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Financial Stability in the Euro Area



Policy Department for Economic, Scientific and Quality of Life Policies
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Abstract

Risks to financial stability in the euro area appear to be contained for the time being, but could be substantial in the longer run. The European financial system is still not crisis-proof. We argue that a deposit insurance schemes are not a good option to increase overall financial stability and higher equity ratios for banks are the appropriate approach to make the financial system safer.

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LIST OF ABBREVIATIONS

ECB	European Central Bank
EDIS	European Deposit Insurance Scheme
ESM	European Stability Mechanism
US	United States
Fed	Federal Reserve System

EXECUTIVE SUMMARY

- Diminishing expectations for growth and inflation have led to an easing of monetary policies and a significant reduction in government bond yields. **Improved financing conditions across the euro area are mitigating debt sustainability concerns in the public sector as well as in the private sector**, for the time being.
- **The combination of extremely low interest rates and elevated asset prices implies risks for financial stability** as banks and non-banks have increased their exposure to the risk of a reversal of interest rates and an eventual sudden repricing of assets. These risks appear to be contained for the time being, but could be substantial in the longer run.
- While banks in the euro area have increased their resilience in recent years, **capital buffers could prove insufficient in case of a serious downturn**, and **bank profitability continues to be a major concern**.
- **We are not convinced that the plethora of regulatory changes for the financial sector since the last crisis will be able to prevent another one from occurring**, partly because they potentially lead to higher correlated risks. Bank runs are a major source of financial trouble and are caused by banks financing long-term illiquid assets with short-term fixed-value liabilities.
- **Deposit insurance schemes lead to excessive risk-taking in the banking system and are not a good option to increase overall financial stability**. While credible deposit insurance schemes can prevent certain types of bank runs, empirical evidence suggests that this advantage is overwhelmed by the excessive risk-taking due the moral hazard introduced by these schemes, such that their net effect is negative. Beyond that, a European Deposit Insurance Scheme would come with additional drawbacks: its implementation would mean significant fiscal transfers between Member States and guaranteeing all European bank deposits also threatens to eventually exceed the capacities of those Member States that still are in a relatively good fiscal position.
- **Higher equity ratios for banks are needed to make the financial system safer**. Equity provides a cushion against losses on the balance sheet and is unable to run in a panic. The amount of equity required to make banks safe is still subject to debate, but it is most likely considerably higher than today.
- **Currently, monetary policy does not have good options to produce significant additional expansionary impulses without major side-effects**. While a financial crisis in general may increase the effectiveness of monetary policy, it may also further erode the quality of the assets held by certain euro area banks, such that they would not be able to post acceptable collateral to take advantage of central bank loans.
- **The potential of fiscal policy to actively support growth is currently also restrained with fiscal space available only in a few countries**. Pushing national governments to engage in fiscal policy oriented at an aggregate euro area fiscal stance in order to substitute for fiscal risk-sharing institutions that are not available is not going to work, however.
- **Apparently, traditional macroeconomic demand management policies have come to a limit**, suggesting that more structural policy responses may be necessary to shore up confidence and arrest an eventual decline in activity.

1. INTRODUCTION

The economic outlook for the euro area has deteriorated in 2019 and expectations for growth in the coming two years remain subdued. Economic policy uncertainty remains elevated, and risks to the outlook are still perceived to be tilted to the downside. In response, the European Central Bank (ECB) has loosened monetary policy again, in tandem with the US Federal Reserve.

Against this backdrop, the ECB has published its 2019 autumn Financial Stability Review, acknowledging a number of risks for the stability of the euro area financial system, although they appear contained for the time being. In the event that some of these risks materialised, or in case of a major negative shock to external demand or private sector confidence, the euro area economy could slip into recession, raising the question of appropriate policy response.

In this Monetary Dialogue paper, we briefly discuss the findings in the Financial Stability Review (Section 2). Subsequently, we deal with the question which direction policy should go in order to increase financial sector resilience. In this, we concentrate on the discussion of two principle strategies to reduce the probability of bank runs, namely the proposed introduction of a European Deposit Insurance Scheme and an increase of bank equity (Section 3). In Section 4, we discuss the question of the potential of monetary and fiscal policies to effectively counter an eventual recession. Section 5 concludes.

2. SHORT-TERM FINANCIAL RISKS IN THE EURO AREA

Growth in the euro area has slowed amid elevated global policy uncertainty, and downside risks to the outlook have increased. The ECB produced its Financial Stability Review against the backdrop of subdued growth amid a slowdown in global trade and increased global policy uncertainty. The escalating trade conflict between the United States and China, persistent uncertainties around Brexit and sluggish growth in the emerging economies resulted in a pronounced downturn of activity in manufacturing, while output in the services and construction sectors remained relatively robust. The Commission forecast for GDP growth in the euro area has been revised down in the 2019 Autumn Forecast to 1.1 % from 1.9 % expected one year before (European Commission, 2019). Growth is expected to remain modest at 1.2 % in both 2020 and 2021.¹ Downward risks to the outlook continue to be substantial, although a further deterioration of the US-Chinese trade relationship has recently become less likely with the successful negotiation of first chapter of a comprehensive bilateral trade agreement. A further significant slowdown of the euro area economy, or outright recession, could lead to a deterioration of the financial situation in the private sector, weigh on public finances and trigger adjustments in asset prices, potentially putting the financial sector under severe pressure.

Diminishing expectations for growth and inflation have led to an easing of monetary policies and a significant reduction in government bond yields. In the United States, the Fed signalled an end to its policy of gradual tightening around the end of 2018 in reaction to an increasingly shaky external environment and bearish equity markets, and started to lower interest rates in summer 2019 by cutting the target range for the Federal Funds Rate in three steps to the current level of 1.5–1.75 %. The ECB reacted to the deterioration of the outlook by implementing a number of measures intended to support growth, including a resumption of net asset purchases from November onwards and a reduction of the rate on the deposit facility from –0.4 to –0.5 %. Government bond yields have declined sharply during 2019 as a result of both lower short-term rate expectations and a significant decline of premia to historically extremely low levels. In this process, yields on government bond yields have become negative in an increasing number of euro area countries.

The bullish effect of accommodative monetary policy has spread to other asset markets. Together with falling government bond yield, prices of other assets increased, partly as a reflection of investors shifting their positions in search for yield. Corporate bond prices appreciated and equity prices rose trendwise, notwithstanding occasional episodes of sell-offs in times of escalating policy uncertainty. Against this backdrop, investors increasingly also returned to emerging markets, alleviating downward pressure on the exchange rate and allowing authorities in many countries to also reduce interest rates and support economic recovery. Equity prices in emerging economies nevertheless underperformed as the negative repercussions of the US-Chinese trade conflict are likely to be felt disproportionately in these economies. Not least, low interest rates have also underpinned the expansion in the real estate sector. In a number of countries, there are concerns that residential real estate is already overvalued and in combination with strong mortgage lending growth and high household indebtedness represent increasing vulnerabilities. Meanwhile, commercial real estate prices seem to have already started to slow, partly reflecting decreased appetite of foreign investors, especially US investment funds.

Improved financing conditions across the euro area are mitigating debt sustainability concerns in the public sector as well as in the private sector, for the time being. Government debt positions in the euro area vary widely across countries, but are generally on a downward trend. On average the

¹ ECB staff macroeconomic projections are similar, with only slightly higher growth of 1.4 % expected for 2021.

debt-to-GDP ratio in the euro area is still elevated, at 86 % in 2019, but should continue to decline, albeit slowly, as the negative impact of slower nominal GDP growth on the government finances will be cushioned by lower financing costs. Financing conditions have markedly improved also for countries with higher sovereign risk allowing them to extend average maturities and build up liquid assets, thus improving their resilience to short-term fluctuations in market sentiment. However, a prolonged increase of risk premia in response to a further deterioration of the economic outlook or political uncertainties could reinvigorate debt-sustainability concerns in a number of countries. Favourable financing conditions are also supporting the financial condition of private households and the corporate sector, underpinning a solid credit growth. While the situation again varies substantially from country to country, the repayment capacity of households has generally continued to improve amid low interest rates and robust income growth, even in countries with relatively high household debt. In the corporate sector, the economic slowdown has led to a deceleration of earnings and credit growth, and a slight tightening of credit standards. However, financing conditions are still relatively good and gross interest payments are at a record low. The risk that corporations may be forced to abruptly deleverage in the event of temporary problems with funding is further reduced by high levels of liquid assets. However, the report points to emerging risks from increased leverage in the group of high-yield corporates and lower-rated investment-grade corporates.

The combination of extremely low interest rates and elevated asset prices implies risks for financial stability. In the current environment of depressed yields of risk-free assets and high prices of risky assets, the situation could become challenging if benchmark yields were to increase. While such a scenario may currently seem unlikely to unfold in the near-term with growth and inflation expectations subdued and the ECB committed to maintain its expansive stance for the foreseeable future, there is still the possibility that pessimism with respect to the outlook has been overdone and economic recovery will surprise to the upside. Sentiment indicators most recently have started to improve and bond yields have partially reversed the declines of last summer. Rising benchmark yields could lead to a correction of asset prices, which may be the more pronounced the longer the rally in risky assets goes. In a different scenario, a substantial further deterioration of growth could lead to a wave of downgrades of corporate ratings and earnings expectations and hence to a correction of risky asset prices. Arguably, valuations become more vulnerable to adverse macroeconomic shocks in a situation where the potential of monetary policy to counteract the shock and of risk-free rates to decline is limited (ECB, 2019: Box2). In addition to an increase of credit risk associated with increased holdings of riskier corporate bonds, the duration risk of bond holdings has risen with the reduction of the average level of coupons paid by bond issuers in the euro area.

Banks in the euro area have increased their resilience in recent years. The asset quality of banks in the euro area has increased further with non-performing loans continuing to decline, although at a decelerated pace due to the economic slowdown. Capital ratios on average remained at a level assessed to be 'comfortable' in the report, at around 3 % above minimum requirement levels, although banks' management capital buffers have decreased due to an increase of minimum requirements in 2019. Simulations with the ECB's euro area macro-micro model suggest that the aggregate Common Equity Tier 1 ratio will increase by the end of 2021 in the baseline scenario (assuming ECB staff central projections for growth), but will decline substantially in an adverse scenario (assuming a serious recession in the euro area with a peak-to-trough fall in output by 1.7 %). In the adverse scenario, banks accounting for around 20 % of total euro area banking sector assets would have to bite into their regulatory capital buffers. Against the backdrop of a sustained economic expansion and signs of overheating in parts of the economy, particularly in the property market, counter-cyclical capital buffers have been triggered, with rates ranging from 0.25 to 2.00 %.

However, bank profitability continues to be a major concern. Bank profitability remains low in the euro area by international standards which is reflected in low market valuation. Progress with improving cost-efficiency and reducing overcapacity has been slow and misconduct costs continue weighing on profits. While the low interest rate environment supports banks by strengthening loan growth, lowering credit risk and increase in asset prices, a shrinking lending margin and negative interest rates on excess liquidity have been an increasing burden. With its decision in September 2019 to reduce the rate on the deposit facility further into negative territory, the ECB introduced a two-tier system for reserve remuneration aimed at reducing the negative impact of the negative interest rate policy on banks profitability, which potentially could undermine the pass-through of low policy rates to lending rates.

Non-bank financial institutions have stepped up risk-taking amid strong headwinds for profitability from low interest rates. Non-bank financial institutions, such as pension funds, insurance companies, and investment funds are struggling to keep investment returns at a sufficient level faced with the secular decrease in government bond yields. While, for the time being, capital gains from falling yields are a substantial offset to the lower level of yields, in the longer term, the negative effect of lower yields on income will prevail. Funds and insurers have reacted by increasing their exposure to riskier segments of the corporate and sovereign sectors and increasing the duration in their portfolios, thus assuming more credit, liquidity and exchange rate risks. The growing risks in the non-bank financial sector, coupled with higher leverage in investment funds, threaten to work as an accelerator in the event of a major repricing of assets causing additional stress to the wider financial system.

All in all, risks to financial stability appear to be contained for the time being, but could be substantial in the longer run. In the short term, low interest rates, in combination with policies such as full allotment and asset purchases, support growth and asset prices, which in itself is also conducive to financial stability. At the same time, however, in response to lower income from safe assets, banks and non-banks increase their exposure to risks associated with a repricing of assets that could materialise in the event of an eventual increase of interest rates or a substantial negative macroeconomic shock.

3. POLICY OPTIONS TO DEAL WITH FINANCIAL STABILITY CONCERNS

3.1. Introduction

It is unclear whether the policy changes with respect to financial regulations since the last crisis will be able to prevent another one from occurring. There are a large number of different regulations that were introduced with the stated aim of preventing future financial crises. These range from capital and liquidity requirements, across stipulations for banks' risk-management and stepped up supervision, down to the last details such as caps on bankers' bonuses. There is considerable doubt about how helpful these regulations are. For instance, capital requirements now include countercyclical buffers that are to be increased by regulators in the upswing of a business cycle and released in a downturn so that banks build up an equity cushion in good times to help them weather bad ones. However, the size of these buffers is quite small (in many cases far below even 1 percentage point even in outright boom periods) and in any case, regulators will have a hard time setting appropriate levels, not least because it is hard to know an economies position in the business cycle in real-time. As another example, restricting bonus payments makes it more difficult to implement schemes that align the interests of an individual banker with those of the bank as a whole. There is also no guarantee that regulators and supervisors will always implement the most appropriate measures, either because they simply do not have the required information or because they are subject to certain outside pressures (in this respect we may note that even after the European sovereign debt crisis, government bonds still are allocated official risk weights of zero). A further danger is that by implementing the same requirements across the whole banking sector, the risks on the balance sheets of different banks become more correlated with each other, which then exacerbates systemic crises.

This chapter focuses on two principle proposals that might further increase banks' resilience. Section 3.2 explains bank runs as a fundamental source of danger to financial stability. Section 3.3 discusses the proposed introduction of a European Deposit Insurance Scheme, and cautions that such a guarantee is a liable to actually increase risks in the banking system. Rather than implementing a new European scheme, it would be advisable to remove the requirement for Member States to operate such systems. Section 3.4, finally, presents the case for substantially higher shares of equity financing.

3.2. The Danger of Bank Runs

Because there is a mismatch between the maturity and liquidity of banks' assets and liabilities, they are susceptible to bank runs. To a large extent, banks finance themselves via short-run liabilities such as deposits, which may be called in at any time at a fixed value by their creditors, but hold assets that mature over longer time horizons. In a situation where the short-run liabilities can no longer be rolled over because creditors demand to be paid out their money, banks need to sell their illiquid assets to raise the required cash. The revenue from these sales may then be substantially below the assets' book values, in particular if many banks are looking to quickly sell at the same time. The losses thus incurred can be so large that the raised cash would be insufficient to satisfy all short-run creditors. Anticipating this, every creditor benefits from calling in their claim as quickly as possible in order to secure a pay-out as long as there is still some money left.²

Such a bank run is inefficient insofar as the creditors in aggregate would be better off if they all did not call in their claims and took their payments from the normally maturing assets instead

² Diamond and Dybvig (1983) introduce a scientific model for bank runs.

of from fire-sales into illiquid markets. Furthermore, bank runs can spread contagiously between different institutions, e.g. because fire-sales by one bank depress the valuations of the assets held in other banks' books as well. In the worst case, such disruptions can develop into a full-blown financial crisis with large costs across the whole economy, e.g. because banks need to suddenly decrease credit provision to the real economy in an attempt to shore up their financial positions which in turn leads to unemployment, additional loan delinquencies, and a further escalating probability of bank runs.

3.3. European Deposit Insurance Scheme

Credible deposit insurance systems can prevent bank runs because in case of looming trouble, it would no longer be necessary for depositors to empty their accounts as soon as possible. If a bank's depositors could be assured that they would be reimbursed for any losses on their claims in case of a bankruptcy, they would no longer need to withdraw funds early. This would allow an opportunity even for an insolvent bank to be wound down orderly, minimising fire-sale losses. For this reason, it is a general practice in most developed economies to operate some form of deposit insurance by the government, where once the funds of the bank in question as well as those of whatever private insurance system is in place prove insufficient to cover all claims of certain depositors the taxpayer will make them whole. Note that because existing deposit insurance schemes do not cover all creditor types (deposits are not the only type of short-run liabilities and they are only covered up to certain amounts by government deposit insurance), bank runs can still occur even if the promises by the government are completely credible.

The crisis in the euro area threw doubt on the ability of certain governments to protect depositors of their countries' banks against losses. Banks in crisis countries were faced with two simultaneous problems. For one, due to their home bias, they held large amounts of government bonds of struggling sovereigns and large shares of their loans became non-performing. Thus, the value of their assets decreased considerably. At the same time, it was doubtful whether the governments in question would be able to muster the resources necessary in case depositors would want to be bailed-out. This led to a depositor flight from crisis countries' banks towards core countries whose sovereigns are seen as a safe haven. Financing for this flight often came ad-hoc in the form of international rescue packages as well as from the Eurosystem, which provided central bank money against collateral of increasingly questionable quality.

A European Deposit Insurance Scheme (EDIS) is supposed to prevent such deposit flights. Proponents of EDIS want to unify deposit insurance on the European level. Then, all deposits across the area would ultimately be backed by the strongest sovereigns, making deposit flight between participating countries unnecessary.

The introduction of EDIS now would entail large de-facto fiscal transfers between governments. There are still large legacy costs and risks concentrated in the balance sheets of certain countries' banking systems, which have not been fully cleaned up. If unaccounted for, these costs would be reallocated retroactively to more prudent members. Furthermore, fiscal positions are quite heterogeneous across European sovereigns. Since those countries with the highest debt burdens are unlikely to in practice (be able to) contribute much whenever EDIS guarantees are called upon in the future, any future risks incurred in all countries will also fall on only a subset of sovereigns.

National compartments cannot fully heal this defect. An EDIS with national compartments means a system where, whenever a bank's depositors require a bail-out, a first tranche of the losses would be borne by a national deposit guarantee scheme. EDIS would then only become responsible for losses in excess of that first tranche. Still, this only reduces the costs shifted somewhat, but does not fundamentally change the picture. Furthermore, there is the question of what happens if a country fails

to meet the obligations from its national tranche. If they are then passed on towards the common EDIS level, the protection against excessive cost shifting would be weakened further. However, if they are not passed on, and thus are defaulted on, then depositors would once again have reason to participate in a bank run, because they would face losing some of their money if they did not withdraw early.

In the long run, even EDIS could be overwhelmed by losses. Just as some individual countries were unable to credibly guarantee deposits in the last crisis, a common European scheme is not guaranteed to always be able to meet its obligations. In that case, once again deposit flight towards third countries would occur, only on a much larger scale. Two factors in particular contribute to the risk of such a scenario occurring for EDIS. First, at the current juncture EDIS would entail a relatively small number of sovereigns with fiscal space guaranteeing bank liabilities for a much larger area, thus making it more likely that they are overwhelmed. Second, many policies that can make financial difficulties less likely, such as structural reforms, have to be implemented by individual countries. But, since EDIS helps them to shift onto others some of the costs of failing to follow such policies, they will be less likely and slower to adopt them.

All forms of deposit insurance directly introduce moral hazard problems. If banks are protected on the downside, they are incentivised to take on excessive risks, since they will be able to earn high returns if things turn out well but losses will be socialised in the adverse scenario (financial institutions are also incentivised to take on correlated risks, see also Acharya, 2009). For the same reason, deposit guarantees remove the incentive for depositors to choose less risky banks. In fact, a risky strategy might allow a bank to offer higher average interest rates and thus draw in more deposits. Note that financing deposit insurance via levies on the banking sector does not solve the moral hazard problem, because if a crisis erupts it may not be possible for governments to actually collect these levies. But, even if it were possible, every individual bank would still be incentivised to follow an excessively risky strategy since potential costs would be shifted to other banks.

There is support for the dangers of deposit insurance in the empirical literature. Anginer and Demirguc-Kunt (2018) provide a review of the literature. There is evidence that deposit insurance results in a higher probability of banking crises (Demirguc-Kunt and Detragiache, 2002), reduces the capital buffers held by banks (Nier and Baumann, 2006), and leads to a lower sensitivity of deposit rates to changes in a bank's riskiness (Demirguc-Kunt and Huizinga, 2004). Furthermore, it leads to higher loan-to-asset and debt-to-equity ratios, and results in more frequent defaults due to higher asset risk and leverage (Calomiris and Chen, 2016), and can make banks to initiate riskier loans without having to pay higher deposit rates (Ioannidou and Penas, 2010). The removal of government guarantees from some banks was also shown to result in a cut in credit lines to the riskiest clients and a shift away from certain risky debt instruments (Gropp et al., 2014). There are also some studies that do not find an increase in bank riskiness (Wheelock and Wilson, 1994; Alston et al., 1994; Karels and McClatchey, 1999; Martinez-Peria and Schmukler, 2001). Possible reasons for this include high bank charter values (meaning a bank has market power and can earn rents, e.g. because of its reputation or regulatory capture), the insurance not being credible, effective and sufficient monitoring by creditors other than depositors, and the cost of bank-runs being higher than those from the additional risk-taking. However, in the cases of Ngalawa et al. (2016) and Anginer et al. (2014) the costs due to moral hazard outweigh the benefits in times of bank-runs, making the net effect of deposit insurance negative. Explicit deposit insurance by itself can also reduce risks if it effectively introduces limits regarding the extent to which losses can be expected to be covered (Gropp and Vesala, 2004) and when they reduce the incentives to put deposits in very large banks to profit from implicit 'too-big-too-fail' guarantees (Anginer et al., 2014). Note that these benefits only materialise insofar as the explicit insurance actually reduces the expectations for future bail-outs stemming from implicit guarantees.

3.4. Increased Equity Requirements

A straightforward way to make banks safer is to increase the share of equity vis-à-vis debt in their financing. Equity (or capital, as it is often called in the case of banks) is a floating value liability whereas other liabilities (such as deposits or other debt instruments) are usually fixed in value. Therefore, if a bank incurs losses, the value of its equity can simply fall and operations continue without major disruptions. However, if a bank fails to meet its fixed value debt obligations, the bank would either need to be bailed out or face bankruptcy. So equity cushions directly protect against bank failures in adverse scenarios. Furthermore, equity cannot run. Even if an equity investor in a financial panic doubted the soundness of a bank, he could not go to the bank and demand it exchange his shares for a certain amount of money. He could only sell his shares to other market participants. In contrast, debt investors are owed fixed sums, and short-term debt investors (such as depositors) in particular can call in these debts very quickly, thus initiating a bank-run.

The amount of equity required to actually make the banking system safe is still under debate, but it probably is considerably higher than under current standards. Admati and Hellwig (2013) suggest based on historical experiences that equity ratios for banks of 20 to 30 % might be sufficient, whereas Kotlikoff (2018) argues that only 100 % equity would be truly safe.³ Cochrane (2014) also suggests 100 % equity for safety, but also argues that rather than fixed regulatory ratios it might be preferable to institute Pigouvian taxes on debt (which would internalise the risks from excessive debt) and have banks decide on the optimal levels themselves. He also elaborates that, if there truly were an economic need for bank debt, this could still be provided in a 100-percent-equity regime via a multi-tier system, in which holding companies hold fully equity-financed banks but issue both equity as well as debt themselves, since these holding companies would be much easier to resolve.

³ It should be noted that even 100 % equity on a bank's liability side would not make bankruptcy completely impossible by itself, since certain derivatives can also produce fixed payout obligations.

4. MACROECONOMIC POLICY OPTIONS IN CASE OF TROUBLE

4.1. Monetary Policy

Monetary policy in the euro area will probably remain restricted for the foreseeable future. The canonical approach to macroeconomic stabilisation policy is to have the central bank tighten (loosen) monetary policy in response to expansionary (contractionary) shocks to the economy. In the euro area, the ECB's mandate requires it, above all else, to provide price stability, which is operationalised as a year-on-year inflation target for the area-wide HICP of close to but below 2 % in the medium term. If inflationary dynamics weaken (strengthen), the ECB is supposed to reduce (increase) its key interest rates to offset this.

The Effective Lower Bound on nominal interest rates means that the ECB has almost run out of room for further interest rate cuts. Investors have the option to move into zero-yielding cash instead of keeping money in negative-yielding accounts. Because of storage and insurance costs associated with holding large amounts of cash, central banks can push interest rates a bit below zero (the Swiss National Bank's policy rate stands at -0.75 %, which is probably close to the generally achievable minimum). A further danger is to fall below the reversal interest rate. Interest rate cuts can help banks, e.g. via valuation gains on their long-term assets, but also hurt them, e.g. by compressing net interest margins. The reversal interest rate is the one below which the detrimental effects outweigh the benefits – below this threshold, loan provision by banks will fall rather than rise, leading to a contractionary impulse. There is even an argument that the reversal interest rate rises over time when a low interest rate policy stays in place for a prolonged period, since valuation gains will fade out over time as maturing assets on banks' balance sheets are replaced but the effect on net interest margins will not (cf. Brunnermeier and Koby, 2018). Due to these reasons, the ECB, whose headline⁴ deposit facility rate currently is -0.5 %, most likely cannot provide much additional stimulus by further interest rate cuts.

In the face of the constraints with regard to interest rates, central banks including the ECB turned towards unconventional policy measures – and achieved mixed results. The most prominent of the unconventional measures are large-scale asset purchases. It is doubtful whether such purchases could make much of a contribution towards achieving central banks' inflation targets. For example, Fiedler et al. (2017) provide an overview of empirical estimates for the effects of quantitative easing in the United States as well as the euro area. According to these, even very large programmes have only very limited effects: excluding one outlier, the average peak effect of one trillion dollars' worth of asset purchases on consumer prices in the US was 0.5 percentage points. Furthermore, there are indications that any possible effects decrease over time and that unconventional measures can produce a number of negative side-effects (see e.g. Fiedler and Gern, 2019 for a discussion of relevant literatures). These possible side-effects include risks to financial stability due to increased risk-taking, misallocation of resources towards less productive firms, unwanted distributional consequences, reduced incentives for structural reforms and fiscal consolidation in certain euro area countries, and the danger of suboptimal future monetary policy by a central bank that tries to avoid losses on its substantial asset holdings.

Because of the current limitations of interest rate policy and unconventional measures, a number of proposals that are supposed to restore the effectiveness of monetary policy have

⁴ The ECB, like other central banks before it, already introduced a tiered interest rate system with partial exemptions from negative interest rates, which suggests that unintended effects from its policy of low interest rates on banks are already a concern.

been made. A summary can be found in Constâncio (2017) and Fiedler et al. (2019) provide further discussion of the literature which will form the basis for the overview below. These proposals include:

1) **Raising the inflation target**

This was proposed by e.g. Blanchard et al. (2010) and Ball (2014). Since higher inflation leads to a larger spread between nominal and real interest rates, real interest rates could be pushed further below zero. However, this is only true if the new inflation target can credibly be reached (cf. Laubach and Williams 2015). Otherwise, central bank credibility may erode further, which should be a particular concern for the ECB, which is already failing to achieve its current, lower target. Furthermore, inflation produces a number of costs, including distortions due to changes in relative prices and due to the taxation of nominal returns, as well as menu and shoe leather costs, which would increase with a higher inflation target.

2) **Introducing a level target**

This would entail the central bank to set some target path (e.g. for the price level or nominal GDP) and promise to always return to it. Rather than letting bygones be bygones, any past shortfall would have to be made up. Proponents hope that such a commitment would aid central banks by increasing their ability to manage expectations (Vestin, 2006; Schmidt, 2011), which is especially relevant whenever the Effective Lower Bound is binding (Eggertsson and Woodford, 2003). However, this would only work if agents fully understand the regime, if they form forward-looking inflation expectations, and if the level target is credible (meaning *inter alia* that central banks would no longer look through temporary supply shocks, Wessel, 2018). Otherwise, a switch to level targeting could lead to worse results (Kryvtsov et al., 2008). Note also that a fully formed level targeting policy that wants to produce a credible commitment in order to steer expectations should make a statement about how fast the central bank would return to the target path.

3) **Abolishing cash**

Since the Effective Lower Bound exists due to the possibility to hold zero-yielding cash, there is the argument that its abolishment would help by allowing more negative interest rates (Buiter, 2009). However, this step would also remove a valued means of payment and could even induce people to switch away from central bank currency altogether.

4) **Helicopter drops**

Helicopter drops (Buiter, 2014) are a shorthand for policies by which the central bank brings additional money into circulation without taking any assets in return. This increases consolidated government debt and produces an expansionary impulse, in particular because issuing zero-yielding liabilities (money) should lower borrowing costs for many governments as long as their creditworthiness is not impacted by the additional debt (cf. Muellbauer, 2016). However, creditworthiness may well be affected. Furthermore, if inflation developments in the future demanded a reversal of the helicopter drops, the central bank would not have any assets to sell in order to drain this money back out of circulation, and would have to rely on fiscal policy makers to provide the needed contractionary impulse.

5) **Neo-Fisherian interest rate increases**

The policy prescriptions stemming from Neo-Fisherian theories are quite different (Bullard, 2010; Schmitt-Grohé and Uribe, 2017). Neo-Fisherians note that, at least in the long run, increasing interest rates go hand-in-hand with higher inflation, because the nominal interest

rate is the sum of the real rate and expected inflation. However, it is unclear how to turn this observation into practical monetary policy. For instance, García-Schmidt and Woodford (2019) and Garin et al. (2018) argue that Neo-Fisherian theories rely a lot on perfectly forward-looking expectations, which may well not hold in practice.

All in all, the ECB's options to provide additional stimulus currently appear very limited, in particular if costly side-effects are to be avoided. This means monetary policy will be less able to fulfil its macroeconomic stabilisation goals. The resulting additional volatility introduces a new concern for financial institutions' risk management. Note, however, that the effectiveness of (unconventional) monetary policy most likely varies over time. In particular, there is evidence that it is more effective in the aftermath of financial crises but less so once the acute phase is over (cf. e.g. Janssen et al., 2015; Hesse et al., 2018). Since equilibrium short-term interest rates would be set to spike in case of a financial crisis, even keeping ECB policy rates unchanged could provide an expansionary impulse since this would increase the spread between the two. But, in order to be able to take advantage of additional central bank credit, banks would need to have sufficient assets that they could post as collateral. The Eurosystem already introduced policies that go beyond the classic case for the central bank as a lender of last resort, which is to lend at 'high rates' against 'good security' to prevent panics (Bagehot, 1873), and accepted a wide variety of assets of less than the highest quality. Due to a further reduction in the quality of assets held by banks, the next crisis may see them unable to post the collateral required for central bank loans.

4.2. Fiscal Policy

The potential of fiscal policy to actively support growth in the event of a recession is currently limited to a few countries with fiscal space available. Fiscal room to manoeuvre is still strongly restrained in many euro area countries by the rules laid down in the fiscal compact. In most countries, the structural budget balance is below its country-specific medium-term objective (MTO), implying further consolidation needs. These are even substantial in a number of cases, including Italy, France and Spain. Fiscal space, which is indicated by a positive differential between the estimated structural balance and the MTO, is significant among the larger economies only in Germany, the Netherlands and Austria and, surprisingly, also Greece, according to calculations by the ECB (2019: Chart 1.4).

Institutions for fiscal risk sharing (beyond the ESM) are currently not available and controversial. The European sovereign debt crisis has revealed problems in the architecture of the euro area with its combination of centralised monetary policy and decentralised fiscal policies and raised demands for increased fiscal risk sharing. Numerous ways to implement fiscal risk sharing have been proposed, including the introduction of a rainy day fund, common unemployment insurance, a more significant central budget, and joint debt instruments.⁵ However, all of these proposals are contentious and cannot be expected to be implemented any time soon, given the lack of political consensus in Europe about how to proceed.

The idea of pushing national governments to engage in fiscal policy oriented at an aggregated euro area fiscal stance is flawed. In case of a severe cyclical downturn, not all countries will be in the position to employ the expansive fiscal stance that would be appropriate, as some of them are restrained by consolidation requirements (stemming from fiscal rules or capital market pressure).⁶ Then the euro area fiscal stance (the aggregate of national fiscal stances) would also be inappropriate with respect to the euro area's aggregate cyclical position. As the European Commission has no budgetary

⁵ For a brief discussion see Gern et al. 2019.

⁶ See Pisani-Ferry (2019) for a concise description of the European fiscal framework,

power to accomplish the desired aggregate fiscal stance directly, in such a situation it would like to ask countries with sound debt positions to provide extra fiscal stimulus, with the intention to loosen the joint fiscal stance to the desired level and to indirectly help countries that cannot afford the appropriate (from a purely cyclical point of view) expansionary stance. In a similar vein, the ECB in its November Financial Stability Review requests 'governments with fiscal space to act in an adequate, effective and timely manner' (p.19). However, additional stimulus in a country beyond its own business cycle needs will reduce welfare there risking overheating the economy or compromising fiscal sustainability. In addition, in order to be effective this policy requires the size of spill-overs to be substantial, which is not the case according to most studies.

5. CONCLUDING REMARKS

Despite the deterioration of the economic outlook, risks to financial stability appear to be contained for the time being, but could be substantial in the longer run. Diminishing expectations for growth and inflation have led to an easing of monetary policies and a significant reduction in government bond yields. Improved financing conditions across the euro area are mitigating debt sustainability concerns in the public sector as well as in the private sector, for the time being. The combination of extremely low interest rates and elevated asset prices implies risks for financial stability as banks and non-banks have increased their exposure to the risk of a reversal of interest rates and an eventual sudden repricing of assets. While banks in the euro area have increased their resilience in recent years, capital buffers could prove insufficient in case of a serious downturn, and bank profitability continues to be a major concern. Against this backdrop, we have discussed potential strategies to increase resilience focusing on the banking sector.

In order to increase resilience of banks in the euro area, capital buffers should be raised substantially, whereas policy should not enforce the introduction of a European Deposit Insurance Scheme. Bank runs are a major source of financial trouble. Avoiding them is a central step to increase resilience of the financial sector. While credible deposit insurance schemes can prevent certain types of bank runs, empirical evidence suggests that moral hazard introduced by these schemes leads to excessive risk-taking to an extent that the net effect on financial stability is negative. Higher equity ratios for banks do not distort the decision to take on risk. They provide a cushion against losses on the balance sheet, and equity is unable to run in a panic. The amount of equity required to make banks safe is still subject to debate, but it is most likely considerably higher than today.

Macroeconomic policy options to respond in the event of a recession are still limited both on the monetary and the fiscal side, with no silver bullet available. The ECB's options to provide additional stimulus currently appear very limited, in particular if costly side-effects are to be avoided. The potential of fiscal policy to actively support growth is currently also restrained with fiscal space available only in a few countries. Pushing national governments to engage in fiscal policy oriented at an aggregate euro area fiscal stance in order to substitute for fiscal risk-sharing institutions that are not available is not going to work. Apparently, traditional macroeconomic demand management policies have come to a limit. In this situation, more structural policy responses may be necessary to shore up confidence and arrest an eventual decline in activity.

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Risks to financial stability in the euro area appear to be contained for the time being, but could be substantial in the longer run. The European financial system is still not crisis-proof. We argue that a deposit insurance schemes are not a good option to increase overall financial stability and higher equity ratios for banks are the appropriate approach to make the financial system safer.

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