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European banking sector and bank lending amid COVID-19

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Abstract
The unprecedented economic impact of the COVID-19 pandemic might also have a negative impact on banks. Banks in the euro area play an important role as the main source of external financing for the private sector. Hence, the negative impact of COVID-19 could translate into both deeper economic contraction and hinder banks' ability to finance the post-pandemic economic recovery. Therefore, this study provides a review of the bank lending and banking sector situation in the first year of the pandemic. It presents changes in bank lending and conducts a descriptive analysis on the following main potential determinants of bank lending growth during the pandemic: bank lending supply and demand, public sector lending guarantee schemes and monetary policy easing. It also describes how the overall situation of the banking sector was influenced and the perspectives for the medium term. The descriptive analysis is complemented with a simple econometric analysis on the determinants of bank lending across the euro area countries.

Keywords: Bank lending; banks; COVID-19; euro area

1 Introduction

The COVID-19 pandemic has had an unprecedented impact on the way of life and the economy in a short time. Various social distancing measures including lockdowns, introduced by European countries in the first weeks of 2020 in response to the spread of the novel coronavirus, have hit the economy hard. This situation might also harm banks, due to potentially lower demand for loans as a fall in economic activity discourages companies from investments and limits household consumption due to the uncertain economic and employment situation. Another reason is banks' strong aversion to grant loans due to higher risks and uncertainty.

The situation in the European banking sector has been of heightened interest since the European sovereign debt crisis. Bank balance sheet problems were both the consequence of and reason for government debt crises; they contributed to the prolonged economic slowdown in the euro area. Since the crisis, banks' capital position and liquidity have been improving steadily, however, the worries about bank profitability and non-performing loans (NPLs) in some countries have remained more prominent. The interest in the situation of the banking sector is further fuelled by banks' role as the main source of external financing in the euro area. The credit crunch and strong adverse impact of the pandemic on banks' financial situation might mean both a deeper economic slowdown and lower banks' ability to finance the post-pandemic economic recovery.

Given this background, this paper aims to offer a review on the impact of the COVID-19 pandemic on bank lending growth rates to non-financial corporations (NFCs) and consumers in the euro countries and to discuss its potential determinants. It also describes the overall situation of the banking sector to offer insights and predictions on the developments in the near future.

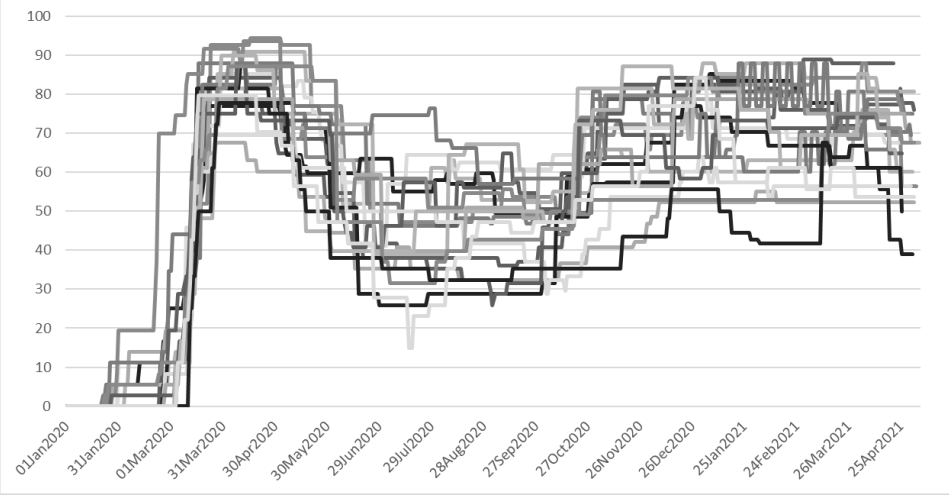
The rest of the paper is structured as follows: Section 2 presents the data on government lockdown measures, the economic situation in the euro area and bank lending growth rates. Section 3 presents the descriptive analysis of the search for potential determinants of bank lending growth rates, and Section 4 describes the overall situation of the banking sector. Section 5 conducts simple econometric analysis to complement the previous descriptive analysis. Finally, Section 6 concludes the paper and provides implications.

2 Lockdown measures, economic situation and bank lending in the euro area

In response to the rising number of infections with the novel coronavirus, the governments of all euro-area countries introduced 'lockdown measures' to limit the spread of the virus. These measures considerably constrained economic activity, thus potentially influencing the amount of bank lending. We use the stringency index from the Oxford COVID-19 Government Response Tracker (Hale et al., 2021) to illustrate the strictness of the 'lockdown style' policies. The index value varies from 0 to 100, with higher values indicating stricter measures.

The data shows that the first countries (France, Italy, Germany, inter alia) started implementing restrictions around the end of January 2020 (Figure 1). Between the end of January and the first half of March, all euro-area countries introduced stringent policies restricting people's movement and activity, which were partly eased around May and June. After a relatively lax summer period, the strict restrictions were re-introduced by the end of September 2020. Since autumn 2020, some countries relaxed the restrictions temporarily, but on the whole, restrictions have stayed at a high level through winter and until the spring of 2021.

Figure 1 *Lockdown measures stringency index*



Data source: Oxford Covid-19 Government Response Tracker (Hale et al., 2021)

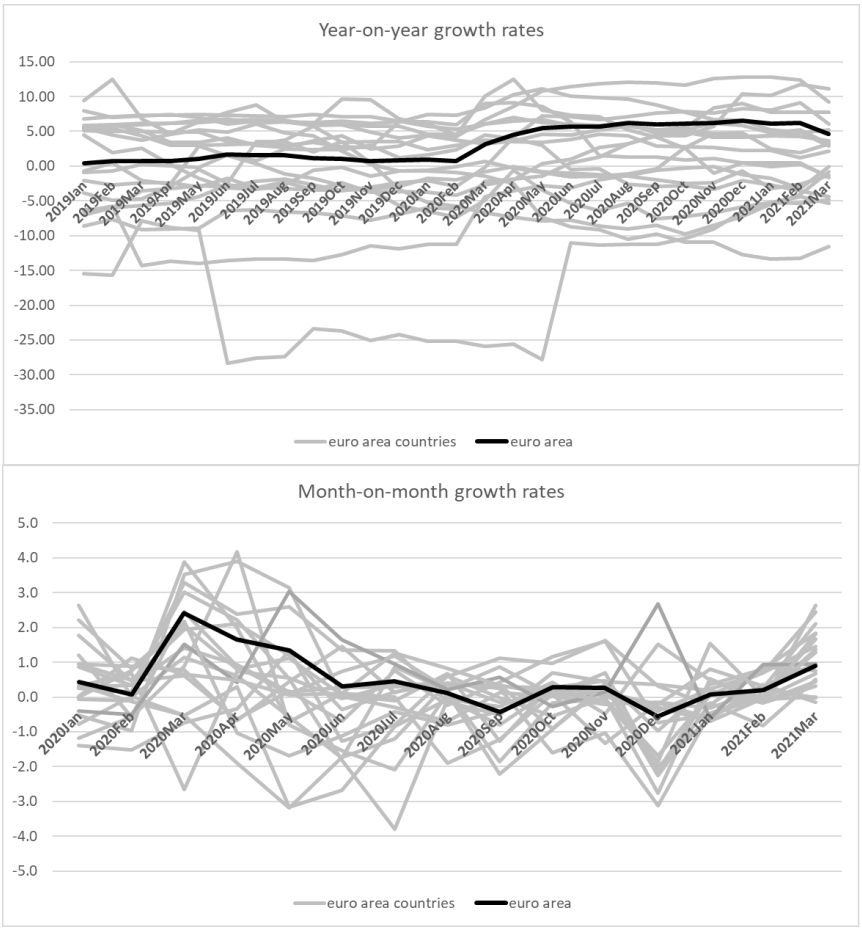
The lockdown measures introduced by national governments to mitigate the spread of the pandemic caused unprecedented negative economic impact in a short time. For example, industrial production in the euro area plummeted by almost 11% in March and 19% in April 2020 compared to the previous month. Moreover, the gross domestic product growth rates in all euro-area countries were negative in the second quarter of 2020 (hereafter 2020Q2), ranging from −2.7% in Ireland to −21.6% in Spain. Other southern European countries, like Italy, Portugal and Malta, were also among the most affected. The negative growth, though already much smaller, continued for the next quarters in most of the countries. Although in many countries the growth rate stays negative at the beginning of 2021, we can observe a slight recovery occurring in others.

Of the main industry groupings, durable consumer and capital goods were hit hardest, whereas non-durable consumer goods stayed relatively less affected. This indicates that especially large occasional consumer spending and company investment were affected most in the first months of the pandemic.

The lockdown measures affected the service sector especially hard. The services turnover growth rate for the euro area was at −15.3% in March and −16.4% in April in month-to-month terms (−14.5% and −28.8%, respectively, in year-to-year terms). Out of the main service groups, accommodation and food service was hit hardest, followed by transportation and storage services.

Given such strict containment measures and economic contraction, surprisingly, we do not observe any considerable fall in bank lending to consumers and NFCs in the euro area as a whole in the first half of 2020 (Figure 2). In contrast, loans to NFCs show faster year-on-year growth since March 2020 than in the same months of the previous year. A similar increase in loans to business enterprises in the first months of the pandemic is also observed in the US (e.g., Ennis & Jarque, 2021; Li et al.; 2020). In particular, countries characterised by negative growth in lending in the months before the pandemic show huge changes. For instance, Spain noted negative rates of 2–3% at the beginning of 2020, but the value jumped to 4.12% in April and 7.24% in May 2020. Greece and Italy were seeing an even deeper decline before the pandemic (−11.27% and −6.17%, respectively, in February 2020), and the outbreak caused the rates to increase to −4.36% and −2.19%, respectively, in March 2020. The month-on-month growth rate is especially high between March and May 2020, indicating acceleration in bank lending to NFCs at the beginning of the COVID-19 pandemic in the euro area countries.

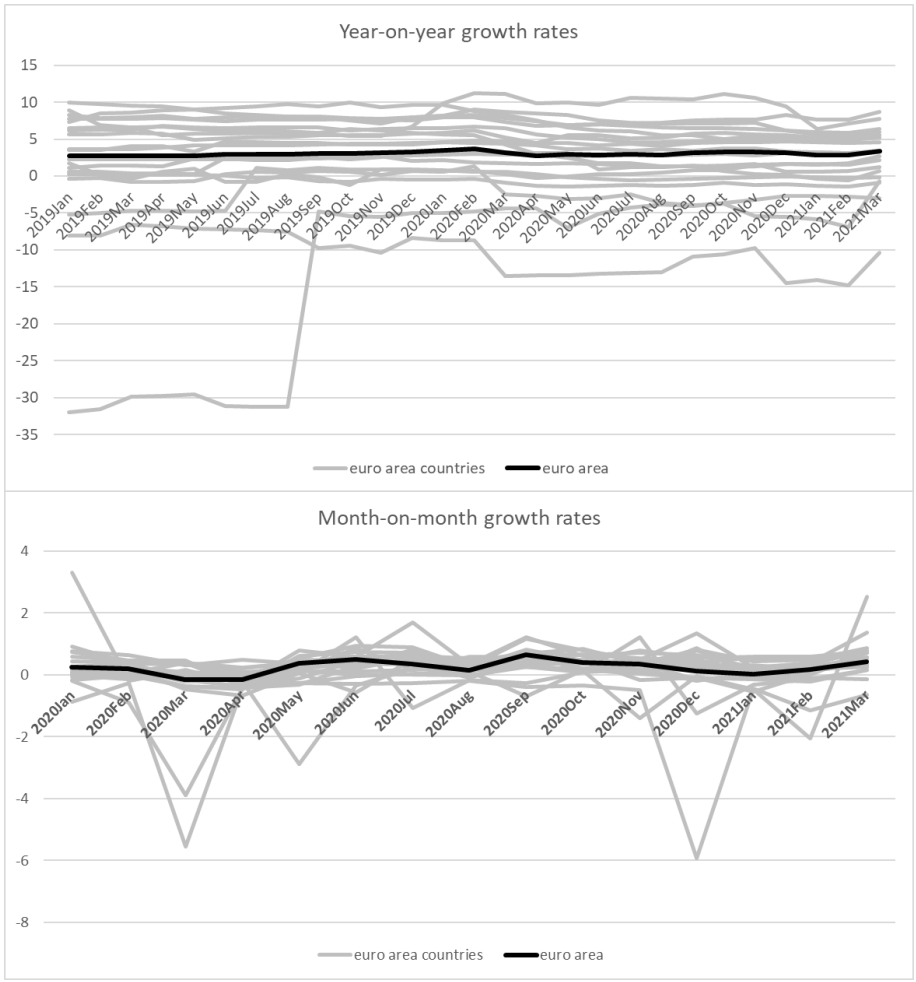
Figure 2 *Growth rates in bank lending to NFCs*



Source: ECB Statistical Data Warehouse

Growth rates of loans to consumers do not show such a jump (Figure 3); year-on-year growth rates in the euro area are at a similar level as in the previous year, whereas month-on-month changes are slightly negative in March and April 2020. Similarly, individual countries mostly do not show any significant increase in year-on-year growth in consumer credit. Meanwhile, the month-on-month rates decline in most countries in either March or April 2020 and show recovery in lending to households occurring between May and September 2020, that is, when COVID-19-related restrictions were being lifted, following improvement in the epidemiological situation at the time. The data also show that the decline in the credit scenario, similar to that in spring 2020, did not happen again.

Figure 3 *Growth rates in bank lending to consumers*



Source: ECB Statistical Data Warehouse

3 Determinants of bank lending

Despite the deep economic slowdown and restrictions in economic activity in spring 2020, lending to NFCs and households did not fall drastically, as might have been expected in such a situation. Thus, the question arises as to the reasons for such developments in bank credit at the time. To answer this question, we consider the supply and demand conditions for bank lending in the euro area, the government credit guarantees introduced at the beginning of the pandemic in the euro-area countries and the impact of the European Central Bank (ECB) monetary policy easing.

3.1 Bank credit supply and demand conditions

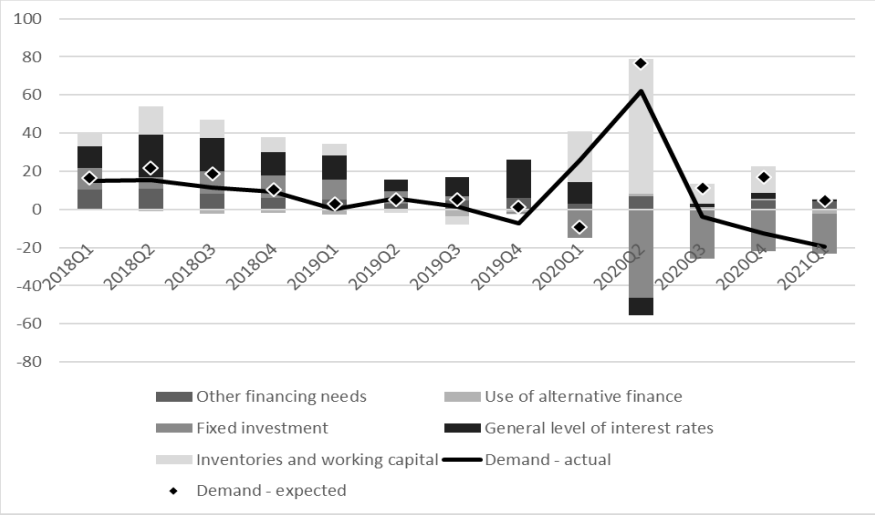
Demand and supply conditions and the effects of the government guarantees are represented by the data from Bank Lending Survey (BLS). The ECB conducts BLS four times a year and publishes the results in January, April, July and October. We consider backward-looking responses on the credit standards (supply of) and demand for bank lending to enterprises and households (consumer credit only) in which bank representatives state how a bank's credit standards and demand for loans changed over the past three months, and what the affecting factors were. We also compare these responses with forward-looking ones where banks discuss their expectations for the

next three months. We take forward-looking data from the previous edition of the BLS survey compared to the backward-looking data to juxtapose the responses regarding the same quarter. The data are presented in the form of net percentages.[1]

As reported by banks, demand for loans from NFCs increased in 2020Q1 and then even more in 2020Q2 (Figure 4). Given the decline in firms' capacity to finance their costs via cash flows due to a sharp fall in revenues during the pandemic, the increase in demand was primarily fuelled by company inventories and working capital financing needs (but it was depressed by the fixed investment spending). Before the pandemic outbreak, banks did not foresee this surge in demand. By April 2020, they were already expecting a high rise for loans for the quarter. The actual demand however turned out to be lower than the banks' expectations. In the first half of the year, the loan demand increased most in manufacturing, trade and services sectors–the sectors most affected by the pandemic (Falagiarda et al., 2020).

A considerable fall in demand for loans occurred in 2020Q3 and has been declining since, with fixed investment purpose as the main depressing factor. Thus, at the beginning of the pandemic, firms seemed to try financing their current liquidity needs with bank lending, but that was only a temporary motivation, later overtaken by the contractionary economic situation. This observation is supported by the fact that in 2020Q2, the demand was especially high for short-term loans rather than long-term loans: net percentage of 60% versus 11%.

Figure 4 *Demand for loans to NFCs*



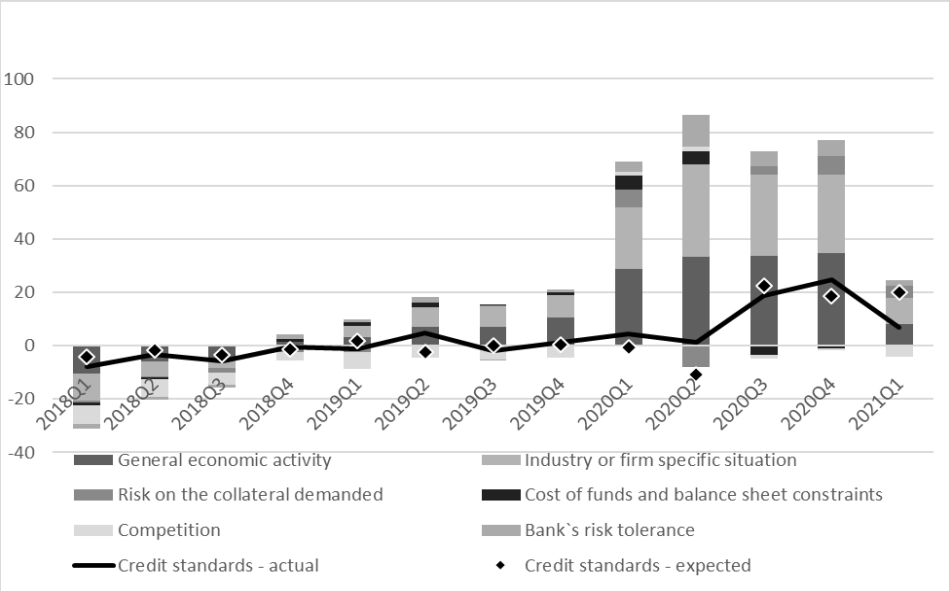
Data source: ECB BLS; Unit: net percentages

Notes: 'Other financing needs' is the unweighted average of 'mergers/acquisitions and corporate restructuring' and 'debt refinancing/restructuring and renegotiation'; 'use of alternative finance' is the unweighted average of 'internal financing', 'loans from other banks', 'loans from non-banks', 'issuance/redemption of debt securities' and 'issuance/redemption of equity'.

[1] In the context of credit standards, the net percentage is defined as the difference between the sum of the percentages of banks responding 'tightened considerably' and 'tightened somewhat', and the sum of the percentages of banks responding 'eased considerably' and 'eased somewhat'. Regarding demand for loans, the net percentage is defined as the difference between the sum of the percentages of banks responding 'increased considerably' and 'increased somewhat', and the sum of the percentages of banks responding 'decreased considerably' and 'decreased somewhat' (Bank lending survey for the euro area. Glossary, p.6, https://www.ecb.europa.eu/stats/pdf/ecbblsglossary.en.pdf).

Simultaneously, loans to enterprises faced only slight net tightening of credit standards in 2020Q2, driven by the general economic activity and the specific firm or industry situation (Figure 5). However, the expectations were on net loosening of 10.63% (short-term loans saw slight loosening in credit standards, i.e., net percentage of −6.61%, whereas long-term loans saw 11.41%). The credit standards tightened further in the following two quarters, but 2021Q1 witnessed slightly lower tightening.

Figure 5 *Credit standards for loans to enterprises*

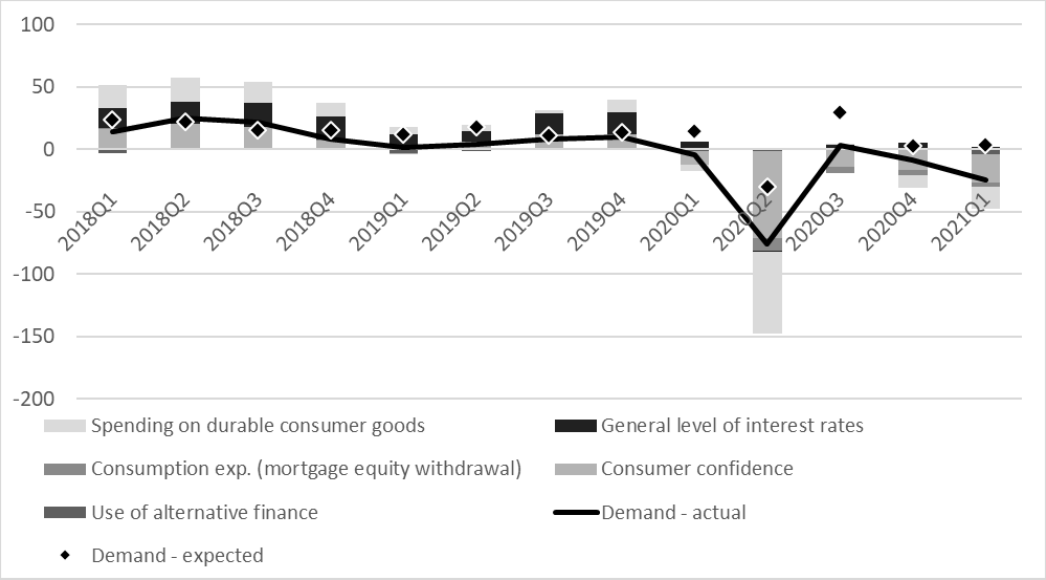


Data source: ECB BLS; Unit: net percentages

Notes: 'Cost of funds and balance sheet constraints' is the unweighted average of 'costs related to capital position', 'access to market financing' and 'liquidity position'; 'competition' is the unweighted average of 'competition from other banks', 'competition from non-banks' and 'competition from market financing'.

For lending to consumers, banks reported a dramatic decline in net demand of −75.54% in 2020Q2, which is well below the expectations of −29.77% in April 2020 (Figure 6). The demand was depressed mostly due to a fall in spending on durable consumer goods and consumer confidence, which can be attributed to the strict lockdowns introduced at the time. In the following quarter, demand recovered slightly, but the net percentage became negative again in 2020Q4 and dropped even more in 2021Q1. These values were all considerably lower than banks' outlooks, reflecting possibly the worse than expected epidemiological situation and activity restrictions introduced by the governments.

Figure 6 *Demand for consumer loans*

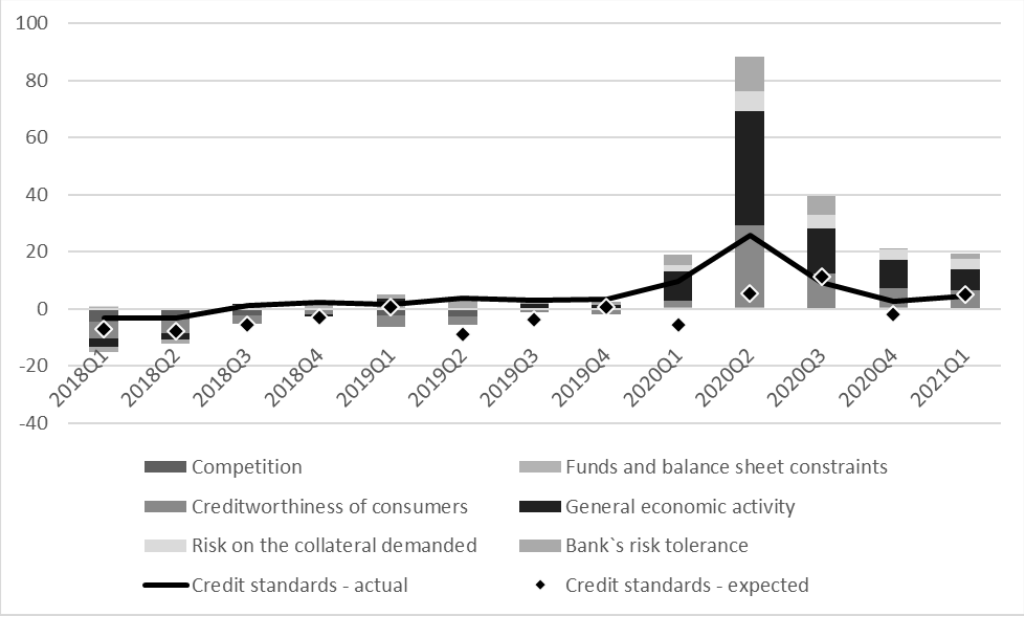


Data source: ECB BLS; Unit: net percentages

Notes: 'Use of alternative finance' is the unweighted average of 'internal financing out of savings', 'loans from other banks' and 'other sources of external finance'. 'Consumption exp.' denotes 'consumption expenditure financed through real estate-guaranteed loans'.

Simultaneously, bank credit standards for consumer loans already tightened slightly in 2020Q1 (against the expectations of loosening) and even more in 2020Q2 (much more than expected), with general economic activity and creditworthiness of consumers as the most important factors (Figure 7). However, the banks tightened their credit standards to a smaller extent through the rest of 2020 and at the beginning of 2021, which is rather in tune with their expectations.

Figure 7 *Supply of consumer loans*



Data source: ECB BLS; Unit: net percentages

Notes: 'Competition' is the unweighted average of 'competition from other banks' and 'competition from non-banks'.

Overall, it seems that pandemic had the opposite impact on loan demand from enterprises and consumers, especially in 2020Q2. In case of loans to consumers and enterprises, banks tightened their credit standards, responding to the economic situation and individual lender characteristics, with faster reaction in case of customers rather than firms. This allows the latter to finance their liquidity needs at the beginning of the pandemic.

3.2 Public guarantee schemes and other loan support

No abrupt tightening of the credit standards for loans to firms, and thus positive bank credit growth rates, can be attributed to the government loan guarantees introduced by the euro-area countries in response to the COVID-19 pandemic. In this case, the governments took part or all of credit risk and potential credit losses from banks, mitigating lending costs for banks. The details of the schemes, such as their size and eligibility criteria, vary across countries (see, e.g., Anderson et al., 2021; Albertazzi et al., 2020 for some details on a few chosen countries' schemes), but they must all comply with the guidelines adopted by the European Commission (EC, 2020).

Table 1 presents data illustrating the usage of the public guarantee scheme (PGS). The take-up of guaranteed loans in the euro-area countries has been heterogeneous, concentrating on the largest countries and especially high in France and Spain (Falagiarda, Prapiestis & Rancoita, 2020). The share of guaranteed loans in new lending also ranges from 58% in France to just 16% in Germany (Anderson et al., 2021). The European Banking Authority (EBA) figures show that the share of loans receiving public guarantees in the total of all newly originated loans subject to PGS also varied largely. The high share for Germany versus low share of guaranteed loans in new lending implies that a relatively small amount of the new lending fulfilled the scheme criteria in this country.

Table 1 *Usage of the public guarantee schemes*

	Lending under PGS	Guaranteed loans in new lending	Loans that received public guarantees in total newly originated loans subject to PGS		
Time period	April to August 2020	March to June 2020	until June 2020	until Sep 2020	until Dec 2020
France	ca. 120 bln	58%	29.9%	53.1%	55%
Germany	ca. 45 bln	16%	85.8%	79.1%	78.4%
Italy	ca. 55 bln	35%	82.8%	81.6%	86.6%
Spain	ca. 100 bln	54%	78%	78.3%	78.2%
Other EA countries	ca. 20 bln		60.8%	61.7%	64.8%

Sources: Falagiarda, Prapiestis, & Rancoita, 2020; Anderson et al., 2021; EBA, 2020c

The ECB surveyed the impact of the government loan guarantees during its 2020Q4 BLS published in January 2021. The ad hoc question asked was for the changes in credit standards, credit terms and demand for loans to enterprises with and without credit guarantees in the first and second half of 2020 and expectations for the first half of 2021. The results published are for the euro area as a whole only.

The BLS results show that government loan guarantees related to COVID-19 played a crucial role in supporting lending to enterprises (Table 2). The impact was highest in the first half of 2020 for both supply and demand sides. Throughout 2020, loans with government guarantees saw net easing of the credit standards, whereas not guaranteed loans saw net tightening. Banks expected the impact of government guarantees to decrease further in the first half of 2021, with both types of loans facing tightening, although still lower for loans with guarantees.

Regarding loan demand, net percentage is high (83.4%) in the first half of 2020 for loans with government guarantees, whereas negative for loans without the guarantees (–17.7%). In the second half of 2020, the effect is already largely subdued. Falagiarda and Köhler-Ulbrich (2021) also noted that the take-up of loans covered by public guarantees was highest in 2020Q2, declining in each following quarter, and that small- and medium-sized enterprises (SMEs) and self-employed took the majority of the guaranteed loans. Further, Falagiarda et al. (2020) pointed out that demand for long-term loans has decoupled from its historical link with developments in firm-fixed investment at the beginning of the pandemic (demand for long-term loans increasing despite the sharp fall in investment), which they attribute to monetary and fiscal lending support measures. A small rebound in the effect is expected in the first half of 2021. However, banks also seem to be expecting an increase in demand for loans without government guarantees at that time.

Table 2 *Credit standards and demand for loans with and without government guarantees*

	Credit standards		Demand	
	Government guarantees	No government guarantees	Government guarantees	No government guarantees
Q1~Q2 2020	-38.35	20.37	83.43	-17.66
Q3~Q4 2020	-18.01	15.68	4.15	-5.59
Q1~Q2 2021 (expected)	1.43	11.41	10.12	7.91

Data source: ECB BLS

Bank lending was also supported by public and private moratoria, which were introduced in most euro-area countries based on the EBA guidelines to provide relief through the suspension of principal and/or interest payments on loans. Other indirect support includes various legislative steps like capital relief measures, which created additional opportunities for banks to absorb losses without cutting their lending. Other measures with a similar impact include 'change in the prudential treatment of software assets, the enhanced SME supporting factor, the extension of the transitional period for new expected credit loss provisions not related to credit-impaired loans, or the special treatment of publicly guaranteed NPLs regarding prudential backstops' (EBA 2020a, p. 3).

3.3 Monetary policy

The impact of the pandemic on bank lending, which is lower than expected, can be to some extent explained by the monetary policy measures implemented by the ECB in response to the pandemic. In March 2020, the ECB extended its asset purchase programme (APP) and introduced a new pandemic emergency purchase programme (PEPP), with 750-billion-euro asset purchases planned until the end of December and

extended later to last at least until the end of March 2022. Further, the additional longer-term refinancing operations (LTROs) were announced in March 2020 as a bridge until June 2020, when the third series of targeted LTROs (TLTRO III) operation started to support bank lending to enterprises and households, thus also supporting the transmission of monetary policy to the real economy.

These monetary easing steps are expected to support bank lending. Liquidity provisions via LTROs aim to facilitate credit supply through mitigation of liquidity and funding risks of banks, thereby reducing their marginal cost of funding (e.g., Darracq-Parries & De Santis, 2015; ECB, 2015). Through portfolio rebalancing channel, asset purchases lead to lower yields on securities that help improve bank market financing conditions and encourage bank portfolio rebalancing towards loans (ECB, 2015).

The ECB uses BLS to ask biannually the ad hoc questions on the impact of its monetary policy measures on bank financial situation and bank lending. In the October 2020 survey, banks reported that APP and the PEPP had rather neutral impacts on their credit standards in 2020Q2 and 2020Q3 (Table 3). However, the programmes had a positive impact on lending volumes, especially lending to enterprises. Notably, the positive impact on lending volumes has increased largely compared to the previous six months (2019Q4–2020Q1), emphasising the role of asset purchases in supporting bank credit at the beginning of the pandemic. The neutral impact on credit standards stayed unchanged in 2020Q4 and 2021Q1, whereas the impact on lending volumes was still positive, though slightly lower than that in the previous semi-annual period.

According to the BLS, 78% of banks participated in the June 2020 TLTRO III operation, 35% in September, 23% in December and 65% in March 2021, mainly due to the profitability motive (attractiveness of TLTRO conditions). Of the interviewed banks, 72% stated that they used the liquidity from TLTRO III to grant loans in 2020Q2 and 2020Q3, while 65% stated they would do so in the next six months. The TLTRO III contributed to a slight lowering of bank credit standards, especially on loans to enterprises, and it had a significant positive impact on loan volumes to enterprises (Table 4). Moreover, the loans to consumers were affected to a much smaller extent, but a positive impact on lending volumes and credit standards still exists.

Table 3 *Impacts of APP/PEPP on bank lending*

	Loans to NFCs			Loans to consumers		
	Credit standards	Credit conditions	Lending volumes	Credit standards	Credit conditions	Lending volumes
Q4 2019~ Q1 2020	0	-3	3	-1	-4	1
Q2 2020~ Q3 2020	-1	-10	18	0	-5	4
Q4 2020~ Q1 2021	0	-7	16	0	0	1

Data source: ECB BLS

Table 4 *Impacts of TLTRO III on bank lending*

	Loans to NFCs			Loans to consumers		
	Credit standards	Credit conditions	Lending volumes	Credit standards	Credit conditions	Lending volumes
Q4 2019~ Q1 2020	-6	-12	11	-7	15	5
Q2 2020~ Q3 2020	-14	-19	47	-2	2	10
Q4 2020~ Q1 2021	-8	-27	45	0	-4	11

Data source: ECB BLS

The ECB has been implementing the negative deposit policy rate, that is, negative interest rate policy (NIRP), since June 2014. Similar to traditional cuts in policy interest rates, NIRP can be transmitted to lower lending rates that will stimulate loan demand. It might also boost the portfolio rebalancing channel–banks shifting negative-yielding reserves to various assets, including loans. However, the transmission of NIRP to bank lending rates is usually incomplete—banks are reluctant to pass negative rates to deposit holders, leading to lower net interest income (Claeys, 2021). Also, given the higher cost for banks of holding reserves, the policy might hurt banks' profitability. On the one hand, the profitability pressures might diminish a bank's ability to extend lending. On the other hand, it might incentivise some banks to invest more in higher-risk, higher-return assets. They might also cause banks to set higher fees and commissions on their lending, potentially negatively impacting loan demand.

The BLS shows that the policy has a considerable impact on lowering bank lending rates and loan margins (Table 5). That impact is comparable for the period just before the pandemic and after the spread of the coronavirus, declining only slightly with time. The impact on lending volumes for enterprises is positive but was most pronounced before the full-scale lockdown measures in many countries. Moreover, it was declining during the pandemic. Consumer credit enjoyed a slight positive impact in the six months before the pandemic, but it turned negative since 2020Q2.

Table 5 *Impacts of NIRP on bank lending*

	Loans to NFCs				Loans to consumers			
	Lending rates	Loan margins	Non-interest charges	Lending volumes	Lending rates	Loan margins	Non-interest charges	Lending volumes
Q4 2019~ Q1 2020	-42	-28	2	12	-29	-7	1	3
Q2 2020~ Q3 2020	-39	-30	-2	8	-32	-21	-4	-3
Q4 2020~ Q1 2021	-32	-28	0	5	-25	-20	0	-2

Data source: ECB BLS

ECB monetary policy easing is also transmitted to the retail bank lending rates. The level of lending rates has been showing a downwards trend recently, and the pandemic period saw a continuation of this trend. Assessing the degree of contribution of additional monetary policy measures implemented due to COVID-19 outbreak to these falls is difficult. However, some euro area countries (most notably France–due to large

take-up of government-guaranteed loans which were favourably priced) saw significant declines in lending rates to enterprises in the first half of 2020. Simultaneously, however, real lending rates increased slightly due to the disinflationary nature of the COVID-19 shock (Falagiarda and Köhler-Ulbrich 2021).

4 The situation of the banking sector

The negative impact of the COVID-19 on bank lending was lower than expected, thanks to, in large part, the government loan guarantees schemes, the ECB monetary policy easing and the large increase in loan demand for current liquidity purposes by the NFCs. However, this does not mean that banks were not and will not be negatively affected due to the pandemic. Although the European banking sector entered the pandemic in rather good financial condition, the increase in capital ratios and liquidity and the decrease in NPL ratios in recent years might have helped mitigate the potential negative impacts.

The 2020 data do not reveal any significant and negative impacts of the economic contraction. Rising deposit volumes and cheap central bank financing (APP and TLTRO) help banks build abundant liquidity buffers. Moreover, bank capital ratios fell considerably by 40 bps in 2020Q1 (EBA, 2020a), but they kept recovering through the following quarters. NPLs increased slightly in 2020Q2, but contraction in NPL ratio continued through 2020 and at the beginning of 2021, thanks to the growth in lending. However, the increase in NPL ratio has been observed in accommodation and food services, and arts, entertainment and recreation (EBA, 2021), the industries most affected by the pandemic. Moreover, the ratio of stage 2 loans (loans classified as higher risk under IRFS 9 accounting framework) increased in 2020Q2 and especially in 2020Q4, indicating a significant increase in credit risk.

The highest negative impact can be observed in the pressure on bank profitability, although it has already existed before (e.g., negative impact of NIRP and APP on bank loan margins; banks reporting negative impact of APP and NIRP on profitability, but positive of TLTRO III in BLS: ECB BLS April 2021) and the outbreak of the pandemic has just strengthened the negative environment. Additionally, bank profitability in 2020 was weakened by rising impairments and cost of risk (EBA, 2020a, 2020b). Return on equity declined sharply in 2020Q1 and 2020Q2, recovered slightly in 2020Q3, but fell again in 2020Q4. In 2021Q1, substantial improvement in profitability could be observed, thanks to contracting cost of risk and rising fee and commission and trading income (EBA, 2021).

The outlook for the main risks and vulnerabilities in the banking sector remains uncertain. Even though the cost of risk declined to pre-pandemic levels in 2021Q1 amid rising optimism for economic recovery, banks have a large dispersion (EBA, 2021). Market risk is still heightened due to the sensitivity of market participants to any setbacks in the pandemic situation, vaccine rollouts and macroeconomic conditions. With low net interest margins and fee income in place, profitability pressures are also predicted to remain persistent. In addition, monetary policy easing might further fuel these pressures via compression of spreads on sovereign bonds that might additionally cause market uncertainty in the future. Moreover, there is a danger of financial instability caused by a protracted period of low interest rates (when financial institutions search for yield while accepting excessive risk) and debt overhang (Demertzis & Dominguez-Jimenez, 2020).

Further, the ECB (2021) stated that the economic impact of and policy responses to a pandemic, such as government loan guarantee schemes and moratoria, might have contributed to 'zombification', which may pose medium-term risks to the stability of financial system. Not only healthy companies but also those that would have been bankrupt if no such support was in place could benefit from the accommodative credit conditions. The data show that the number of bankruptcies in the European Union was considerably lower in 2020 than in the previous years (Eurostat, 2021). A weaker-than-expected recovery, unexpected negative shocks or unbalanced withdrawal of government support policies could lead to large-scale defaults by such zombie companies; this might put further pressure on banks' balance sheets or cause wider macroeconomic risks and adverse impact on financial institutions.

5 Determinants of bank lending in the euro area countries

Finally, we conduct a simple econometric analysis on the determinants of bank lending across the euro area countries from the start of the pandemic. We use data for all 19 euro-area countries, in quarterly frequency, from 2020Q1 to 2020Q4. In the analysis, we estimate the simple pooled ordinary least squares (OLS) panel model for the whole period and cross-country OLS regressions for each quarter separately, with quarter-on-quarter growth rates of lending to NFCs and consumers as dependent variables.

Due to small data samples, we choose loan supply, demand, lockdown measure for each quarter, and lags of NPL ratio, ROE and Tier 1 that describe situation in the banking system, taken from ECB Statistical Data Warehouse, as the explanatory variables.[2] Following the regressions, we also conduct dominance analysis to check for the relative contribution of the explanatory variables to growth in bank lending.

Table 6 shows results for growth in bank lending to NFCs. The results imply that lending to enterprises was influenced mostly by the loan demand: the coefficient is highly statistically significant for the full sample and in 2020Q2. Moreover, dominance analysis always ranks it in the top three influential variables and as the top in 2020Q2 and 2020Q4. These results are consistent with our observations on the high demand for loans for current and liquidity purposes in 2020Q2. Supply, meaning banks tightening credit standards, significantly depresses bank lending in the full sample and in 2020Q3. Lockdown measures and bank financial situation seem to be of much less importance. By contrast, the NPL ratio seems to have played a significant role as a determinant of bank lending only before and at the very beginning of the pandemic.

[2] We do not use PGS loans in the main regressions due to lack of data for the two countries, which would further decrease our already small samples and due to its high correlation with loan supply (−0.52). When used in one model, both variables are statistically insignificant. However, when supply is removed from the model, loans with PGS show statistical significance in the 2020Q2 sample only, which is consistent with the aforementioned observations on the highest impact and highest take-up of these loans in this quarter.

Table 6 *OLS regressions and dominance analysis – Bank lending to NFCs*

Period	2020Q1~Q4		2020Q1		2020Q2		2020Q3		2020Q4	
Variable	OLS	Domin	OLS	Domin	OLS	Domin	OLS	Domin	OLS	Domin
Demand	0.017*** (0.006)	2 (0.272)	0.024 (0.015)	3 (0.115)	0.035** (0.014)	1 (0.574)	0.012 (0.008)	3 (0.149)	-0.023 (0.042)	1 (0.275)
Supply	-0.024*** (0.008)	1 (0.277)	-0.012 (0.017)	2 (0.117)	-0.006 (0.024)	3 (0.093)	-0.028** (0.011)	1 (0.467)	-0.001 (0.051)	6 (0.058)
Lockdown	-0.299 (0.496)	6 (0.041)	2.735 (1.946)	4 (0.096)	-0.401 (6.259)	6 (0.014)	-2.055 (3.299)	4 (0.097)	-3.686 (6.066)	4 (0.144)
NPL	-0.116*** (0.032)	3 (0.206)	-0.177*** (0.055)	1 (0.556)	-0.115** (0.053)	4 (0.092)	-0.028 (0.066)	6 (0.045)	-0.057 (0.130)	5 (0.106)
ROE	0.104 (0.079)	4 (0.110)	0.077 (0.148)	5 (0.077)	-0.618 (1.242)	5 (0.031)	0.142 (0.175)	5 (0.090)	-0.284 (0.293)	2 (0.258)
Tier 1	-0.200** (0.092)	5 (0.094)	0.259 (0.198)	6 (0.039)	-0.293 (0.271)	2 (0.196)	-0.362* (0.176)	2 (0.152)	-0.292 (0.275)	3 (0.161)
Constant	6.132** (2.638)		-10.206 (9.018)		7.710 (27.567)		14.673 (13.250)		20.385 (27.644)	
R-squared	0.312		0.583		0.554		0.439		0.326	
Adj R-squared	0.265		0.374		0.332		0.158		-0.011	
N	95		19		19		19		19	

Notes: OLS column: regression for period 2020Q1~Q4 is pooled OLS panel estimation, regressions for each quarter are cross-country OLS estimations, standard errors in brackets; *, **, *** indicate statistical significance at 10%, 5%, and 1%, respectively; Domin column: dominance analysis, upper line: ranking of the variable in the dominance analysis, lower line (in brackets): standardised dominance statistic

Meanwhile, lending to consumers seems to be mostly affected by the bank financial situation, as shown in Table 7. Bank NPL ratio has the strongest impact on lending, as shown by the high statistical significance of the estimated coefficients and dominance analysis. Moreover, higher bank profitability and capital ratio also positively affect lending growth rates. Growth in lending to consumers is much less affected by the supply and demand conditions. There is only weak evidence of higher demand influencing bank lending in the full sample. Moreover, dominance analysis only once ranks the demand in the top three influential ones (i.e., in 2020Q4). Lockdown measures seem to be of some importance in 2020Q2.

Table 7 *OLS regressions and dominance analysis – Bank lending to consumers*

Period	2020Q1~Q4		2020Q1		2020Q2		2020Q3		2020Q4	
Variable	OLS	Domin	OLS	Domin	OLS	Domin	OLS	Domin	OLS	Domin
Demand	0.009** (0.003)	4 (0.035)	0.007 (0.014)	5 (0.020)	0.005 (0.006)	4 (0.086)	0.000 (0.004)	6 (0.036)	-0.024 (0.019)	2 (0.242)
Supply	0.004 (0.005)	6 (0.005)	0.004 (0.010)	6 (0.003)	0.001 (0.008)	6 (0.007)	-0.011 (0.006)	5 (0.046)	-0.015 (0.022)	6 (0.036)
Lockdown	0.675 (0.441)	5 (0.024)	1.645 (1.912)	4 (0.22)	-2.783 (1.870)	2 (0.177)	1.626 (1.406)	4 (0.079)	0.335 (2.535)	5 (0.047)
NPL	-0.140*** (0.041)	1 (0.728)	-0.166*** (0.051)	1 (0.658)	-0.082*** (0.029)	1 (0.577)	-0.063** (0.030)	2 (0.287)	-0.161* (0.076)	1 (0.465)
ROE	0.103** (0.046)	2 (0.121)	0.186 (0.163)	2 (0.264)	0.262 (0.295)	3 (0.114)	0.222 (0.128)	1 (0.371)	0.077 (0.095)	3 (0.124)
Tier 1	0.100** (0.041)	3 (0.088)	0.182 (0.165)	3 (0.033)	-0.097* (0.075)	5 (0.040)	0.202 (0.130)	3 (0.181)	0.156 (0.119)	4 (0.086)
Constant	-3.206 (1.990)		-8.194 (8.854)		13.891 (7.743)		-8.223 (7.287)		-2.703 (11.726)	
R-squared	0.505		0.556		0.548		0.637		0.786	
Adj R-square	0.471		0.334		0.322		0.456		0.680	
N	95		19		19		19		19	

Notes: see Table 6

6 Conclusions and implications

This study describes the developments in bank lending to NFCs and consumers in the euro area; it also reviews their potential determinants. Despite the lockdown measures that highly limited the economic activity and resulted in a deep economic contraction, bank lending stayed robust. Especially, lending to enterprises shows higher growth rates after the pandemic outbreak than in the previous months.

The data observation and simple econometric analysis reveal that bank lending to NFCs was primarily supported by the increased demand for loans from enterprises, supply conditions that were eased thanks to public loan guarantee schemes, and monetary policy easing of the ECB. Meanwhile, lending to consumers is more dependent on a bank's financial situation.

The banking sector in the euro area was able to avert the immediate risks due to the pandemic, largely due to the growing bank lending and pre-pandemic improvements in liquidity and bank capitalisation. However, uncertainty over the medium and long terms stays rather high. Specifically, lasting credit and market risks still exist, and a prolonged period of monetary policy easing puts pressure on bank profitability and financial stability. Further, although public guarantees played an important role in supporting bank lending, close monitoring of firms is required to avoid the negative impacts of zombification. The results also imply the need for careful analysis of the potential negative effects of unwinding government support and potential monetary

policy tightening on bank lending to NFCs. Realisation of the remaining risks might also worsen a bank's financial situation and thus limit lending to consumers.

Thus, the analysis shows that banks in the euro area were able to endure the impact of the pandemic rather well. Indeed, it is the issues that might endanger their financial situation and financial stability that still exist and thus might hinder their ability to provide lending to the economy that need to be watched for. However, the situation of the banking system is much more stable than after the euro crisis. Therefore, it is unlikely that banks will again be the cause for a prolonged economic slowdown; on the contrary, they have the ability and chance to support the post-pandemic economic recovery.

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