REIT came back to their pre-crisis levels, the office REIT price index only started to recover in November after months of stagnation, while the retail REIT price index kept decreasing before starting to recover in November as well. Both are still far below their pre-crisis level.

Figure 3.6 Sectoral REIT price indices



Note: The data is from 17 February to 16 November 2020, with the index based at 100 for 17 February 2020.

Source: ECB (2020c), 'Financial Stability Review', November.

As discussed in section 2, one distinguishing feature of the COVID-19 crisis is the different impact across sectors. While the government-imposed restrictions affected all firms in some shape or form, they did not apply equally to all companies in the same manner, and some firms were able to adapt, while others were not. The next section therefore analyses the impact of the COVID-19 crisis across sectors.

3.3. Impact across sectors

The impact of COVID-19 varies greatly by sector. While it is still rather early to fully assess the magnitude and impact of COVID-19 on various aspects of life, there are clearly some sectors where the impact has been significant and other sectors that have performed well. This is evident through, for example, stock market performance (

Figure 3.7) and the number of negative credit rating actions (Figure 3.8 and Figure 3.9).

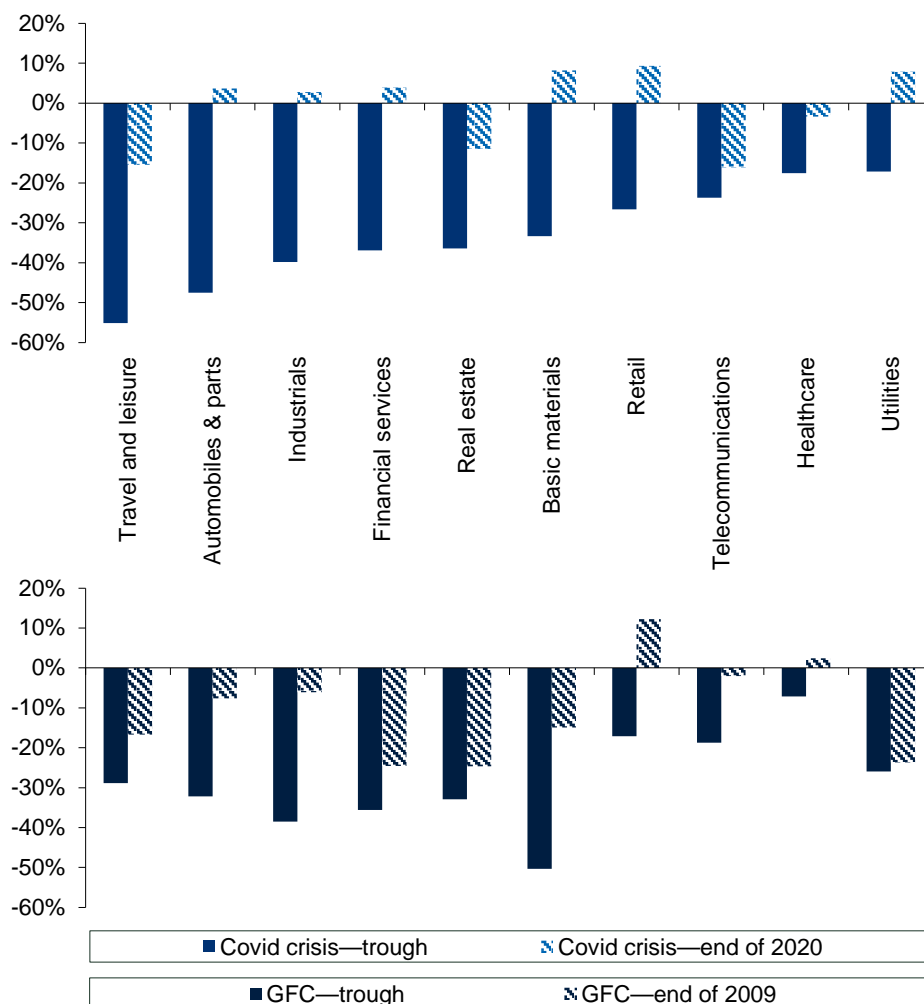
The impact has been greatest in sectors most affected by the lockdown restrictions. In particular, both the automotive and travel and leisure sectors' stock prices at the trough of the crisis suffered a 47% and 55% reduction (respectively) compared to the end of 2019, while utilities was the least affected sector. They also suffered the most in terms of negative credit ratings actions, with most of the rated companies affected by negative actions since the beginning of the crisis.

Figure 3.7 also informs us on the comparative breadth of the impact of the GFC and COVID-19 crises on stock price performance: we observe that while the COVID-19 crisis impact was, for most sectors, far more significant than the impact of the GFC, the recovery was also quicker (except for three sectors).

The credit rating actions taken since the start of the crisis, shown in Figure 3.9, confirm that some sectors were more affected than others, or are expected to be affected in the next few months or years. The retail and transportation sectors (discussed further in Box 3.1), which suffered the most from restrictions, were among the sectors with the most negative credit rating actions, with downgrades representing the majority of the actions taken. While banks were subject to a significant number of negative actions, these were mainly outlook changes rather than outright downgrades: the outlook changes reflect the anticipation of the effect of the COVID-19 crisis on the bank asset quality, already reflected in the banks' provisions, as discussed in section 4.1.

The significant number of negative outlook rating changes in 2020, as shown in Figure 3.9, indicates that most sectors are expected to suffer from the COVID-19 crisis in the coming periods. For seventeen sectors, more than one in five rated issuers were put on negative outlook as at 31 October 2020, and six sectors have the majority of their issuers facing difficult prospects in the coming months and years.

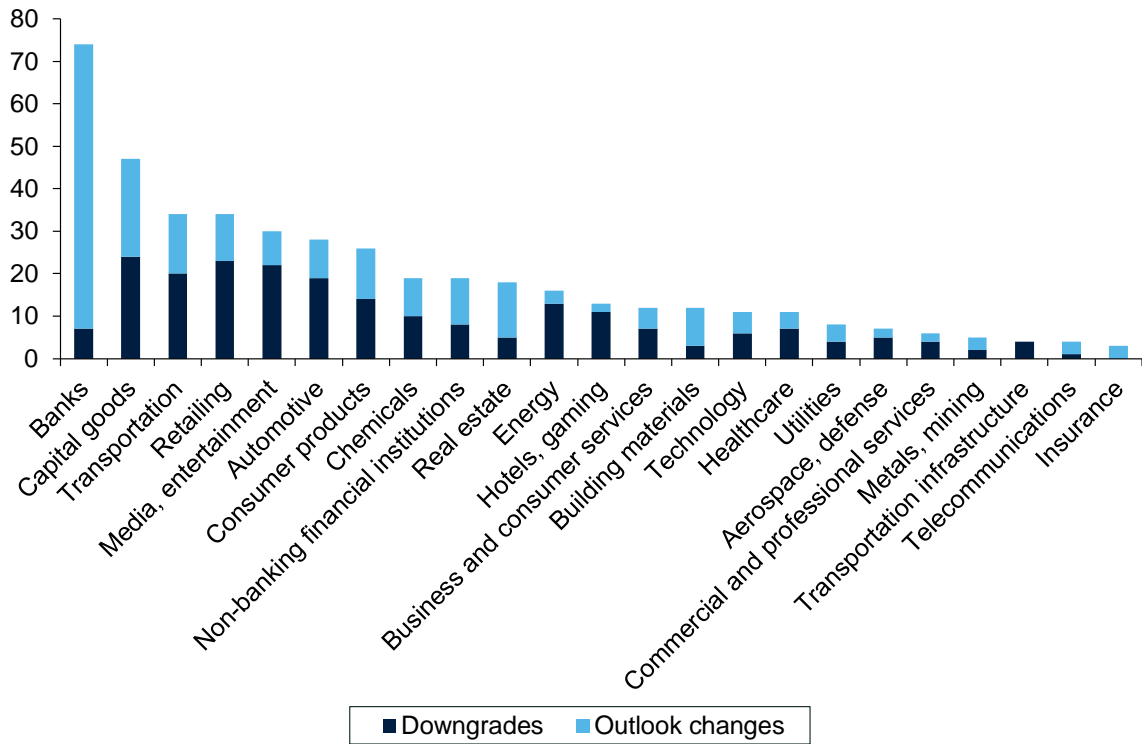
Figure 3.7 Stock price performance by sector during the COVID-19 crisis (top chart) and the GFC (bottom chart)



Note: for equity markets the trough of the GFC was 24 October 2009. For the COVID-19 crisis it was 18 March 2020. The stock price performance is analysed compared to 31 July 2008 for the GFC and to 31 December 2019 for the COVID-19 crisis.

Source: Oxera analysis based on Stoxx Price index data retrieved from Refinitiv Datastream.

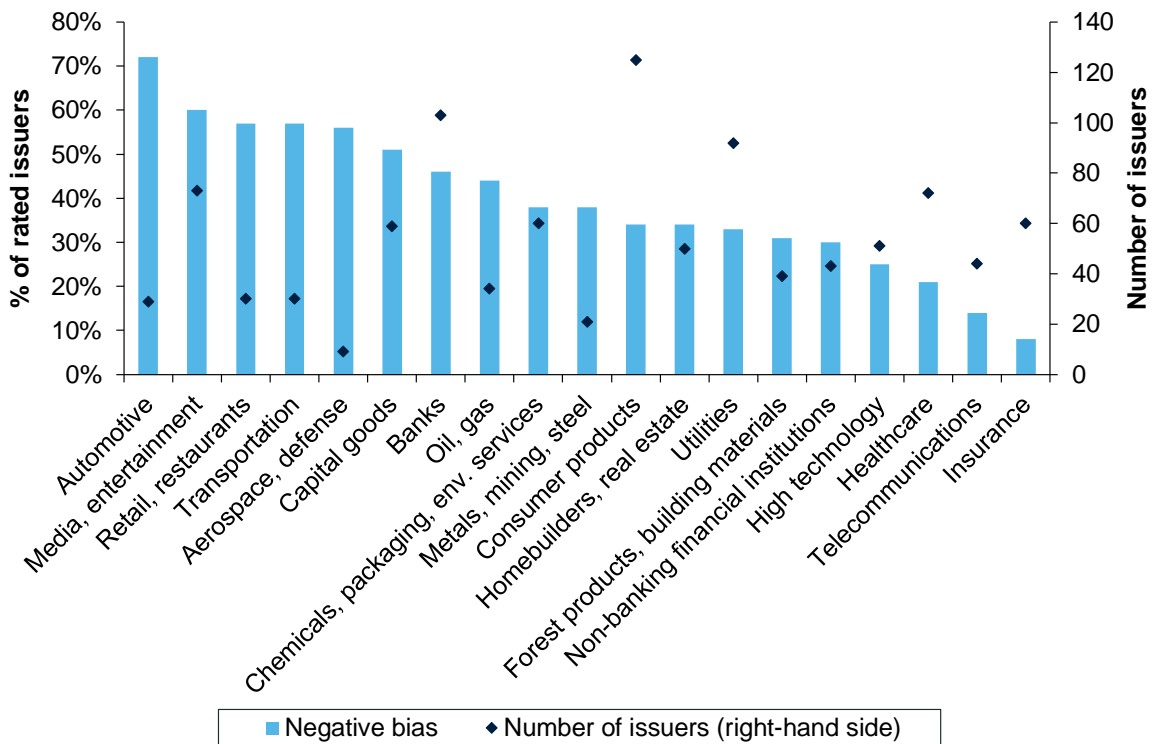
Figure 3.8 Standard & Poor’s negative credit rating actions linked to COVID-19 or oil prices since the start of the crisis



Note: negative bias measures the number of companies put on a negative outlook by Standard & Poor’s.

Source: Standard & Poor’s (2020), ‘Europe Credit Markets Update – 4Q 2020’, December, pp. 20–21.

Figure 3.9 Standard & Poor’s negative bias by sector as at 31 October 2020

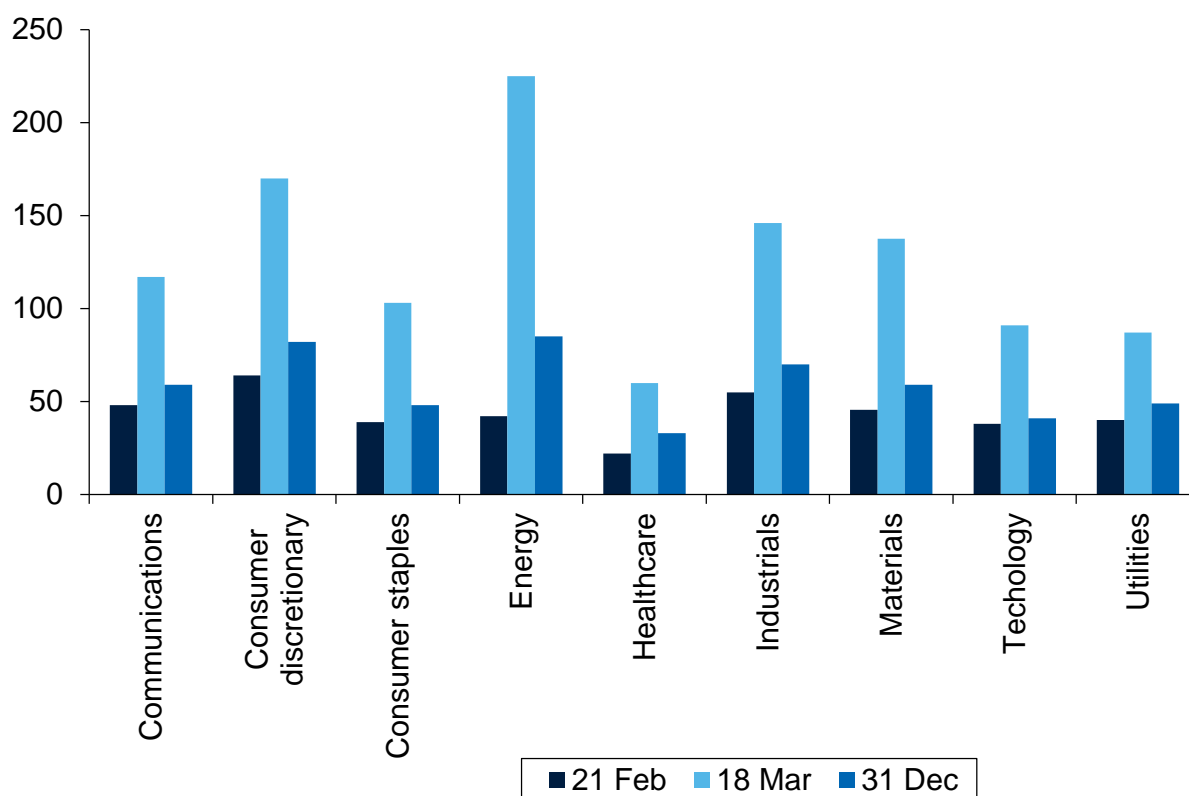


Note: actions taken between 3 February 2020 and 31 October 2020.

Source: Standard & Poor’s (2020), ‘Europe Credit Markets Update – 4Q 2020’, December, p. 16.

The evolution of credit default swap spreads in Europe provides further information on the perceived credit default risk across industries. The higher the spread, the higher the perceived risk of default. As shown in Figure 3.10, the price of credit default swaps initially increased in the initial stage of the COVID-19 crisis and has not come back to its pre-COVID-19 crisis levels. The perceived credit default risk remains particularly high in the consumer discretionary, energy and industrials sectors. This perceived risk is also high in other sectors, but to a lesser extent, suggesting market practitioners are generally more pessimistic in terms of the outlook for corporate credit quality over the next five years, although with an uneven distribution across sectors.

Figure 3.10 Evolution of 5-years credit default swap spreads (in basis points) during the COVID-19 crisis



Note: transportation businesses are included within the Industries sector.

Source: Oxera analysis based on European industry CDS data retrieved from Bloomberg.

Box 3.1 COVID-19’s impact on the transport sector

Travel restrictions were common-place across the EU and the world, as a result of lockdowns and stay-at-home orders, with governments advising against, and in many cases banning, travel to and from their jurisdictions. Some countries closed their borders to travellers from countries particularly hit by the pandemic. Others required travellers to show negative COVID-19 tests upon entry, and/or imposed quarantine periods on arrival passengers.

These restrictions, aimed at limiting the spread of the virus, had a dramatic impact on the transport sector. The number of rail passengers in Ireland and France during Q2 2020 were 94% and 78% lower respectively than during Q2 2019, according to Eurostat data. Air passenger transport, more international by nature in the EU, was even more affected, with the number of passengers during Q2 2020 over 90% lower than the number of passengers during Q2 2019 in every EU country, as indicated by Eurostat.

Although less affected, freight transport also suffered from the general reduction in activity across sectors caused by the COVID-19 crisis: according to Eurostat data, rail freight volumes (in tonne-kilometres) transported by rail in EU countries decreased by 10% in the first three quarters of 2020 compared to the same period the previous year. As for air freight, the International Air Transport Association (IATA) reported that in the Europe region (which encompasses a wider area than the EU) in November, the cargo-tonne-kilometres transported by air was down 17% year-to-date compared to the previous year. Shipping has been less affected by the crisis, with the number of ship calls at EU ports in 2020 being 12% inferior to that of 2019, according to data from the European Maritime Safety Agency, the difference being mostly driven by passenger ships, and not by freight ships.

The impact on the financials of companies operating in the transport sector was significant. The sub-sector most affected by the COVID-19 crisis was airlines. The IATA estimates that the average earnings before interests and taxes (EBIT) margin of European airlines in 2020 was -38%, and that 2021 will be another difficult year, with an average EBIT margin of -9.5%. The return on invested capital (ROIC) is expected to plummet to -18% in 2020, and the IATA forecasts that pressure will still be felt in 2021, with a ROIC of -7.5%. This impact might hide differences in the extent to which airlines are affected by the crisis, depending on their ability to react to a drop in revenues: for example, full-service carriers, which typically have a higher share of (semi-)fixed costs than low-cost carriers, are likely to suffer more from the crisis. Given the significant impact of the COVID-19 crisis on their financials, some airlines faced acute financing issues during 2020. In order to mitigate the impact of the crisis, many EU governments intervened in support of airlines, by handing out State aid, either under wider schemes or as individual measures. For example, France and Germany provided further aid, in addition to that provided as part of wider schemes, to their legacy full-service carriers (Air France and Lufthansa), in the form of guaranteed loans or equity injections. Air France received a guarantee from the French government on a €4bn loan and a €3bn shareholders' loan, while the German government contributed €6bn to the recapitalisation of Lufthansa.

European airports were also affected, having lost €30bn of revenues in 2020, and are expected to lose a further €25bn in 2021, compared to 2019 (as forecast by Airports Council International Europe).

As for the shipping industry, the impact varies depending on the business model. For example, while container shipping initially took a hit from the crisis as global trade decreased, it has since recovered, with significant share price increases in the second half of 2020. Crude oil shipping, on the other hand, took a big hit from the crisis, and shippers' share prices have not yet recovered—although they are more used to being exposed to cyclical fluctuations.

Looking ahead, in addition to the immediate shock, the COVID-19 crisis is expected to have a lasting impact on the EU transport sector, in both passenger and freight. The EC is now forecasting lower cumulative growth rates of passenger and freight transport up to 2050 across all transport modes, compared to the rates being projected before COVID-19. In terms of air traffic, the industry forecasts that passenger traffic will not come back to its 2019 level before 2024.

Sources: EMSA (2021), 'COVID-19 – impact on shipping', January; European Commission (2020c), 'Sustainable and Smart Mobility Strategy – putting European transport on track for the future', SWD(2020) 331, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52020SC0331>; Eurostat (2020), 'Impact of COVID-19 on air passenger transport in Q2 2020' and 'Impact of COVID-19 on rail passenger transport in Q2 2020', October and November; IATA (2020), 'Economic Performance of the Airline Industry', November.

Overall, the COVID-19 crisis has led to a deterioration in the credit quality of European corporates, especially those operating in the sectors most affected by government restrictions.

At present, corporates are being cushioned by various government support policy measures and it is natural to expect a rise in insolvencies once this support tails off. The steady deleveraging that has

occurred in the European corporate sector in the years preceding the start of the COVID-19 crisis has helped create a small buffer for firms to tap equity and debt markets to meet financing needs in response to the shock. However, some forward-looking indicators, such as rating actions, and the below-average number of insolvencies last year, would tend to indicate an expectation for an increase in corporate defaults and NPLs in the coming years, once the government support tails off. Nevertheless, it is encouraging for those companies that need to refinance soon, that corporate spreads remain low and collateral prices have remained fairly resilient (with the exception of commercial real estate).

There are various scenarios for the economic recovery, and the credit outlook for the European corporate sector will be highly dependent on this. Some commentators are forecasting a sharp recovery once the government restrictions are lifted.³⁰ Others are predicting a significant increase in bankruptcies and a wave of NPLs as companies struggle to meet debt repayments, especially in sectors that were most affected by the government restrictions. For example, Oliver Wyman's central scenario is that the stock of NPLs in Europe will double from €0.6 trillion (at the end of 2019) to more than a trillion in 2021; and possibly almost triple to more than €1.4 trillion in a more severe scenario (a figure that is similar to that put forward by the ECB in a severe scenario³¹) post-COVID-19.³² As far as NPL transactions are concerned, PwC expects that after a trough in NPL transactions in 2020, these will resume, with an expected volume of NPL transactions (not including securitisations) of around €50bn in 2021 and €90bn in 2022.³³ Policymakers need to be prepared for all scenarios.

With this in mind, it is also important to evaluate the impact of the COVID-19 crisis on the banking sector and to determine how best to implement NPL resolution efforts should the wave of NPLs materialise. This is discussed in the next section.

4. NPL RESOLUTION AFTER COVID-19

This section first assesses the potential consequences of NPL resolution after COVID-19 on bank balance sheets. It then analyses the number of zombie firms that banks may still be lending to in the EU, and finishes by raising some important policy considerations for how to manage the volume of NPLs that may accrue as a consequence of the COVID-19 crisis.

4.1. Impact of COVID-19 on EU banking sector

Even in an optimistic case, the impact of COVID-19 on credit conditions is expected to flow through the corporate sector into the banking sector in different forms over the coming two to three years.

Although banks entered the current crisis in a healthier state than before the GFC (as discussed in section 2.2), they are not immune from COVID-19. The economic downturn has weakened the financial conditions of corporates and consumers and the situation is likely to get more challenging once the government support programmes are phased out. It is widely expected that this will put banks under pressure.

While the COVID-19 crisis is primarily a corporate crisis, the banking sector plays an important role in ensuring that the corporate sector can fund itself. It is also important to look at the state of the banking sector to ensure that the corporate crisis does not evolve into a full-blown financial crisis. Indeed, banks

³⁰ See, for example, Bank of England (2020), 'The Second Quarter', a speech delivered by Andy Haldane on 30 June 2020, <https://www.bankofengland.co.uk/-/media/boe/files/speech/2020/the-second-quarter-speech-by-andy-haldane.pdf?la=en&hash=3B82F9C046B7BCDA160AE8BE558B1EB58CFF21EB>.

³¹ Fleming, S. and Brunson, J. (2020), 'EU banks urged to prepare for bad loans as pandemic hits economy', *Financial Times*, 11 November.

³² Oliver Wyman (2020), 'The NPL Tsunami – A high growth segment', July.

³³ PwC (2020), '€150 billion of non-performing loan portfolios expected to trade over the next 2 years across Europe', December.

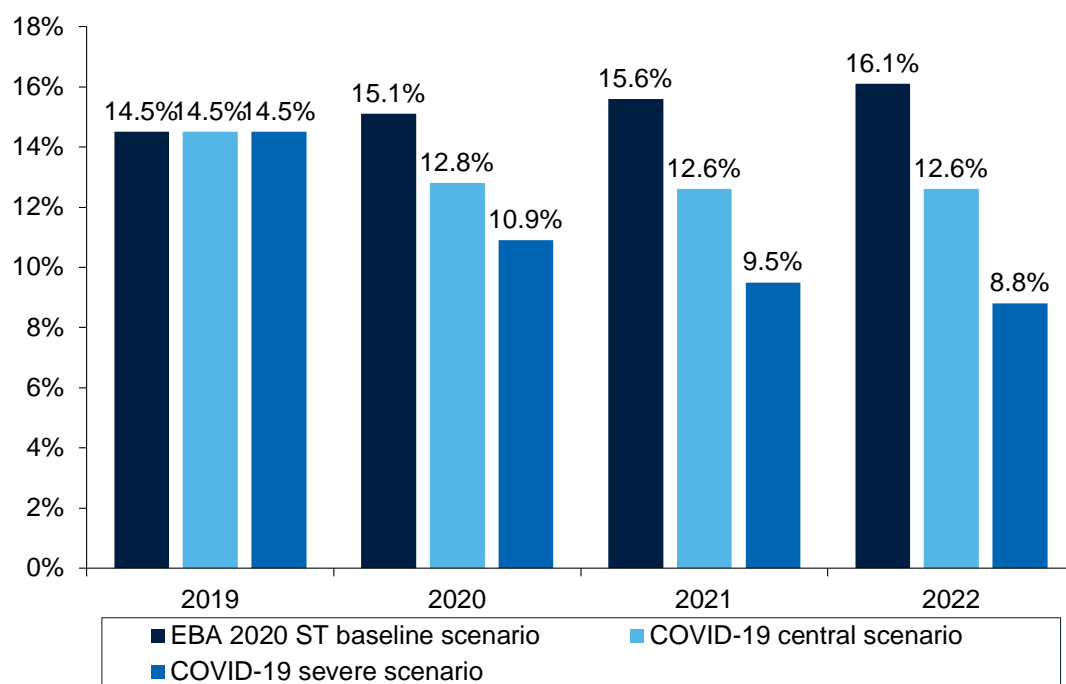
have an important role to play during the recovery phase, and it is therefore important to ensure that banks can continue to play their role of financing the economy.

Two key metrics to assess the impact of COVID-19 on the performance of the banking system are:

- Common Equity Tier 1 (CET1) ratios—i.e. the ratio of ratio of equity held by the bank to its RWAs
- NPL coverage ratios—i.e. the ratio between the provisions for loan losses recorded by the banks and the portfolio of NPLs on their books.

In terms of regulatory capital, while EU banks entered the crisis with higher CET1 ratios, the crisis is expected to put a significant strain on the evolution of the ratio over the next few years as debtors fail to meet repayment schedules and banks have to absorb losses not covered by government guarantees. Under a severe scenario, the ECB forecasts a reduction in the CET1 ratio from 14.5% of RWAs to 8.8% of RWAs on average across banks supervised by the SSM. For the lower quartile of banks (i.e. those most at risk of breaching the minimum regulatory capital requirement of 4.5%), the reduction in the CET1 ratio is from 13.6% of RWAs to 6.8% of RWAs. The impact is also likely to differ by business model. The CET1 ratios, under the severe scenario, are forecast to reduce on average by 7 percentage points for diversified lenders and 5.5 percentage points for global systemically important and universal banks.³⁴ Although the euro area average CET1 ratio in a severe scenario would still be two times higher than the minimum requirement, a significant portion of the CET1 capital is being supported by government support measures. ECB analysis in November showed that government support measures would safeguard more than 100 bps of the CET1 ratio on average across the euro area in 2020 compared to a no-policy scenario. The ECB expected that this would increase to close to 250 bps in 2021.³⁵

Figure 4.1 Exposure of banks to the COVID-19 crisis, measured by the projected evolution of their CET1 ratio under different scenarios



Note: The 'EBA 2020 ST baseline scenario' refers to the EBA EU-wide stress test baseline scenario, defined before the coronavirus outbreak. The 'central' scenario reflects the ECB's baseline projections, whereas the 'severe' scenario assumes a

³⁴ ECB (2020b), 'COVID-19 Vulnerability Analysis – Results overview', July, pp. 16–17.

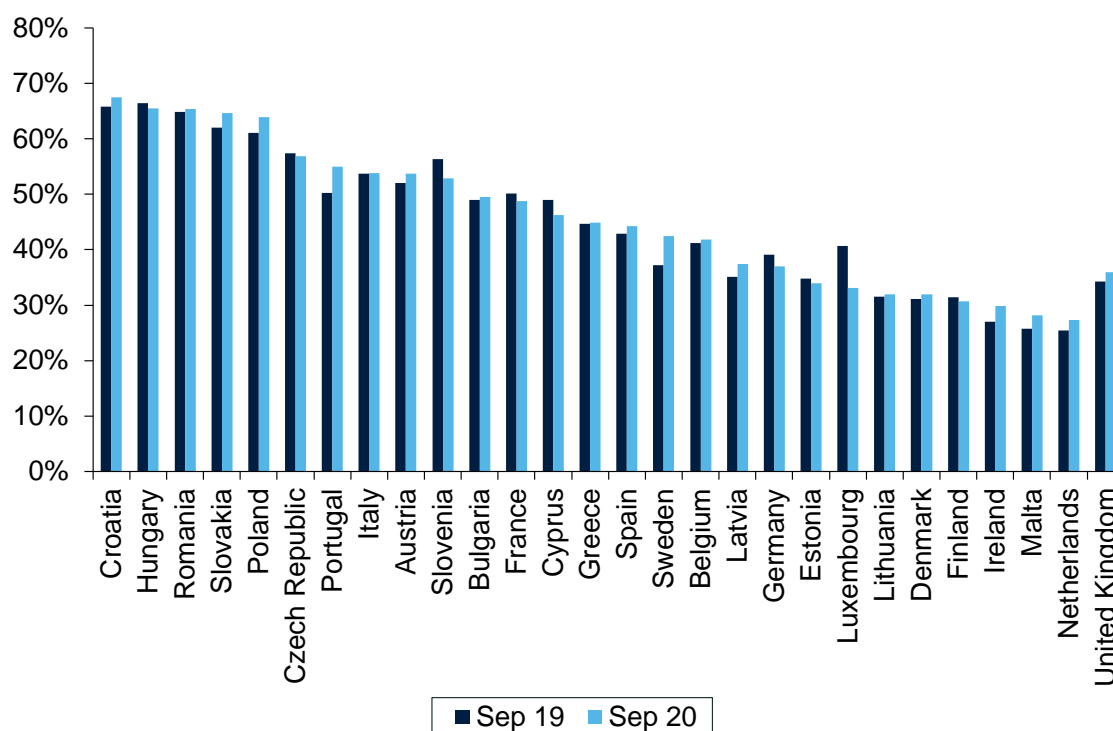
³⁵ See Chart A.3. in ECB (2020c), 'Financial Stability Review', November.

deeper recession and a slower economic recovery. The details of the ‘central’ and ‘severe’ scenarios are provided in the ECB’s June 2020 macroeconomic projections.

Source: ECB (2020b), ‘COVID-19 Vulnerability Analysis – Results overview’, July, p. 15.

While the crisis significantly hindered the ability of corporates to repay their debts, the average NPL coverage ratio across all European banks has remained stable since the start of the COVID-19 crisis, changing from 44.6% in December 2017, to 44.7% in December 2019 and 45.5% in September 2020. However, this EU-wide average masks variation across countries, as shown in Figure 4.2. Indeed, while the NPL coverage ratio of banks in some countries (e.g. France and Germany) decreased between September 2019 and September 2020, those in other countries (e.g. The Netherlands, Sweden and Poland increased).

Figure 4.2 Evolution of EU/EEA banks’ NPL coverage ratio since December 2017



Note: Non-performing loans or exposures are those that satisfy either of the following criteria: (a) material exposures that are more than 90 days past due; and (b) the debtor is assessed as unlikely to pay its credit obligations in full without realisation of collateral, regardless of the existence of any past due amount or of the number of days past due. As defined by the EBA, the NPL coverage ratio is calculated as follows: Accumulated impairment, accumulated negative changes in fair value due to credit risk for non-performing loans and advances / Total gross nonperforming loans and advances.

Source: EBA Interactive Dashboard, Q3 2020.

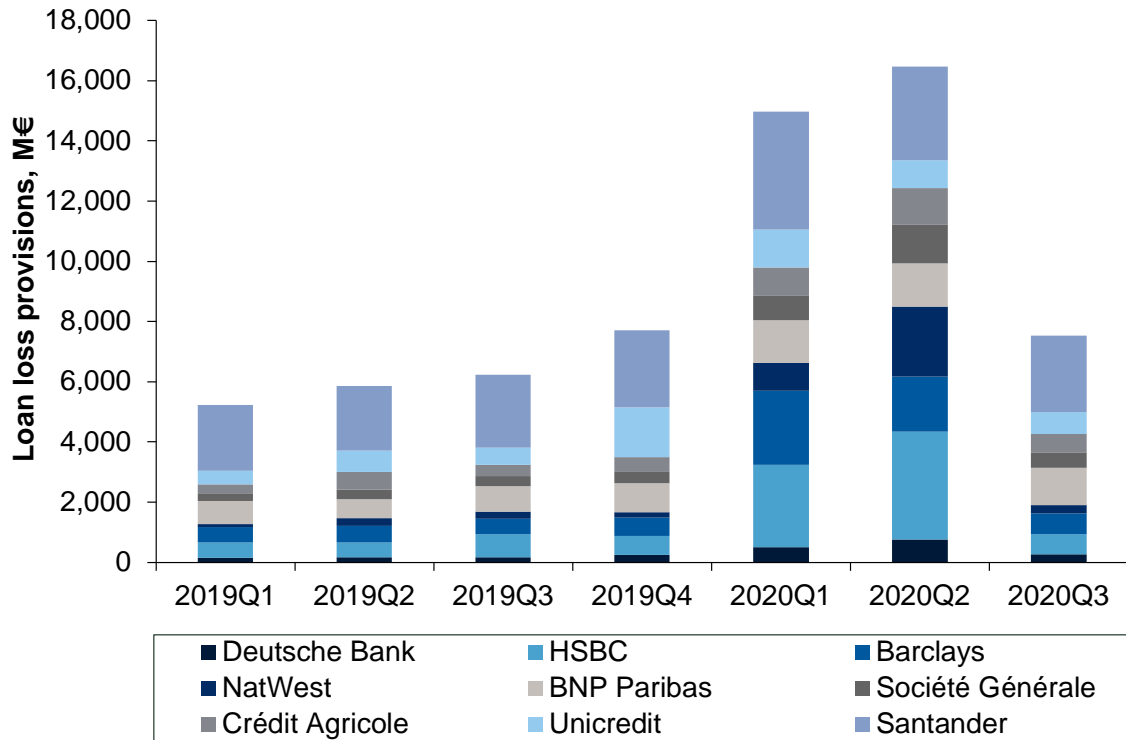
Euro area banks have significantly increased their lending to non-financial corporations during the pandemic.³⁶ Guarantees and moratoria appear to have lengthened the time it takes for weak economic performance to translate into credit losses and NPLs. However, higher volumes of lending to corporates could imply additional credit risk exposures, especially for banks in countries with a high legacy stock of corporate NPLs.

Banks significantly stepped up loss provisions during the first half of 2020 in response to a deterioration in the credit quality of their loan portfolio, and then revised these down in Q3 following the improved economic activity during the summer months (Figure 4.3). Despite the significant increase in provisions, ECB analysis suggests that there is still some further loss recognition required, as shown in

³⁶ As indicated by the ECB in the November 2020 financial stability review: ECB (2020c), ‘Financial Stability Review’, November, p. 12.

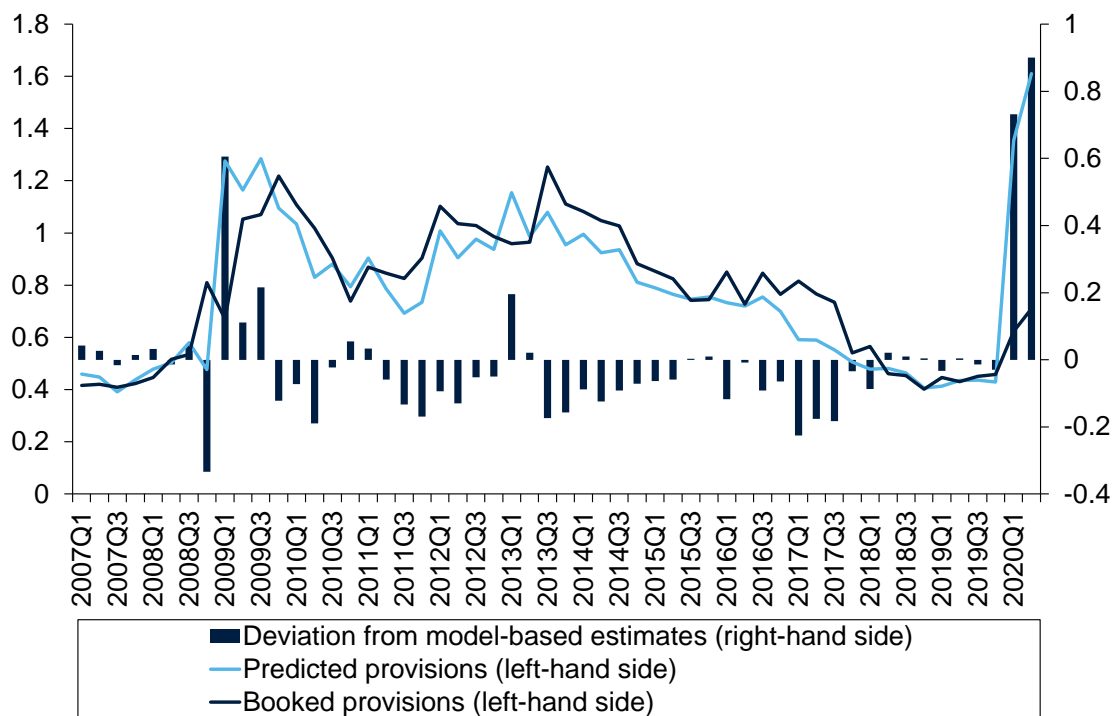
Figure 4.4. In particular, the gap between booked and predicted provisions over the last two quarters is wider than ever, which suggests that banks are still, at this stage, underestimating the consequences the crisis might have on their lending activity and, from there, on their risk and the management of their prudential requirements.

Figure 4.3 Loan loss provisions at major European banks, Q1 2019—Q3 2020



Source: Oxera analysis of bank earnings announcements.

Figure 4.4 ECB estimated implied provisions of euro-area banks (in % of total loans)



Source: ECB (2020c), 'Financial Stability Review', November, Chart 7, right panel.

Given that the NPL coverage ratio has remained relatively stable since the start of the COVID-19 crisis, banks consider that new NPLs caused by the crisis have the same loss exposure as NPLs that were on their balance sheet before the crisis. However, the fact that according to ECB analysis, provisions should have been much higher than they actually were (despite significant increases), is indicative of banks significantly underestimating the level of losses they may face in the future, as governments phase out support measures.

This analysis shows that overall, banks started the crisis with sound financial standing, but that the full impact of the COVID-19 crisis may not have been fully accounted for yet. Indeed, analysis by the ECB shows that despite having booked significant provisions for loan losses in the first three quarters of 2020 as a result of the crisis, banks are still under-provisioned. Also worrying is the fact that across the EU banking system, the average NPL coverage ratio remained constant throughout the crisis, showing that banks expect the same level of losses on the NPLs arising from the COVID-19 crisis as that of the NPLs that were on their balance sheet before the crisis. Profitability prospects for the coming quarters and years are weak, and will affect the banks' financial soundness—possibly significantly in the most severe scenarios, despite the fact that government guarantees will partially shield banks from the full effects of the COVID-19 crisis. In that regard, the vulnerability analysis of euro area banks carried out in July by the ECB identified that €72bn of guaranteed loans would default within three years in the severe scenario, and that government guarantees would cover impairments of €42bn, with €18bn of further loss absorption should guarantee application deadlines be extended until June 2021.³⁷

It is therefore crucial to ensure that challenges associated with NPL resolution are well understood, so that targeted policies are implemented to help banks stomach profit losses better in order to restore their financial soundness swiftly, so that they are able to support economic recovery.

4.2. Key challenges for NPL resolution

The circumstances around COVID-19 may require new capabilities with respect to NPL resolution due to factors such as the following.

- **The asymmetric impact across sectors.** The nature of the crisis (as discussed in section 3.3) means not all business models will be impacted to the same extent. Certain industries like hotels, accommodation, leisure and travel will be hardest hit, which will impact the related commercial real estate assets severely. On the other hand, residential real estate prices have remained steady.
- **The relatively greater need for financial restructuring of SMEs.** SMEs have suffered due to the need for liquidity to survive the lockdown periods and the structurally lower profitability in the 'new normal'. The European Investment Bank (EIB) estimates the net revenue loss under different recovery and government support scenarios to be between 6 and 11% for SMEs, compared to 2–3% for larger corporates.³⁸ Even in normal times, SMEs in Europe are heavily reliant on bank financing to finance their liquidity needs; this dependence on bank debt to compensate liquidity shortages has been compounded by the COVID-19 crisis, as other financing sources dried up. As a result of increased debt and lower revenues now and during the recovery period, many SMEs are expected not only to have difficulties repaying future debt obligations, but also to face solvency challenges.³⁹

³⁷ ECB (2020b), 'COVID-19 Vulnerability Analysis – Results overview', July, pp. 20–21.

³⁸ Maurin, L. and Pál, R. (2020), 'Investment vs debt trade-offs in the post-COVID-19 European economy', EIB Working Paper 2020/09, November.

³⁹ Kalemli-Ozcan, S., Gourinchas, P. O., Penciakova, V. and Sander, N. (2020), 'COVID-19 and SME failures', IMF Working Paper WP/20/207, September, p. 1.

- **The challenges around remote working.** Servicers of NPLs are adapting their business models to the new environment with remote working.⁴⁰ They can be less hands-on, which could pose challenges for identifying suitable workarounds in the case of businesses where employees drive the majority of the value creation (e.g. more service-based businesses, like professional services firms). Feedback from participants in the NPL market indicates that there have also been some challenges around virtual collaboration and using data-intensive internal due-diligence systems with home internet speeds.⁴¹ Another practical consideration is the difficulty of enforcing contracts while courts are shut.
- **The deeper expertise required to preserve value from restructuring.** The role of value creditors in facilitating whole sector restructuring, including horizontal consolidation and vertical integration to mitigate lower profitability in the 'new normal', may require deeper sector expertise due to the nature of the COVID-19 crisis compared to previous crises. The skills and expertise in managing non-performing and distressed debt that have developed in Europe since the GFC will be important to help to support the recovery process.

As with other crises, the makers of the policy framework for NPL resolution that will follow the COVID-19 crisis will also need to be mindful of the following.

- **The risk of value-destroying asset fire sales.** If a large number of banks try (or are required) to sell their distressed assets at the same time, this would likely result in short-term excess capacity, and impact on investor confidence in the asset quality, leading to investors demanding (sometimes significant) discounts. This, in turn, will impact on the liquidity needs of banks, and has a negative impact on their profitability. The risk of fire sale discounts is observable in financial⁴² as well as physical assets (e.g. Table 4.1 provides some historic estimates of fire sale discounts in the case of foreclosed ships,⁴³ aircrafts⁴⁴ and real estate⁴⁵). There are two main components to fire sale discounts: (i) a 'liquidity' component, representing the discount the seller has to grant to sell swiftly; and (ii) a 'quality' component, as assets sold during fire sales are generally of lower quality than assets sold by non-distressed firms.

⁴⁰ For example, there has been a big increase in the use of video footage in investor decks. The videos include both management presentations (that may have been conducted face-to-face prior to COVID-19) as well as video footage of site visits (replacing in-person site visits) to help prospective buyers better understand the characteristics of loans backed by physical assets (e.g. properties, land, ships, aircraft).

⁴¹ Another challenge raised by participants in the case of NPL resolution is the EU's General Data Protection Regulation (GDPR) and the requirement to redact all personal information. While this challenge is not COVID-19 specific, it is new since the last crisis. This will impact on the manner in which investors can conduct their due-diligence on loans related to consumer lending (e.g. mortgages, credit cards, consumer loans). In recent periods there has been an increase in the use of redaction tools in the preparation of NPL portfolios.

⁴² For example, Ellul et al. studied the fire sales of corporate bonds by insurance companies constrained by their regulatory requirements following the downgrade of these bonds from investment to speculative grade, and found that these bonds were subject to a fire sale discount of around 6% to 7%. See Ellul, A., Jotikasthira, C. and Lundbald, C.T. (2011), 'Regulatory Pressure and Fire Sales in the Corporate Bond Market', *Journal of Financial Economics*, **101**:3.

⁴³ Franks, J., Seth, G., Sussman, O. and Vig, V. (2020), 'The Privatization of Bankruptcy: Evidence from Financial Distress in the Shipping Industry', European Corporate Governance Institute – Finance Working Paper No. 505/2017, February.

⁴⁴ Franks, J., Seth, G., Sussman, O. and Vig, V. (2021), 'Revisiting the Asset Fire Sale Discount: Evidence from Commercial Aircraft Sales', European Corporate Governance Institute – Finance Working Paper No. 722/2021, January.

⁴⁵ Demirci, I., Gurun, U.G. and Yönder, E. (2020), 'Shuffling Through the Bargain Bin: Real Estate Holdings of Public Firms', *Review of Finance*, **24**:3, pp. 647–675.

Table 4.1 Fire sale discounts for aircrafts, ships and real estate

	Raw fire sale discount	Quality-adjusted fire sale discount	Quality discount
Ships	26%	13%	13%
Aircrafts	16%	8%	8%
Real estate ¹	6%	n.a	n.a

Note: ¹ For real estate, we report the discount associated with a covenant breach.

Source: Demirci, I., Gurun, U.G. and Yönder, E. (2020), 'Shuffling Through the Bargain Bin: Real Estate Holdings of Public Firms', *Review of Finance*, **24**:3, pp. 647–675; Franks, J., Seth, G., Sussman, O. and Vig, V. (2020), 'The Privatization of Bankruptcy: Evidence from Financial Distress in the Shipping Industry', European Corporate Governance Institute – Finance Working Paper No. 505/2017, February; Franks, J., Seth, G., Sussman, O. and Vig, V. (2021), 'Revisiting the Asset Fire Sale Discount: Evidence from Commercial Aircraft Sales', European Corporate Governance Institute – Finance Working Paper No. 722/2021, January.

Given the severity of the COVID-19 crisis it is possible that the fire sale discounts could end up being much larger than the numbers reported in Table 4.1. It is therefore important that the policy framework for NPL resolution takes into account the capacity of the participants in the market to bear risk at any point in time. By creating capacity of different actors to take on more risk, it becomes more cost-effective for (bank) lenders to recognise losses and offload those risks that they are less well placed to manage (e.g. than specialists), and instead focus on lending to those corporates whose risk they are well placed to bear.

- **The transition and tapering off of government support** measures. It is highly likely that continued government support will be key to maintaining the financial system's ability to finance the economy despite upcoming NPL materialisation. As indicated previously in section 4.1, government support measures already contribute to a significant portion of banks' CET1 ratios in the euro area. This presents a challenge as government support measures will need to be tailored towards NPL resolution support when pandemic-era support measures such as moratoria or direct support to corporates are lifted, with the consequence of NPL materialisation. Avoiding a sharp drop in banks' capital ratios will indeed be crucial to safeguard their ability to finance the recovery of the economy.
- **The risk of stifling innovation by supporting 'zombie' firms.** The presence of firms with sustained periods of underperformance makes supporting corporates more challenging. To aid the economic recovery, it is only those companies with viable business plans that should be supported, and not insolvent firms. The matter of zombie firms is discussed in section 4.3 below.
- **The constraints on banks to manage and restructure NPLs.** While the relationship-based business model of many European banks makes them well placed to lead the conversation with corporate borrowers who may be unable to meet their debt payments due to COVID-19, the extent to which they can do this is limited by two constraints. The first is the capacity of NPL departments. From a practical perspective there is a limit to the amount of restructurings the existing teams can do without expanding the size of their teams. The second constraint is the capital needed to back those restructured debts. One solution is to involve outside investors (e.g. distress debt funds, private equity, specialist bank investors) to take on the loans that the traditional bank lenders cannot handle via internal workouts. This is discussed in section 4.4.3 below.

These challenges surrounding NPL resolution will be particularly significant, as a wave of NPL is expected to materialise in the coming months and years. According to scenarios elaborated by Oliver Wyman in July 2020, the pre-COVID-19 stock of NPLs in Europe could double or triple post-COVID-19 (i.e. 2021/2022), depending on the severity of the crisis. NPLs would start materialising as soon as 2021, as support measures (mainly debt service moratoria) are lifted.⁴⁶

4.3. Analysis of zombie firms

As discussed in the previous section, one of the key challenges for the policy framework around NPL resolution following the COVID-19 crisis, is how to avoid the risk of stifling innovation by supporting firms with already sustained periods of underperformance (often referred to as ‘zombie’ firms).

Zombie firms are mature firms that are persistently struggling to repay their debts and are not expected to be strong performers in the future. Banerjee and Hofmann analysed the number of zombie firms from the 1980s and found that with each economic downturn the numbers tend to increase, but when the economy recovers the numbers remain high.⁴⁷ Despite not being expected to perform well in the future, these firms keep operating and keep financing their operations, which crowds out investment and employment, as pointed out by Banerjee and Hofmann.

As the volume of NPLs is expected to increase over the next few years, a key challenge for banks will be to identify those firms who are struggling to meet their debt commitments but whose continuation value exceeds their liquidation value, and therefore restricting is in the interest of them, the bank, and society. Banks might want to keep lending to such clients.

We have updated the analysis of Banerjee and Hofmann to identify the number of zombie firms in Europe, taking into account the start of the COVID-19 crisis. The aim of this analysis is to identify EU firms that were zombies before the coronavirus pandemic and that are likely to remain zombies in the next few years. To the extent possible, based on the data published to date, the analysis also seeks to identify companies that could become zombies because of the COVID-19 crisis, even though they were financially healthy in previous years. Such analysis can help banks and governments direct support (e.g. via shaping the policy framework, and/or via direct government support) to the companies that are most likely to succeed during the recovery phase.

Following the methodology set out in Annex 1, a firm is classed as a ‘zombie’ if, among other criteria, its interest coverage ratio (EBIT divided by interest expenses) is below one over three consecutive years. Based on a sample of 3,240 listed companies in the EU and the UK, we find that 15.3% (497 companies) are zombies based on the latest published company accounts (as at 15 January 2021). This is an increase from 14.4% (467 companies) based on the published company accounts in the previous year.⁴⁸

At a sector level, the three sectors most affected by the COVID-19 crisis (see Figure 4.5), with the largest increase in the number of zombie companies, are:

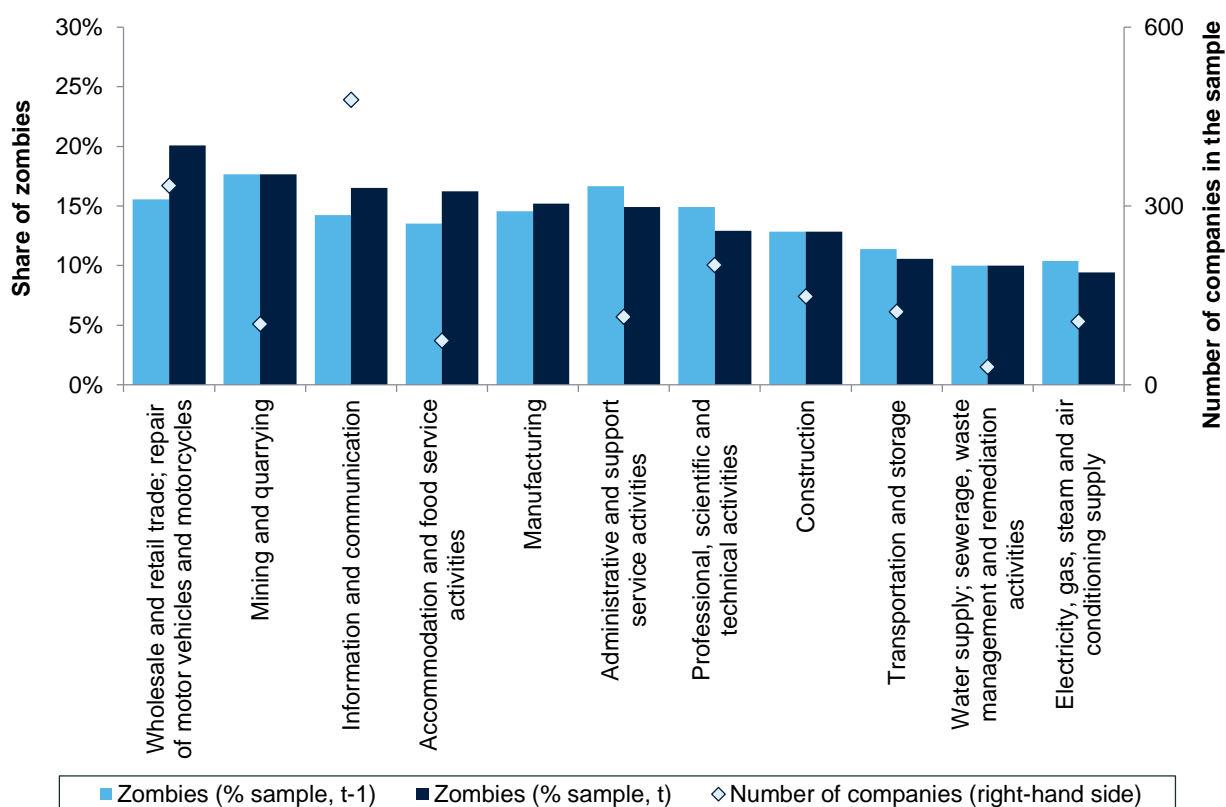
- wholesale and retail trade;
- information and communication, and;
- accommodation and food service activities.

⁴⁶ Oliver Wyman (2020), ‘The NPL Tsunami – A high growth segment’, July.

⁴⁷ Banerjee, R. and Hofmann, B. (2018), ‘The rise of zombie firms: causes and consequences’, *BIS Quarterly Review*, September.

⁴⁸ The latest fiscal year of companies included in the sample ended no earlier than 31/12/2019. The previous year analysis included company accounts dated no earlier than 31/12/2018.

Figure 4.5 Share of zombie firms by sector, fiscal years t and t-1



Note: the number of firms belonging to the manufacturing sector does not show on the graph for scaling purposes. This number amounts to 1,500 firms.

Source: Oxera analysis based on BvD Orbis data.

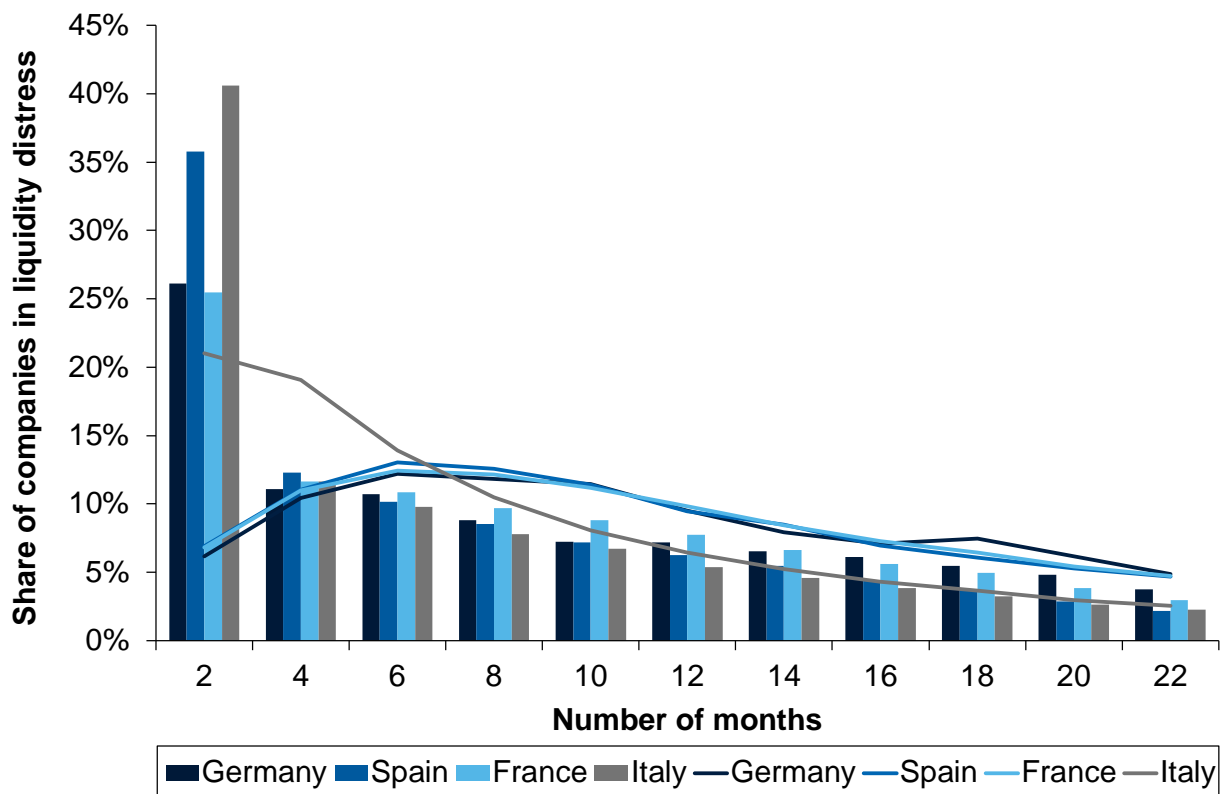
There are a number of reasons to suggest our analysis underestimates the number of zombies that will appear in Europe following the COVID-19 crisis:

- first, the Interest Coverage Ratios (ICRs) of corporates is expected to further decrease as the continued government restrictions imposed on their activities will negatively impact their EBIT, while not necessarily affecting their interest paid to the same extent, due to the low interest rate environment (except, perhaps, firms with large moratoria on interest payments).
- second, from a practical perspective, many firms have not yet published financial statements that cover the full period of 2020. The effects of COVID-19 on a firm's ICR are expected to be stronger as its filing date comes later in the year, insofar as its last fiscal year will overlap with the COVID-19 crisis for a longer period of time. It is therefore likely that once these company accounts are published we will observe a higher number of firms whose ICR went above one during the COVID-19 crisis.
- third, only 14.7% of the companies included in our sample had their last fiscal year ending after February 2020, when the pandemic started in the EU. The full effect of the COVID-19 crisis is therefore not reflected in this analysis. Furthermore, as it takes three consecutive years of having an ICR below 1 for a firm to be classified as a zombie, firms that were healthy before the crisis but got hit by restrictions will not necessarily be classified as zombies as of this fiscal year. The COVID-19 crisis put some companies on the path to becoming zombies. Out of the 476 companies that had their last filing date after the end of February 2020, 52 (10.9%) had their ICR go from above to below 1 during the last fiscal year, and 33 (6.9%) now have had an ICR below 1 over two consecutive years.

For these reasons, we would put more weight on the more forward-looking indicators (e.g. rating actions, credit default swap spreads, discussed in section 3.2) as an indicator for the possible wave in the number of zombie firms that may emerge following COVID-19. These indicators point to deteriorating credit conditions for a lot of firms, particularly acute in the case of several sectors, like transport. Firms that have suffered from credit rating downgrades during the COVID-19 crisis are more likely to become zombies as they will have difficulties covering their interest expenses with their revenues.

Up until this point, government support measures have been vital in helping many businesses through the crisis. As an example, Figure 4.6 shows that during the first lockdown in early Spring 2020 without government support over 25% of firms in the four largest EU countries (France, Germany, Italy and Spain) would have been unable to service their liabilities after just two months (over 35% for firms based in only Italy and Spain). Even with government support, around 5% of companies in Germany, Spain and France would have been in liquidity distress after only two months, 10% after four months and 13% after six months. Looking ahead, many of these firms may find themselves in greater financial difficulty once government support measures are withdrawn.

Figure 4.6 Share of companies that would have faced liquidity distress after a certain number of months in selected EU countries



Note: this graph shows the share of companies (y-axis) that would find themselves in liquidity distress (i.e. that would be unable to service their current liabilities) after a certain number of months (x-axis) with (lines) and without (bars) policy support in selected EU countries. Analysis based on March 2020 data.

Source: ECB (2020c), 'Financial Stability Review', November, Chart A.2, right panel.

While the number of zombie firms is likely to increase as a result of the COVID-19 crisis, it is important to differentiate between two categories of firms that may be classified under our approach as zombie firms. The first category includes those firms that were zombies even before the crisis started, and that constitute most of the zombies included in the sample analysed above. The second category is those

firms that were financially sound before the COVID-19 crisis and have good long-term prospects, but for which the impact is expected to last for a few years while their business activities re-normalise. The justification for policy intervention to support these firms is different across the two categories.

This differentiation is important to avoid a 'lost decade', like what happened in Japan following the crisis in the early 1990s. The lost decade in Japan was caused by insufficient resolution mechanisms, in part as 'the political and regulatory response was to deny the existence of problems and delay any serious reforms or restructuring of the banks'⁴⁹. Banks were only constrained by capital requirements, and avoided registering losses when they could. Instead, they kept lending to all companies indiscriminately, including insolvent companies—zombie firms. This resulted in crowding out investments and employment, and in deflationary pressures on the markets where zombie firms were active.⁵⁰

The next section discusses policy implications of the COVID-19 crisis on NPL resolution in light of the challenges discussed in section 4.2 and the risks entailed by not being able to differentiate between two categories of zombie firm.

4.4. Policy implications

4.4.1. What is the role for policy intervention in bankruptcy rules and debt contracts?

The rationale for government intervention to support NPL resolution is based on the expectation that large sections of the corporate sector will likely need to restructure to avoid capital and return on equity challenges following the COVID-19 crisis. If the effects of an asset foreclosure extend beyond the two parties involved in the decision to foreclose (i.e. if there are negative externalities), there may be a role for policy intervention in the foreclosure process. Furthermore, it is welfare improving for the resolution process, at both the level of the economy and the lender, to support corporates whose continuation value exceeds their liquidation value.

In general, government intervention into debt contracts as a general rule is not without consequences, as it creates moral hazard and the risk of borrowers strategically defaulting on their debt commitments, when they wouldn't otherwise have done so. The risk of government intervention in NPL resolution is moral hazard, which could leave taxpayers having to bear an unfair burden of the crisis (although with the current low levels of interest rates the cost of misusing government debt is much lower than during the GFC, and close to zero in many cases).

However, there is evidence from past crises to suggest that in the case of an exogenous macro shock, intervention can lead to welfare improvements and can be justified both ex-ante and ex-post. For example, Bolton and Rosenthal (2002) analyse farm loan contracts during the Panic of 1819 in the United States and found that political intervention and bailouts were both ex-ante and ex-post welfare improving. They find that not only is aggregate production increased ex-post, but, ex-ante, the total output of the economy is increased by allowing for debt relief.⁵¹ Kroszner (1998) finds similar results in the case of the large scale debt relief that was applied in the Great Depression.⁵²

⁴⁹ See Caballero, R. J., Hoshi, T. and Kashyap, A. K. (2008), 'Zombie Lending and Depressed Restructuring in Japan', *American Economic Review*, **98**:5, December, pp. 1943–77.

⁵⁰ Ibid.

⁵¹ Bolton, P. and Rosenthal, H. (2002), 'Political Intervention in Debt Contracts', *Journal of Political Economy*, **110**:5, pp. 1103–1134.

⁵² Kroszner, R. (1998) 'Is it Better to Forgive than to Receive? Repudiation of the Gold Indexation Clause in Long-Term Debt During the Great Depression', CRSP working paper.

In the case of the COVID-19 crisis, the exogenous and macro nature of the shock supports a case for political intervention and debt relief. In an event like COVID-19 it is quite clear that the event is a liquidity shock for corporates and the distress to corporate balance sheets is not firm-specific. In particular, the different nature of the COVID-19 crisis compared to other, particularly financial, crises, like the GFC, might lead one to think that moral hazard is a second-order concern. There are two main reasons for this.

- First, the COVID-19 crisis originates from a shock severely affecting the economy across most sectors (although some sectors were more affected than others), depleting liquidity and causing many firms to become financially distressed as a result. In such a context, strategic defaults are less likely, as most firms are simply not able to repay their debts given their current cash reserves and inability to find alternative funding sources ('liquidity default'), even when they were not previously in financial difficulties or presenting dubious debt repayment track records.
- Second, the prospect of a swift recovery after such an exogenous shock also makes (strategic) defaulting more costly, as firms would enter default proceedings that might have reputational effects and lead to asset foreclosures that would in turn hinder their capacity to finance their recovery and operate normally. The high savings ratio observed in the beginning of the crisis, and the big swings in consumption observed in Q2 and Q3 2020⁵³ after the first wave of the pandemic receded, are good indicators that business may expect an increase in activity once restrictions are removed. Nevertheless, the shape of the recovery still remains uncertain and it is yet to be seen what will happen to those sectors most affected (tourism, restaurants, air passenger travel, etc.). It is possible that many of these firms, particularly those with higher leverage going into the crisis, may suffer from a significant debt overhang problem.⁵⁴

In the case of an exogenous shock, government intervention in NPL resolution can help to avoid the economic costs associated with corporate firm failure.⁵⁵ Government intervention in NPL resolution can be welfare enhancing to the extent that the firms defaulting on their debt are in fact still economically viable. Helping companies with efficient resolution mechanisms creates the conditions for a swifter economic recovery, while reducing the costs associated with default proceedings for both banks and the firms in question. Indeed, for corporate debt, incentives for owners and creditors are often aligned in the absence of strategic defaults, and the goal is to minimise frictions that could impede efficient restructuring or liquidation.

The challenge for policymakers is to intervene in such a way as to ensure corporates with viable business plans are supported. Governments should avoid the risk of indiscriminate debt relief that may keep alive many zombie firms and hold back competition and innovation in the economy. Our analysis of zombie firms in the early stages of the COVID-19 crisis and the number of insolvencies in 2020 suggests that quite a few firms that have benefited from the indiscriminate nature of government support may have otherwise become insolvent. Intervention therefore needs to be carefully targeted in such a way as to support the right types of firm.

⁵³ Real growth of actual final consumption of 11.4% in Q3 compared to Q2, after an initial drop of 9.9% in Q2 compared to Q1.

⁵⁴ Debt overhang refers to the situation in which a firm finds itself when its existing debt is so large that any future profits will be primarily used to repay existing debtholders, thereby dissuading potential financiers to fund new projects, even if they are profitable.

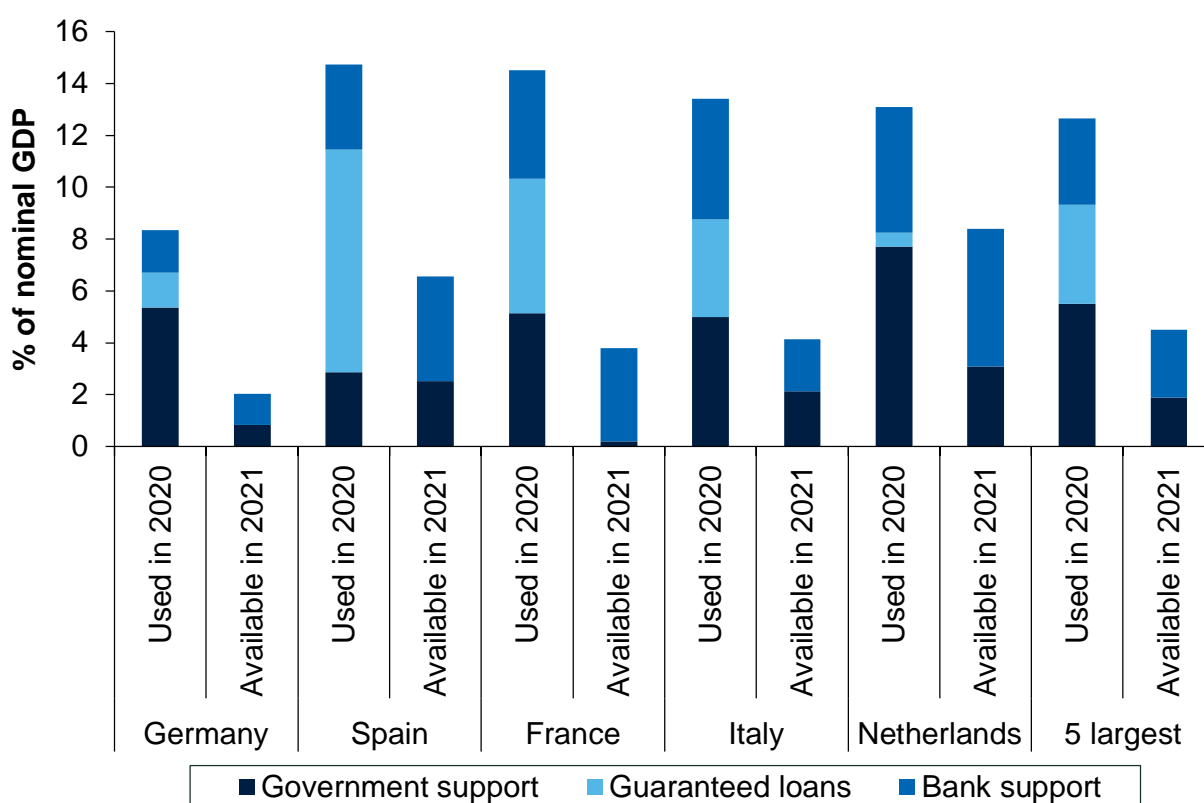
⁵⁵ Corporate failures can lead to welfare losses to the extent that there are restructuring or bankruptcy costs that depart from the optimal capital structure of the firm, as predicted by the Modigliani–Miller model (with taxes): beyond a certain level of debt, restructuring and bankruptcy costs exceed the value of tax savings.

4.4.2. What is the role for policy intervention in the banking sector?

Another objective of NPL resolution is to preserve the solvency of the banking sectors.

In Europe, banks play a significant role in the financing of the economy. The efficient functioning of the banking sector will therefore likely be an important determinant of the success of the economic recovery in the EU, and particularly in the time period after the government support has phased out. Figure 4.7 shows that although government support and guaranteed loans (the burden of which falls predominantly on government) made up the largest portion of support to the non-financial private sector (non-financial corporates and households) in 2020, the policy support available in 2021⁵⁶ would predominantly involve bank support. As direct government support is phased out, it will be important to ensure that banks (and market-based lenders) will be able to continue to finance the economy and support their clients.

Figure 4.7 Government and bank support to the non-financial private sector (in % of nominal GDP) in the five largest euro area economies



Note: guaranteed loans involve a share of government support (up to the amount guaranteed) and a share of bank support. The government’s share of support in guaranteed loans is generally higher than the bank’s.

Source: Oxera analysis based on ECB data.

As discussed in section 4.1, government support measures currently contribute, and will keep contributing, to a significant share of the CET1 ratios of banks. Once these measures are lifted and more NPLs start to materialise, there may be a risk to the solvency of banks if government contributions are not replaced by other policy measures.

⁵⁶ The ECB’s estimates of support available in 2021 are based on envelopes of agreed policies at the time of writing of the latest Financial Stability Review, i.e. autumn 2020.

To the extent that the corporate crisis turns into a banking crisis, more direct government intervention in the banking sector would clearly be warranted to avoid systemic risks. As noted by the ECB, policy makers can facilitate the resolution of NPLs using a mix of policy measures, such as, for example, the following.⁵⁷

- Asset quality reviews, to identify loans that are non-performing and need restructuring.
- Separating good and bad assets of banks, with the aim of enabling the ‘good’ banks to focus on extending new loans, while allowing more specialised asset management companies to proceed with extracting value from the non-performing assets.
- Recapitalising good banks to ensure their lending capacity. Banks can raise capital from existing or new shareholders, via, for example, new share issuances, and/or reducing their shareholder pay-outs via dividends or share buybacks. The lessons from the GFC demonstrated that state support should only act as an absolute last resort, once other options have been pursued, and there is a system-wide banking crisis.

In any case the priority for regulators and policymakers should be to support the corporate sector, and any policy intervention with respect to NPL resolution should be carried out with the main objective being to facilitate lending to corporates with viable business plans. With that in mind, the next section discusses what policy measures may be appropriate in the case of the COVID-19 crisis.

4.4.3. Are new policies needed after COVID-19?

The COVID-19 crisis is first and foremost a crisis of the non-financial corporate sector, with the financial sector being more affected indirectly as consequence of the reduction in the activity of borrowers. Therefore, the primary focus of policymakers should be to support non-financial corporates through the recovery phase of the crisis. As a result, any potential direct government subsidies should be directed towards the non-financial sector. Bailout programmes to banks such as those observed in the aftermath of the GFC should not be necessary, unless banks find themselves in great difficulties due to the build-up of NPLs on their balance sheets.

NPL reduction in peripheral euro area banks after the last crisis ultimately served to undermine confidence in peripheral euro area banks and delayed their ability to write new loans. Nevertheless, NPL reduction in these markets in previous years means that the mechanisms for NPL divestments or securitisations, and market capacity to absorb them, are now relatively well established. These mechanisms formed the basis of the EC’s action plan to deal with the NPL issue in the aftermath of the COVID-19 crisis, released by the EC in mid-December.⁵⁸ The EC’s plan involves a four-pronged approach, consisting of:

1. developing secondary markets for distressed assets, focusing on improving data accessibility and quality, while developing best practice guidance and adapting regulations where required;
2. setting up asset management companies (AMC) with the aim of removing NPLs from banks’ balance sheets. The EC states that the AMCs could be privately or publicly funded, and in the case of the latter, it may or may not involve State aid;

⁵⁷ Ari, A., Chen, S. and Ratnovski, L. (2020), ‘COVID-19 and non-performing loans : lessons from past crises’, ECB Research Bulletin No. 71, May.

⁵⁸ European Commission (2020d), ‘Tackling non-performing loans in the aftermath of the COVID-19 pandemic’, COM(2020) 822, https://ec.europa.eu/finance/docs/law/201216-communication-non-performing-loans_en.pdf.

3. reforming insolvency, debt recovery and debt restructuring frameworks, based on pan-EU insolvency proceedings benchmarking, in order to improve national systems, with a long-term goal to harmonise them; and
4. using the EU bank crisis management and State aid rules in the context of the COVID-19 crisis and its impact on banks.

Overall, the action plan presented by the EC for NPL resolution largely builds on the foundations laid after the GFC, when banks had to deal with a first wave of NPLs. However, point 3 of the plan calls for new policies to be implemented, as NPL markets remain fragmented not least due to the absence of a common insolvency regime.

Developing secondary markets for NPLs

The Commission's action plan on NPLs places a lot of weight on the development of liquid secondary markets (point 1 of the EC plan), which we strongly support. However, investor capacity and risk appetite for substantial new volumes of NPLs cannot be assumed. These are two important prerequisites for the development of the NPL market in Europe that could hinder the EC action plan if policy support is not provided in an effective manner.

The global context is important here. On the supply-side the COVID-19 crisis has affected companies on a global basis. As a result it is expected there will be an increase in NPLs not just in Europe, but in many other countries. On the demand-side, if you look at the global investor base for NPLs, and distressed debt more broadly, many of these investors currently tend to avoid investing in the euro area. Historically, this has been largely due to factors such as the legal systems, tax implications, and bankruptcy and labour laws in Europe. The actions being proposed by the European Commission to improve these conditions are welcome in this respect. However, other jurisdictions, in particular China and Vietnam, are opening up their NPLs to foreign investors. Financial institutions seeking to sell portfolios of NPLs face more competition than in previous crises. Unless the EU can attract more investors into the NPL market in Europe the build-up of NPLs will be very difficult to resolve.

There is also a market design question in relation to the development of secondary markets for NPLs. The policy initiatives include the development of standardised data templates that to be successful will require widespread adoption by market participants. However, it remains to be seen if the incentives are in place among market participants to enable these initiatives to succeed, and for the market to become more liquid. Under the current rules, banks' senior management in Europe have an incentive not to disclose NPLs and for assets not to be written down, to the extent that the provisioning rules remain relaxed. On the investor side, we understand that many buyers of distressed assets are happy to receive the premium associated with illiquidity in these markets, as it is in keeping with their business model. More liquid NPL markets would attract a new class of investor to the market, reducing their premiums. NPL markets represent the outcome of a complex value chain requiring successful interactions between corporates, lenders, investors, information providers, regulators, policy makers, and the like. With this in mind, policymakers should ensure that the individual actors' incentives are aligned to produce the desired outcome. This can only happen if the operation of the EU's NPL markets is considered on a holistic basis.

Regulatory framework for banks

A key question when discussing bank support is whether banks will be able to take on the risk and profitability loss associated with NPLs in the long term, while they deal with distressed assets. As discussed in section 4.1, the impact of the COVID-19 crisis on bank capital ratios is likely to be significant, but financial institutions seem to have some headroom, even in a severe scenario. Policies

that aim to further improve banks' capital ratios would help banks support companies through the recovery phase, despite NPL materialisation. This might involve questioning current crisis regulations: for example, as pointed out by the IMF,⁵⁹ restrictions on dividend distributions might affect bank equity valuations, with consequences for the ability of banks to raise additional external equity capital at low cost in order to improve their capital ratios to absorb increased NPLs and finance new loans.

The COVID-19 pandemic has brought back the debate on regulatory forbearance. Many of the policy responses relate to regulatory forbearance (e.g. relaxing rules on the foreclosure of loans, provisioning losses on balance sheets, and moratoria on payments), most likely in the belief that it is likely to be welfare improving for banks to renegotiate on loans with non-zombie firms facing short-term liquidity challenges. Evidence from previous crises warns us that forbearance can also create a vicious cycle whereby, once banks are allowed not to recognise a loss, it is very hard for regulators to reverse the situation as it is not incentive-compatible for a bank to suddenly recognise its losses once the crisis normalises.⁶⁰ The experience from the GFC advises us that regulatory foreclosure should be time-limited, with incentives put in place to ensure that banks have adequate provisions in place as soon as possible.

The policy framework should balance the need to encourage banks to provision appropriately as soon as possible, with the need to avoid asset fire sales and to ensure that banks in the short term can support lending to the non-zombies and those that are struggling just due to the COVID-19, but not to the non-viable firms. The 'extend and pretend' problem (of banks' lending to zombies) becomes a bigger issue when bank provisioning is so low when banks are not incentivised to and cannot afford to foreclose on a non-performing asset.⁶¹ At the same time, policy makers should seek to avoid a situation whereby bank managers try to offload the same types of loan books to the market at the same time, and thereby create fire sale risks. One possible way to find this balance would be to set rules on the level of provisions required for each type of loan, and then leave the lending decisions to the bank managers, who are better placed than policy makers to identify the corporates which are likely to be viable in the future.

Corporate restructuring

For the corporates there is unlikely to be a one-size-fits-all approach for dealing with NPL resolution efforts. SME NPLs, for example, are less adapted to market-based solutions given their size and the asymmetry of information generally associated with SME transactions.⁶²

In section 4.2 we discussed the challenges associated with NPL resolution, primarily for bank managers in the first instance, but also the importance for policy makers in terms of (i) avoiding fire sales; and (ii) identifying which of the struggling corporates that are unable to temporarily meet their loan commitments should be supported (those with viable business models), versus those that should not (the zombie firms). Following the experience in previous crises, many banks set up specialised internal

⁵⁹ IMF (2020), 'Restrictions on Banks' Capital Distribution during the COVID-19 Pandemic (Dividends, Share Buybacks, and Bonuses)', July, p. 3.

⁶⁰ For example, in a study of the regulatory forbearance regime in India, Mannil, Nishesh and Tantri find that while banks benefiting from forbearance do engage in restructuring efforts, they also increase capital payments to shareholders (dividends and buybacks) and remain undercapitalised even after recovery. See Mannil, N., Nishesh, N. and Tantri, P. (2020), 'Medicine Or An Addictive Drug?: The Vicious Cycle Of Regulatory Forbearance', September.

⁶¹ Aggressive provisioning rules would encourage banks to sell those loans that they consider do not have good future prospects and to restructure those loans that they consider to have good future prospects. If banks are too relaxed in their provisioning they are more likely to continue lending to non-viable corporates as well as viable ones.

⁶² As discussed in Baudino, P. and Yun, H. (2017), 'FSI Insights on policy implementation No 3 – Resolution of non-performing loans – policy options', October.

'central rescue units', with the aim of rescuing companies in financial distress rather than initiating formal bankruptcy proceedings.⁶³ These internal restructuring teams coordinate the lending and restructuring decisions (i.e. which firms should continue to receive support, be restructured, be sold, be liquidated, etc) across loan portfolios in the group. At the same time the coordination role that such units play can help to the risk of unnecessary fire sales for similar assets in the market. Given the limits to internal bank capacity in terms of risk appetite (as discussed in section 4.2, governments could support banks that choose to resolve NPLs internally, for example by agreeing to cover a portion of the losses incurred as a result of restructuring processes.

On top of internal resolution, other solutions might be required for these companies, including innovative financing instruments directly involving state intervention, such as:

- a debtor-in-possession financing facility⁶⁴—this essentially consists of debt (that can be provided at a subsidised interest rate) senior to all other creditors' pre-crisis unsecured claims, and allows for the financing of liquidity needs when no other creditor accepts to finance the company. This is particularly relevant for firms that find themselves in a debt overhang situation, which typically cannot raise new financing easily.
- 'cash-against-surcharge' contracts⁶⁵—this is like an equity-based injection with a payoff profile similar to an equity contract, without the need for the businesses to give up control of the business (a barrier to these firms seeking equity-based support in the first place). This type of tool may be particularly relevant for SMEs and service-based businesses, which may have limited collateral (to receive market-based secured funding), and/or accrued high debt-to-value ratios as a result of the largely debt-based support provided by governments in the first stages of COVID-19.
- securitisation structures—another tool that can be used to transfer the risk of SME loan portfolios from bank balance sheets to other investors is securitisation (either via a plain vanilla true sale securitisation or, often more commonly in the case of corporate credit risk exposures, balance sheet synthetic securitisation⁶⁶).

As discussed in section 4.3, it is likely that the COVID-19 crisis will result in an increase in the number of zombie firms, especially if recovery is slow. Some of these will have been zombies before the crisis hit. However, others will have only just become zombies, or will be at risk of soon becoming zombies, as a result of COVID-19 imposed restrictions. The NPL resolution mechanisms that will be implemented by bank managers and debt investors, and will be overseen by policymakers and supervisors, should distinguish between these groups.

Of course, in Europe the legal, regulatory and judicial frameworks can often limit the choice (of NPL resolution mechanisms) available to the lenders in practice. For example, debt restructuring can be

⁶³ See Franks, J. and Sussman, O. (2000), 'The Cycle of Corporate Distress, Rescue and Dissolution: A Study of Small and Medium Size UK Companies', IFA Working Paper 306-2000, April.

⁶⁴ As proposed by DeMarzo, P., Krishnamurthy, A. and Rau, J. (2020), 'Debtor-in-Possession Financing Facility (DIPFF) Proposal', Stanford University Graduate School of Business, June.

⁶⁵ As proposed by Boot, A., Carletti, E., Kotz, H.-H., Krahnert, J.P., Pelizzon, L. and Subrahmanyam, M. (2020), 'Corona and Financial Stability 3.0: Try Equity – Risk sharing for companies, large and small', SAFE Policy Letter 81.

⁶⁶ Synthetic securitisation transfers the credit risk of a portfolio of exposures by means of a credit protection agreement, without transferring the ownership of the securitised exposures. The securitised exposures remain on the balance sheet of the originator and become reference credits of the credit protection agreement. As there is no transfer of ownership, synthetic securitisation involves fewer administrative and legal steps than a plain vanilla securitisation, which is particularly relevant in the case of risk involving corporate credit, such as loans to small businesses.

costly if procedures are complex, thereby reducing the interest of this option for banks.⁶⁷ It is therefore important for EU policymakers to address the legal barriers and delays to the resolution process quickly in order to empower bank managers to make the necessary targeted lending decisions (to support the viable business models and not the unviable ones) and to incentivise distressed debt investors to enter the European NPL secondary market. The risk is that this process will take too long at a time when Europe will be competing (for these investors) with NPL portfolios in other jurisdictions also affected by the COVID-19 crisis.

In sum, the evidence calls for a policy mix that supports economically viable firms but at the same time quickly and efficiently reallocates resources to firms and sectors with better prospects to drive growth in the post-pandemic world. Banks should be encouraged to keep financing economically viable firms, even when these are in temporary difficulties because of the COVID-19 crisis.

4.4.4. Conclusion and key questions for policymakers

The key challenge for policymakers is to ensure that the financial system is well placed to support those firms whose continuation value is larger than their liquidation value. These are the struggling (non-zombie) firms with viable business plans, which may need some liquidity support and/or targeted equity injections to help them through the crisis. Non-zombie firms are also concentrated in certain sectors most affected by the COVID-19 shock.

The COVID-19 crisis has been particularly acute for SMEs, which are less able to adapt to the restrictions, both from an operational and a financial perspective. While large listed corporates have been able to raise external funding, SMEs in Europe are more reliant on bank funding. Governments can support these firms either directly (e.g. via guarantees and targeted tax reliefs) or indirectly via improving the incentives for banks to lend to SMEs.

The COVID-19 pandemic has brought back the debate on regulatory forbearance. Many of the policy responses relate to regulatory forbearance (e.g. rules on foreclosure and moratoria on payments), most likely in the belief that it is likely to be welfare improving for banks to renegotiate on loans with non-zombie firms facing short-term liquidity challenges. Yet, evidence from previous crises warns us that forbearance can also create a vicious cycle whereby, once you allow banks to not recognise a loss, it is very hard for regulators to reverse the situation as it is not incentive-compatible for a bank to suddenly recognise its losses once the crisis normalises. Europe should seek to avoid risking a lost decade as experienced by Japan in the 1990s.

An alternative is to allow market-based solutions. Policymakers should create the incentives to enable NPLs to be traded easily on the secondary markets, and remove existing impediments in the regulatory framework that impede this. By creating capacity of different actors to take on more risk, it will become more cost-effective for bank lenders to recognise losses and offload risks that they are less well placed to manage than specialists. This will also allow for a better resolution for the banks.

From a corporate perspective, our analysis identifies that around 15% of European non-financial corporates may be 'zombies' (with poor financial performance over a sustained time period). Some of these may benefit from advisory support to turn around their business plans, and internal bank restructuring teams are well placed to help them with this. For those firms with debt overhang challenges, techniques such as debtor-in-possession financing can help. The remaining firms may have

⁶⁷ Baudino, P. and Yun, H. (2017), 'FSI Insights on policy implementation No 3 – Resolution of non-performing loans – policy options', October.

to be liquidated. Getting the optimal balance between excessive continuation of firms and excessive liquidation of firms is critical to the success of any policy response.

For the large number of firms whose continuation values are likely to be greater than their liquidation values, there should be more support and flexibility. Policymakers should target support to those sub-sectors that have been most affected by the COVID-19 crisis and will be providing important services to consumers that will still be in high demand once the various restrictions are removed. Of course, it is possible that the COVID-19 crisis will permanently change some consumer preferences, so lenders also need to be mindful that certain industries may have changed for good.

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ANNEX 1: METHODOLOGY FOR ANALYSIS OF ZOMBIE FIRMS

Our analysis of zombie firms is based on the following methodology, inspired by McGowan et al. (2017) and Banerjee and Hofmann (2018).

We extract data from Orbis, a database collecting firm-level financial information from around the world.

Using functionalities within Orbis and based on the aforementioned papers, we extract the financial information of firms using the following filters.

- A geographic filter, only including EU- (and UK-) based firms.
- An activity filter, only including firms operating in the non-financial business economy sectors.⁶⁸
- An age filter, only including companies that are older than ten years old in the sample. This allows us to exclude younger companies that do not have enough financial history and that are typically in their start-up phase and might not generate positive income for a time. Such companies might therefore be categorised as zombies, although this would not necessarily be indicative of a fundamental unviability. We therefore choose to exclude these companies.
- A data availability filter, only including firms that have enough financial information to calculate the Interest Coverage Ratios (ICRs), the key parameter used to determine whether a firm is a zombie or not, over the last five financial years.

We retrieve the following financial information over the last five fiscal years:

- revenues;
- earnings before interests and taxes (EBIT);
- interest paid.

Using the information retrieved from Orbis, we refine the sample by:

- removing companies for which a complete set of financial accounts filed between 31 December 2019 and 15 January 2020 was not available;
- removing companies that have an average EBIT margin over the past five fiscal years (i.e. the ratio between the EBIT and the revenues) below -100%. This filter allows us to exclude companies that have very significant operating costs compared to their revenues: these companies' business models typically revolve around such a cost structure. Sectors in which these companies operate include, for example, pharmaceutical research, mining or manufacturing of innovative products.

The final sample includes 3,240 companies. We calculate the ICR of these companies over the last five years. A firm is considered a zombie if its ICR is below 1 over three consecutive years.

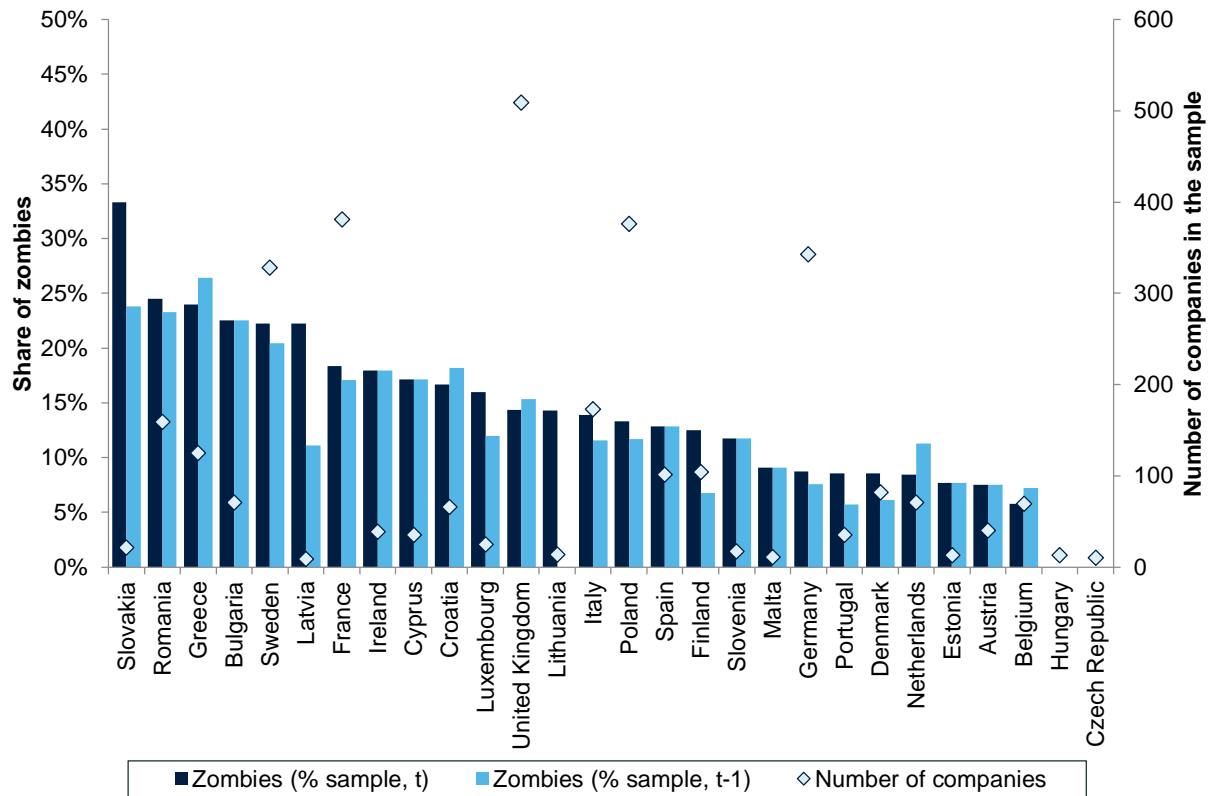
As shown in Figure A1.1, most countries saw their share of zombies increase, sometimes significantly, between the last two fiscal years. Such countries include, for example, Sweden, France, Poland and Germany, where many of the firms included in the sample are based.

It seems premature, as this stage, to make a connection between the increase in the share of zombies and the stringency of the measures implemented to contain the COVID-19 outbreak, in part because

⁶⁸ As defined by Eurostat: https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Business_economy (accessed 22/01/2021)

of the reasons discussed in section 4.3, but also because the share of zombies increased both in countries where measures have been looser (such as Sweden) and countries where lockdowns have been more stringent (e.g. France).

Figure A1.1 Share of zombie firms by country, fiscal years t and t-1



Source: Oxera analysis based on BvD Orbis data.

The COVID-19 crisis is a significant and exogenous shock to the EU corporate sector, with implications for the operations and funding of many businesses. We compare key indicators for the global financial crisis (GFC) and the current situation, and assess implications for the policy response. We find that while many policy actions taken in response to the GFC remain valid, the nature of COVID-19 suggests a more tailored response is appropriate, with support focused on sectors most directly affected and corporates whose continuation value exceeds their liquidation value.

This paper was prepared by the Economic Governance Support Unit (EGOV) at the request of the Committee on Economic and Monetary Affairs (ECON).

PE 651.388

IP/A/ECON-BU/FWC/2020-003/LOT3/C4

Print ISBN 978-92-846-7871-6 | doi: 10.2861/648982 | QA-03-21-126-EN-C

PDF ISBN 978-92-846-7872-3 | doi: 10.2861/808118 | QA-03-21-126-EN-N