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The Independence of the European Central Bank

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Abstract

The ECB is formally independent of instructions from any government. During and after the financial crisis and the acute sovereign debt crisis in the euro area, the ECB has used new instruments and has taken on new tasks and responsibilities. This has led to discussions about the independence of the ECB. Against this background, this paper discusses two questions. First, do the new instruments and tasks imply that the independence of the ECB is under threat? Second, is the use of the instruments and the taking on of the new tasks and responsibilities by an independent institution justified in a democracy or is there a relevant democratic deficit? With respect to these two questions the result of this paper is that especially the Public Sector Purchase Programme (PSPP) and the Single Supervisory Mechanism (SSM) have to be judged critically.

Die Unabhängigkeit der Europäischen Zentralbank

Zusammenfassung

Die EZB ist formal unabhängig von Weisungen der Regierungen. Während und nach der Finanzkrise und der akuten Staatsschuldenkrise im Euroraum hat die EZB neue Instrumente eingesetzt und neue Aufgaben und Verantwortlichkeiten übernommen, die zu Diskussionen über die Unabhängigkeit der EZB geführt haben. Vor diesem Hintergrund diskutiert diese Arbeit zwei Fragen. Erstens, stellen die neuen Instrumente und Aufgaben der EZB eine Gefahr für ihre Unabhängigkeit dar? Zweitens, ist der Einsatz der neuen Instrumente und die Übernahme der neuen Aufgaben von einer unabhängigen Institution in einer Demokratie zu rechtfertigen, oder besteht ein relevantes Demokratiedefizit? Bezüglich dieser beiden Fragen kommt die Arbeit zu dem Ergebnis, dass insbesondere das Programm zum Ankauf von Anleihen des öffentlichen Sektors (Public Sector Purchase Programme, PSPP) und die von der EZB übernommene Bankenaufsicht (Single Supervisory Mechanism, SSM) kritisch zu beurteilen sind.

JEL classification: E42; E52; E58

Keywords: Central bank independence, Eurosystem, monetary policy, financial crisis, sovereign debt crisis

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I. Introduction

The Eurosystem[1] is formally independent. It is regulated by law that no instructions may be received, in particular by government representatives (Article 130 of the Treaty on the Functioning of the European Union, TFEU). The reason for the delegation of monetary policy to an independent institution is that monetary policy in the hands of governments, after all experience, tends to lead to inflation associated with an overall welfare loss. Until the outbreak of the global financial crisis in 2008, the independence of the ECB per se, as well as the relatively high degree of this independence were basically undisputed. In this context, one also speaks of a "pre-crisis consensus" (*Balls* et al. 2016). However, during and after the financial crisis, the ECB has employed new policy instruments and assumed new tasks and responsibilities, which has initiated controversial debates about its independence.

This paper contributes to the debate on the independence of the ECB by addressing two particular questions. Firstly, do the new instruments and tasks of the ECB pose a threat to its independence? Secondly, is the use of the instruments and the taking on of the new tasks and responsibilities by an independent institution justified in a democracy or is there a relevant democratic deficit?

In this context, this paper comes to varying conclusions. The measures taken during the financial crisis to stabilize the banking sector are classified as rather unproblematic with regard to the two questions raised about the independence of the ECB. The same is valid regarding the assessment of the Outright Monetary Transactions (OMTs), a policy instrument established to stabilize the euro area during the sovereign debt crisis. However, the Securities Markets Programme (SMP), which was also applied during the sovereign debt crisis, the Single Supervisory Mechanism (SSM), which was taken over by the ECB after the crises, and the Public Sector Purchase Programme (PSPP), which was also introduced after the crises, are seen as problematic with respect to central bank independence.

The remainder of this contribution proceeds as follows. Chapter II. deals with the basics on the issue of central bank independence. Various elements of central bank independence are presented and justifications for delegating monetary policy to an independent institution are given. Chapter III. takes a closer look at the independence of the ECB prevailing in the period before the global financial crisis. Chapter IV. describes the measures taken by the ECB during the financial

[1] The term "Eurosystem" stands for the institutions responsible for monetary policy in the euro area, i. e. the European Central Bank (ECB) and the National Central Banks (NCBs) in the euro area. To simplify matters, the terms ECB and Eurosystem are used synonymously in this article.

crisis and discusses them under the aspect of central bank independence. Chapter V. deals analogously with two instruments employed during the acute sovereign debt crisis in 2010 and 2012, namely the SMP and the OMTs. Chapter VI. accordingly describes the PSPP and the tasks newly assumed by the ECB in the areas of micro- and macroprudential supervision of the financial system and discusses them under the aspect of central bank independence. The paper concludes with a brief summary of its main results.

II. Basic Considerations

1. Elements of Central Bank Independence

Central bank independence refers to the extent to which a central bank can conduct its monetary policy free from the influence of governments and parliaments (*Walsh* 2008). Central bank independence thus implies that monetary policy is delegated to unelected officials. Hence, governments and parliaments have no or only a limited influence on this policy area (*De Haan* et al. 2018).

In principle, four elements of central bank independence can be considered.[2] *1. Institutional independence*: it means that the monetary policy decision makers in the central bank are independent of instructions from third parties such as government representatives and parliamentarians.[3] *Buiter* (2017) interprets this element to mean that central bank independence is the right, but not the obligation of a central bank to negate requests from elected politicians. *2. Personal independence*: it is intended to ensure that monetary policy makers do not have any incentive to make decisions that are acceptable to the government, just in order not to be dismissed or to be appointed for further terms of office. *3. Financial independence*: this principle implies that the central bank itself should have sufficient financial resources to fulfil its tasks. It should then have free and independent access to these resources. If the resources are too scarce, de facto dependencies could be created (*Görgens* et al. 2014). With regard to financial independence, the importance of the prohibition of government financing by printing money is often stressed (*Ullrich* 2003; *Jordan* 2017; *Schwäbe* 2012). *4. Functional independence*: it states that the central bank itself is responsible for the independent selection of its strategies and measures to achieve its goal. As a rule, the functional independence also implies that the actions of the central bank have to be focused solely on one target.

[2] This classification is not uniformly applied in the literature. The description given here can be found, for example, in *Görgens* et al. (2014).

[3] *Jordan* (2017) denotes institutional independence in the sense that the central bank is a legal entity in its own right.

When considering the independence of central banks, a large number of authors focus on the difference between *goal independence* and *instrument independence*.[4] Goal independence refers to the ability of a central bank to define its goal(s) without direct government interference, while instrument independence describes the ability of the central bank to use instruments independently to achieve its goal/goals (see e. g. *Walsh* 2008; *Fischer* 2017). *Fischer* (2017) goes on to explain that it is the legislator who defines the basic objectives (e. g. to ensure price stability) and the instruments available to achieve these objectives. The central bank can nevertheless be called goal independent as long as it is free to decide upon the operational target (e. g. an increase in the rate of inflation of less than 2 %) and the use of the instruments allocated to it.

A distinction is also made between *formal and de facto independence* of a central bank. A central bank is formally independent if its independence is enshrined in law. De facto independence is a key factor in the information on the extent to which the central bank can actually act independently or whether, despite legally enshrined independence, political pressure or other issues do not allow it to pursue an independent monetary policy. In this regard, fiscal dominance and financial dominance, which will be discussed in more detail in Chapter VI.1.b), play an important role.

If a central bank is able to conduct its monetary policy free from the interference of governments and parliaments, its duty to be accountable for its actions and to bear responsibility is indispensable in a democratic constitutional state. The great importance of *accountability* and *responsibility* of an independent central bank is emphasized in a large number of publications on the topic of central bank independence (see e. g. *Ullrich* (2003); *Jordan* (2017); *Fischer* (2017); *De Haan* et al. (2018)).

2. Justification for the Independence of Central Banks

a) Inflation Bias

The reason for transferring monetary policy to an independent central bank is that monetary policy in the hands of governments tends to lead to inflation associated with an overall loss of welfare. This so-called inflation bias results from the incentive of governments *to finance government spending just by "printing money"*. One of the best known inflation episodes in this context is the hyperinflation in the German Reich in 1923. Another reason for the inflation bias is the *time-inconsistency problem* of monetary policy decisions introduced into the literature by *Barro/Gordon* (1983).

[4] See, for instance, *Walsh* (2008); *Fischer* (2015, 2017); *De Haan/Eijffinger* (2016); *De Haan* et al. (2018).

In the Barro-Gordon model of time-inconsistent monetary policy, governments strive for an output above the natural output, and thus a higher level of employment than the natural one. This implies that governments have an incentive to deviate from their previously announced monetary policy strategy. Once they have announced a certain target inflation rate, economic agents enter into corresponding wage contracts and the nominal wage is fixed. Now the government has an incentive to realise a higher rate of inflation (time-inconsistency problem). As a result of this surprise inflation, real wages fall and output and employment rise.

However, the workers anticipate this behavior and negotiate wage contracts with such high nominal wages from the outset that the central bank no longer has any incentive to conduct a monetary policy leading to a surprise inflation. The inflation rate generating employment effects would then be so high that the welfare losses associated with this high inflation rate would exceed the welfare gains from higher employment. All in all, there remains an inflation rate at a level that has not generated any employment effects. Short-term targets of incumbent politicians interested in re-election are often mentioned as for the aspiration of (in the long run) unrealistic employment targets (above the natural level) (*Walsh* 2008).

Taking *asymmetry in monetary policy* as a reason for an inflation bias points into a similar direction. Although contractionary monetary policy measures are considered necessary, they are typically postponed by politicians interested in their re-election. They are introduced later than corresponding expansionary monetary policy measures, since the former tend to be less popular (*Jordan* 2017).

If monetary policy is transferred to a central bank that is independent of the government, under certain conditions, such as long terms of office for decision-makers, these incentives in principle do not exist, or they are at least weaker. In fact, a large number of empirical studies reveals a significant negative correlation between the degree of central bank independence and the average inflation rate in the respective country, without being accompanied by a higher volatility of macroeconomic output or employment.[5] *Walsh* (2008) therefore argues that "central bank independence appeared to be a free lunch".

Jordan (2017) cites as another argument in favour of an independent central bank: its ability to make quick decisions when needed, especially in times of crisis. But this argument is not supported by the fact that democratically elected governments are also in a position to take decisions quickly if necessary. This is

[5] The empirical literature analysing the relationship between the degree of independence of central banks and inflation is extensive. *Cukierman* (1992) and *Cukierman* et al. (1992) are some of the most widely considered papers in this respect. For information on more recent studies, see *De Haan* et al. (2018).

shown by the introduction of the Financial Market Stabilization Act in Germany at the height of the financial crisis in 2008. The core of this act is the Special Fund for Financial Stability ("Sonderfonds Finanzstabilität, SoFFiN") with a volume of 480 billion euros for recapitalization measures of banks and the assumption of guarantees for banks.[6] On October 13, 2008, the law was passed by the cabinet. Within only five days it was then passed by the Bundestag, was approved by the Bundesrat and was signed by the Bundespräsident, so that it could already enter into force on October 18, 2018.[7]

b) The Importance of Central Bank Credibility

Our preceding analysis illustrates that the credibility of a central bank plays a crucial role in the discussion about its independence. We started from the premise that a policy-dependent central bank cannot credibly assure that it will not succumb to the incentive to generate higher employment in the short term with the help of non-anticipated high rates of inflation. The transfer of monetary policy to an independent central bank increases this credibility and thus makes it easier to avoid the inflation bias. If a central bank loses credibility, there is a danger that it will formally lose its independence. It then no longer has a crucial advantage over a dependent central bank. Its independence no longer finds political acceptance.

Buiter (2017) sees a danger in this context that central banks in developed economies could currently lose their independence for, among others, the following reasons: "3. We have had 25 years of low inflation in most AEs [Advanced Economies]. Politicians and the public now take this for granted. 4. The conduct of monetary policy has been at best moderately competent. Communication has been a disaster. 5. populism means distrust of experts, establishment, elite. Central banks seen as experts, establishment, elite." (*Buiter* 2017).

The argumentation of *De Haan* et al. (2018) runs in a similar direction. They argue that, even if independence is not diminished in spite of the financial crisis, this may change in the future in some countries. They point to the increased support for populist parties in Europe which "generally do not favor central bank independence and want to exit the euro area and return to national currencies, or even to follow the UK and exit the EU." (*De Haan* et al. 2018). The

[6] For comparison: in 2008, total expenditure in the federal budget amounted to 282 billion euros. Data source: Federal Ministry of Finance.

[7] For detailed information on SoFFin, see Bundesanstalt für Finanzmarktstabilisierung (FMSA) (2008). The relevant information on this Act, from the cabinet resolution to its entry into force, is available on the website of the Documentation and Information System (DIP) of the German Bundestag (German Bundestag, Dokumentations- und Informationssystem (DIP) 2018).

credibility of monetary policy is therefore not only significant for monetary policy efficiency[8] but also for the maintenance of a formally independent central bank.

c) The Distinctiveness of Monetary Policy

Why is it appropriate to entrust monetary policy but not other policy areas, such as fiscal policy, to an independent institution? Many authors refer in this respect to the studies of *Alesina/Tabellini* (2007, 2008).[9] *Alesina/Tabellini* examine the conditions under which it is in principle advantageous to leave policy areas with elected politicians or to transfer them to non-elected bureaucrats. For them, it is crucial that both groups of people have different incentives with regard to their actions. Politicians strive to be elected. Their actions should therefore generate as much benefits as possible for the majority of voters. Bureaucrats, on the other hand, are focused on their own careers. They place their competence in the foreground in order to have correspondingly attractive career prospects.

The transfer of policy areas to bureaucrats is therefore advantageous when it comes to more technical tasks, when performance criteria can be described ex-ante and when these are stable over time, when it comes to policy areas in which politicians have an incentive to make decisions based on electoral tactics that appear advantageous in the short-term but can be evaluated negatively when the long-term effects are taken into account (short-termism) and when the problem of time inconsistency is relevant.

The transfer of policy areas to bureaucrats is not advantageous if there are uncertainties about social preferences and if non-negligible redistributive effects are associated with political decisions. In both cases, the corresponding political decisions have to be democratically legitimized.

From these points of view, monetary policy in normal times is in principle an optimal candidate for a transfer to an independent institution, i. e. to bureaucrats. It represents a rather technical task, performance criteria can be ex-ante specified and are relatively stable over time (e. g. ensuring price stability measured by an inflation rate of below but close to 2 %), problems of short-termism and time inconsistency are relevant. Different preferences are relevant and problematic when monetary policy is facing a conflict of targets, for example, when there is a trade-off between stabilising prices and employment. This conflict exists in the short-term after a supply shock. For the independent central bank, the conflict of objectives does not exist if there is a clear prioritisation of objec-

[8] See e. g. *Görgens* et al. (2014, Chapter IV, Section 2.3).

[9] See e. g. *Alesina/Stella* (2010); *De Haan/Eijffinger* (2016); *De Haan* et al. (2018).

tives. It should also be borne in mind that even if there is a clear prioritisation, for example on price stability, there is no such thing as a central bank that completely disregards the consequences of its decisions for variables other than the price level. *Fischer* (2015) explains this as follows: "I doubt that any central bank targets inflation to the exclusion of all other outcomes. For example, the Bundesbank was generally thought to have a very strict focus on inflation … But researchers who have studied the Bundesbank's policies … have concluded that it likely responded to deviations from target of both expected inflation and output growth."

It should also be borne in mind that any kind of monetary policy basically has distributional effects. However, in normal times, when conventional monetary policy instruments are used, these are rather small. In this respect, *Balls* et al. (2016) argue that the effects balance each other out in the course of the economic cycle and that the disadvantages arising for certain economic agents are at least compensated by the benefits in terms of higher economic growth and employment stable prices which will benefit everybody (*Balls* et al. 2016).

Fischer (2017) states that monetary policy measures are aimed at influencing interest rates in the economy as a whole which, in turn, has an effect on aggregate demand. Instruments of fiscal policy, on the other hand, such as taxation or changes in government spending, are intended to induce distributional effects or to affect only certain regions or sectors, so that responsibility for fiscal policy should remain with elected politicians. *Alesina/Stella* (2010) argue similarly: fiscal policy essentially consists of redistributing income and should therefore not be delegated to an independent institution.

III. The ECB's Independence Before the Start of the Financial and Sovereign Debt Crisis

Looking initially only at the period from 1999 to 2008, i. e. from the year in which the Eurosystem assumed responsibility for monetary policy in the euro area to the year in which the financial crisis culminated in the collapse of the Lehman Brothers investment bank, it is clear that the Eurosystem enjoys a high degree of independence. Members of the decision-making bodies of the Eurosystem are not allowed to take instructions from members of governments or parliaments, which means that the Eurosystem is institutionally independent. *Institutional independence* is laid down by law in Article 130 TFEU.[10] *Personal independence* also exists in principle. Monetary policy decisions in the euro area

[10] Article 130 TFEU: When exercising the powers and carrying out the tasks and duties conferred upon them by the Treaties and the Statute of the ESCB and of the ECB, neither the European Central Bank, nor a national central bank, nor any member of their decision-making bodies shall seek or take instructions from Union institutions,

are taken by the Governing Council. This is composed of the six members of the Executive Board of the ECB and the Presidents of the national central banks of the euro area countries. The personal independence of the board members is strengthened by the fact that they can only be appointed once, and then for a relatively long term (eight years). They are appointed by common accord of the Heads of State or Government of the euro area countries. From the point of view of independence, it is also important that the members of the Executive Board may only be dismissed in exceptional cases of serious misconduct. The governors of the national central banks are appointed by the responsible authorities in the respective country. In Germany, the appointment shall be made by the "Bundespräsident" on the recommendation of the "Bundesregierung". His term of office is also relatively long, i. e. eight years, but is not limited to one period.[11]

The *financial independence* of the ECB is ensured in principle by the fact that the ECB is a legal entity with its own budget. The national central banks are the sole subscribers and holders of the ECB's capital, which may be increased by a decision of the Governing Council.[12] Furthermore, Article 123 TFEU prohibits the granting of loans by the central bank to public authorities.[13]

The *functional independence* of the Eurosystem is ensured by the fact that it must focus its actions primarily on the objective of price stability and only if this objective is not compromised it may support the general economic policies of the Union (Article 127 TFEU). The Eurosystem may independently choose the strategies and measures to achieve this objective.

The Eurosystem is thus *independent regarding objectives and instruments*: the primary objective is clearly defined as maintaining price stability. This was operationalised by the decision of the Governing Council that price stability is given when the inflation rate in the euro area (measured by the year-on-year increase of the Harmonised Index of Consumer Prices (HICP)) is below but close

bodies, offices or agencies, from any government of a Member State or from any other body.

[11] The term of office of the members of the Executive Board of the ECB is governed by Article 283 TFEU and that of the President of the Bundesbank by Article 7 of the Law on the Deutsche Bundesbank.

[12] The relevant financial provisions are set out in Protocol No 4, Chapter VI on the Consolidated Versions of the Treaty on European Union and of the Treaty on the Functioning of the European Union.

[13] Article 123 TFEU: Overdraft facilities or other credit facilities with the European Central Bank or with the central banks of the Member States … for Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law or public undertakings of the Member States shall be prohibited, as shall direct purchases of debt instruments from them by the European Central Bank or national central banks.

to 2 %.[14] The Eurosystem can independently determine the instruments used to achieve this goal.

Until the outbreak of the crisis, this degree of independence was largely undisputed (*Jordan* 2017). *Balls* et al. (2016) even speak of a "Pre-crisis Consensus". This acceptance was also favored by a relatively stable inflation rate, which averaged 2.2 % between January 2000 and December 2007, with a highest value of 3.2 % and a lowest value of 1.6 %. Unconventional monetary policy measures were not used, so that the distributional effects of monetary policy measures were likely to be relatively small.

IV. Measures Taken by the ECB During the Financial Crisis

1. Unconventional Policy Measures – A Description

The global financial crisis reached its peak with the collapse of the investment bank Lehman Brothers in September 2008. There was also the danger of a systemic crisis in the euro area, i. e. the peril that a significant part of the banking sector would collapse. The ECB reacted to the collapse of the investment bank by massively cutting interest rates (it lowered the main refinancing rate from October 2008 to June 2009 in several steps from 4.25 % to 1 %), as well as by implementing unconventional measures that had not been used until then. For example, it switched the procedure by which it provides the banking sector with liquidity from variable-rate tenders to fixed-rate tenders with full allotment. The banks in the euro area thus received as much liquidity from the ECB as they demanded at a fixed interest rate against adequate collateral. In order to enable credit institutions to obtain the necessary liquidity from the Eurosystem, the list of eligible collateral for the refinancing operations was extended. This was accompanied by a decline in the credit standards for collateral. In addition, the ECB extended the range of maturities of the loans which they provided to the banks, offered the banks liquidity in foreign currency and began purchasing covered bonds.[15]

[14] The Bank of England is not independent in this respect. Its operational target is set by the Ministry of Finance. Some authors also refer to the instrument independence described here as operational independence, e. g. *Berg/Carstensen* (2012). *Buiter* (2017) defines the operational independence of a central bank – to which he refers exclusively when he speaks of the independence of a central bank – as the instrument and goal independence described here, the latter related to being able to freely specify the operational target.

[15] For a detailed description of the ECB's response to the financial crisis, see e. g. European Central Bank (2010).

2. The ECB's Policy Measures and Central Bank Independence

Chapter II.2.b) has stated that the credibility of a central bank is crucial to maintaining its formal independence. If the bank loses credibility to a significant extent, the political acceptance of its independence dwindles. The formal independence of the central bank is then at risk. Figure 1 shows that at the time of the financial crisis the ECB lost confidence among the population. While in March 2008 the majority of the population in the European Union still tended to have trust in the ECB, this figure fell below the 50 % mark in October 2008. This could have been due to the fact that the main intention of the ECB in taking its policy measures during the financial crisis was to combat systemic risks. The possible collapse of large parts of the banking sector should be prevented. The ECB acted as Lender of Last Resort (LoLR) for banks.

This could have affected the credibility of the ECB, as it is not endowed with an explicit mandate for this LoLR function. The lowering of credit standards for securities and thus also for government bonds which the ECB accepts as collateral will improve the refinancing possibilities of the benefitting countries. This, in turn, implies that monetary policy gets closer to fiscal policy by its nature (*Schwäbe* 2012). This aspect, too, could have contributed to a loss of credibility of the ECB.

However, in an acute crisis, there is no alternative for the ECB to taking measures to avert a systemic crisis as the costs of the latter are prohibitively high. In the aftermath of a crisis, the ECB may insist that governments take measures that reduce systemic risk taking into account the new experiences and findings from the crisis.[16] The possible loss of credibility in taking measures to prevent a possible systemic crisis could be countered by explicitly fixing the LoLR function of the ECB in the European Treaties, i. e. explicitly giving the ECB the mandate to act as LoLR for banks in the event of a crisis.

The idea, dating back to *Bagehot* (1873), that a central bank should act as a LoLR for banks in a crisis is limited to supporting banks with liquidity problems. In a crisis, illiquid but solvent banks should be provided with sufficient liquid funds by the central bank. However, in an acute crisis a central bank cannot tell whether a bank is actually only illiquid or insolvent. There is thus a danger that the central bank will also support insolvent banks. However, the associated costs and problems, also from the point of view of central bank independence, must be accepted in the event of an imminent systemic crisis. In principle, the LoLR function for banks could also be located in the area of fiscal policy.

[16] Corresponding measures such as stricter equity and liquidity regulations for banks and the gradual introduction of a banking union were taken after the financial crisis. However, this contribution does not deal with these issues more deeply, since the discussion of these measures would go beyond the scope of this contribution.

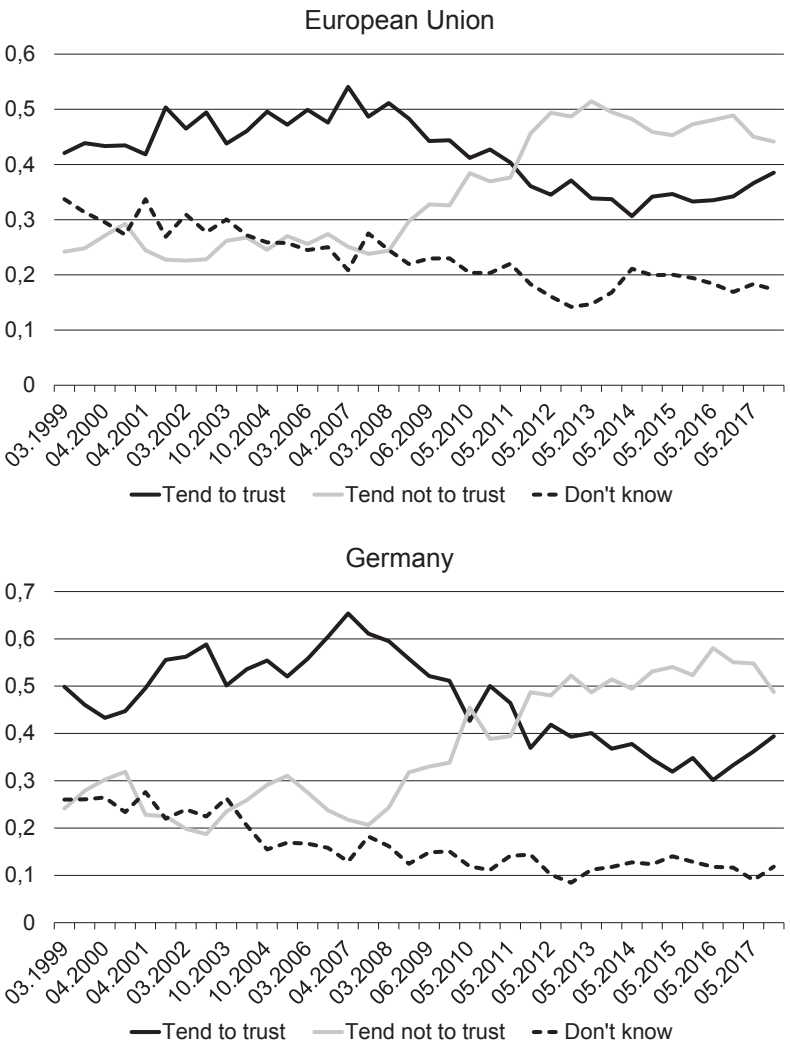

Figure 1: Trust in the ECB. Results (Proportion of Respondents) of the Opinion Survey Commissioned by the European Commission in EU Countries (Eurobarometer). Question: Do You Tend to Trust or not to Trust the European Central Bank? For Data and Further Information on this Survey, see European Commission (2018).

This would be advantageous with regard to central bank independence. It should be borne in mind, however, that the central bank is the only institution that can draw on unlimited liquidity and make it available to the banks. A clear assignment of this function to the central bank can thus increase trust in the banking

sector and thus counteract the danger of a bank run leading to a systemic crisis. The LoLR function of the central bank should, however, be limited to acute crisis situations; it should only act as a "fire brigade". A possibly necessary public restructuring and/or recapitalisation of banks should then be carried out within the framework of fiscal measures that are subject to parliamentary control. Accordingly, the cooperation of monetary and fiscal policy is crucial in the course of a crisis.[17]

V. Measures Taken by the ECB in the Acute Sovereign Debt Crisis

1. Securities Markets Programme (SMP)

a) The SMP – A Description

At the beginning of 2010, tensions could already be observed on the markets for euro area government bonds. Growing government deficits and national debt levels of some member countries were giving rise to increasing doubts about the sustainability of the debts of these countries. Yield spreads between the bonds of individual euro area member countries were rising extremely fast. Thus the yield premium of ten-year Greek government bonds compared to corresponding German bonds was 952 basis points on May 7, 2010, and had thus more than doubled within one month. There were also strong spreads on Irish, Italian, Portuguese and Spanish bonds, although the extent of the increase was smaller than for Greek government bonds (data source: ECB). The resulting losses in the prices of bonds issued by problem countries led to a significant increase in credit risks at European banks, especially in Germany and France. There were (and still are) no regulations on how to proceed in such situations, such as insolvency law for states or the possibility of an orderly withdrawal of a country from the monetary union. There was the danger of a disorderly state insolvency and thus a disorderly break-up of the monetary union and a new banking crisis.

Against this backdrop, on 8/9 May 2010, a "dramatic weekend for Europe" (Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 2010, p. 81), the finance ministers of the EU decided to install an emergency fund (European Financial Stabilisation Mechanism, EFSM). This fund made it possible to support member states of the EU that had run into financial difficulties.[18]

[17] See also, for example, the remarks by *Winkler* (2013), in particular Chapter 5.

[18] For a detailed description of the crisis scenario and the euro area rescue programmes adopted in this context, including the EFSM, see Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2010, third chapter, I).

The ECB supported the measures adopted by the finance ministers by introducing its Securities Markets Programme (SMP) on Monday following the "dramatic weekend". This programme enabled the central bank to purchase government bonds on the secondary market. The ECB justified the introduction of this programme with the intention of maintaining the monetary policy transmission mechanism. Government bond markets would play an important role within this transmission. Hence, tensions in these markets would significantly hamper monetary policy transmission (European Central Bank 2010). The programme was replaced in September 2012 by the OMTs, which will be discussed in more detail later in this contribution. The bonds purchased under the SMP are held to maturity. Under the SMP, the ECB bought Greek, Irish, Italian, Portuguese and Spanish government bonds. As of 31 December, 2012, the portfolio totaled 218 billion euros, with Italian bonds accounting for the largest share at 103 billion euros (European Central Bank 2013). At present (November 2018), the portfolio of securities purchased within the framework of the SMP amounts to 73 billion euros (European Central Bank 2018a).

b) The SMP and Central Bank Independence

Figure 1 above shows that the credibility of the ECB had continued to decline during the period when the SMP was introduced. The reason for this could be the ECB's communication when the programme was introduced, but also fiscal effects associated with the programme. *Communication:* Even before the "dramatic weekend", there was speculation as to whether the ECB would buy government bonds urged by the crisis. Asked about a possible bond purchase at the regular meeting of the Governing Council on 6 May 2010, only four days before the introduction of the SMP, Jean-Claude Trichet, then President of the ECB, said that the option of government bonds purchases had not been discussed in the Governing Council (*Trichet*, 2010). Nor was the justification for the introduction of the SMP convincing (see, for example, *Berg/Carstensen* 2012). It remained unclear to the two authors what exactly the disruption of the transmission mechanism was, as well as why an increase in yields on government bonds was responded to, in order to maintain financial stability, with buying government bonds which they classified as a problematic policy instrument. *Fiscal effects:* In principle, monetary policy measures always have fiscal effects. If the ECB lowers its key interest rates in normal times, since a cooling off economy can be expected to have a negative effect on the inflation rate, the interest rate level generally drops. The euro area member states can then finance themselves more cheaply, the national government budgets are relieved. The crucial difference in the SMP which affected the credibility of the ECB is that the ECB only bought bonds of the problem countries. This measure thus primarily lowered the financing costs of these coun-

tries.[19] Doubts arose as to the objective of this measure, which might have been to relieve state budgets first and foremost? Even if the relief for the national budgets was not the intention of the ECB, it is detrimental to the credibility of the central bank alone if parts of the public considered this action as the ECB's main motivation. The loss of credibility is in principle associated with a danger of losing *formal independence* (see Chapter II.2.b) of this paper).

Von Weizsäcker (2012) goes even one step further. If a central bank only buys the bonds of financially distressed countries, it is no longer clear to what extent this measure serves to finance government budget deficits. If this is the case and the central bank has become an (implicit) public financier, it is *de facto* no longer independent. In this context, *von Weizsäcker* poses the problem that in this situation Governing Council members can see themselves as representatives of the national interests of their home countries and, accordingly, find themselves under political pressure. This also increases the pressure on governing council members of other countries to act in the interests of their home countries, i. e. a monetary policy that is independent of political interests is no longer given.[20]

In connection with the SMP, however, not only a possible danger for the independence of the ECB has to be considered, but also a possible *democratic deficit*, which goes hand in hand with the use of this instrument (see Chapter II.2.c) of this paper): the SMP has come along with stronger distribution effects than conventional monetary policy measures, since the ECB only bought the bonds of some selected countries.

Another fundamental point of criticism of the SMP is that it leads to *misguided incentives* because it lowers incentives to carry out necessary budget consolidations. This is because it reduces the disciplining effect of the capital markets which punish poor public budget management with higher interest demands. This problem would be countered if the ECB were to link purchases of government bonds to budget consolidation requirements. However, this would mean direct intervention in fiscal policy, for which the independent central bank has no mandate, i. e. no democratic legitimacy.

With all these criticisms, however, it must be borne in mind that initially there were no rules and no blueprints for the optimal behavior of the ECB in a sovereign debt crisis. The danger of a disorderly state bankruptcy, a disorderly breakup of the monetary union and a new banking crisis left the ECB with practical-

[19] For empirical analyses which are relevant in this context see e. g. *Eser/Schwaab* (2016), *Krishnamurthy* et al. (2018) and *Trebesch/Zettelmeyer* (2018).

[20] *Heinemann/Hüfner* (2004) on the one hand provide anecdotal evidence that members of the Governing Council of the ECB represent the interests of their home countries in monetary policy decisions. On the other hand they also provide indications of this claim in one of the first empirical analyses on this issue.

ly no choice but to try to lower the level of interest rates on government bonds of the problem countries by purchasing government bonds (*Lamla/Sturm* 2012). The ECB thus acted as a *LoLR also for sovereigns*. Due to the communication and design of the SMP, this was associated with costs (loss of credibility of the ECB, democratic deficit).

In principle, the role of the ECB as LoLR also makes sense for states. Ultimately, it is the only institution that is in a position to credibly prevent a systemic crisis associated with substantial costs to the real economy because of its ability to provide unlimited liquidity. However, the expected costs of this LoLR function must be minimised. EMU governance is moving into this direction: the Fiscal Compact, the tightened Stability and Growth Pact and the so-called European Semester[21] have been adopted with the aim of creating a powerful system of new budgetary surveillance to improve budgetary discipline in individual countries and ensure sound public finances for the future (Bundesministerium der Finanzen 2018). Should a member state get into financial difficulties, it has the option to fall back on the European Stability Mechanism (ESM) and receive financial support. This intergovernmental financial institution created in 2012 thus acts as a rescue fund for euro area member countries.[22] If these measures work successfully, the probability that the central bank will have to act as LoLR for a member state, and thus the expected costs of its LoLR function, will be reduced. The SMP was replaced by the OMTs in the year 2012. As a result, the expected costs of the LoLR function were further reduced, as will be explained in more detail in the following chapter.

2. Outright Monetary Transactions (OMTs)

a) The OMTs – A Description

In the course of 2012, the crisis in the euro area had worsened again. There emerged a vicious circle between the banking, sovereign debt and macroeconomic crises, and instability in the euro area increased significantly (Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 2012, second chapter, I). Speculation about a disorderly break-up of the monetary union

[21] For an in-detail description of the instruments see Bundesministerium der Finanzen (2018).

[22] To finance its financial support measures, the ESM has a share capital of 705 billion euros subscribed by the member states at its disposal, whereby 81 billion euros are paid-in capital and 624 billion euros represents callable capital. According to the ECB key, the German share of financing in the ESM amounts to around 27 percent. This corresponds to around 21.7 billion euros in paid-in capital and around 168.3 billion euros in callable capital. The ESM may lend a maximum of 500 billion euros.

emerged. Due to Greece's massive financial distress, there was fear of contagion to other highly indebted countries, such as Italy, Spain and Portugal. There was a danger that a disorderly break-up of the monetary union and contagion spillovers between the crisis countries would (once again) lead to a global financial crisis. Against this background, ECB President Mario Draghi held a speech in London on 26 July 2012, which became famous in particular in response to the passage "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough." (*Draghi* 2012). This statement was interpreted by financial markets to imply that the ECB would intervene in an emergency case and buy government bonds on a sufficiently large scale.

In September 2012, the ECB finally announced the introduction of a new instrument, the Outright Monetary Transactions (OMTs). The OMTs are a programme for the purchase of government bonds on the secondary market of member countries under financial distress. The OMTs have replaced the SMP. A crucial difference to the SMP is that the ECB buys only government bonds from so-called programme countries, i. e. countries that receive financial support from the ESM. The ECB intends to use the OMTs to safeguard the monetary policy transmission mechanism. The OMTs will help "to address severe distortions in government bond markets which originate, in particular, from unfounded fears on the part of investors of the reversibility of the euro … OMTs will provide a fully effective backstop to avoid destructive scenarios with potentially severe challenges for price stability in the euro area" (European Central Bank 2012ba).[23] To date (November 2018), the ECB has not yet bought any bonds under the OMTs.

b) OMTs and Central Bank Independence

The introduction of the OMTs had once again triggered discussions about the extent to which the ECB would exceed its mandate. Monetary policy would get too close to fiscal policy and the corresponding purchases of government bonds would imply monetary state financing. The credibility of the ECB had thus suffered again (see also Figure 1) and a declining credibility of a central bank poses a threat to its formal independence (see Chapter II.2.b) of this paper).

Like the SMP, the OMTs represent a crisis instrument. If the ECB uses this policy instrument, it acts as a *LoLR for countries*. The mere existence of this instrument thus reduces the risk of a possible systemic crisis associated with high real economic costs (uncontrolled disintegration of the monetary union, disor-

[23] For a description of the OMTs see e. g. European Central Bank (2012a), European Central Bank (2012b) and Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2012, p. 86–88).

derly state insolvencies, collapse of the banking sector). From this point of view, the OMTs are an important instrument of the ECB, as the central bank is the only institution that can credibly assume this role of LoLR. However, as already described in the discussion of the SMP further above, an appropriate institutional framework should minimise the expected costs of this function (such as a loss of central bank credibility, a possible democratic deficit and/or disincentives to budget consolidation). First measures to reduce the probability of the ECB acting as LoLR and thus to lower the expected costs stemming from exerting this function have already been taken (see the discussion of the SMP in this contribution).

With regard to costs, it should also be borne in mind that there is a significant difference between the OMTs and the SMP. As the ECB only buys government bonds under the OMTs from countries receiving support under the ESM, two problems that arose with the SMP are alleviated. Firstly, the misguided incentives to sovereigns associated with the SMP described above are less pronounced, as through the ESM assistance an ECB government bond purchase is indirectly tied to the implementation of (painful) economic and fiscal policy reforms. Secondly, the distributional impacts associated with the SMP due to the different fiscal effects also occur with the OMTs. However, the crucial difference is that these distributional effects are democratically legitimised, at least indirectly. Financial support from the ESM requires the approval of national parliaments, so that the problem of a possible democratic deficit turns out to be smaller.[24]

Also in the case of this LoLR function, consideration must be given to whether it should be explicitly set out in the European Treaties. If the ECB then acts as LoLR in the event of a crisis, it does so within the framework of its mandate. It could also communicate its policy more credibly: the OMTs would be used in an emergency case to prevent a systemic crisis.

It should be noted here that the explicit assignment of a LoLR function for countries to the ECB entails the risk that the ECB will also support countries that are not only illiquid but actually insolvent. However, the associated costs and problems, also with regard to the independence of the ECB, must be accepted if there is a threat of a systemic crisis associated with extremely high costs (uncontrolled disintegration of the monetary union, disorderly state insolvencies and/or a collapse of the banking sector), as the ECB is the only institution

[24] The granting of financial assistance shall be decided unanimously by the Board of Governors which consists of the Finance Ministers of the member countries. The German representative may only approve if the approval of the German Bundestag has been obtained beforehand. The direct parliamentary control only affects financial support from the ESM. However, since the ECB will only buy government bonds under the OMTs if the respective country receives assistance from the ESM, the parliament will at least indirectly give its assent.

that can credibly assume this LoLR function. However, the ECB should only assume this function in an acute crisis and should only act as a "fire brigade". Any necessary financial support to the state concerned that may emerge should then be provided in an orderly manner, subject to parliamentary scrutiny and, where appropriate, subject to ESM conditions. The probability of a disorderly state insolvency and thus a systemic crisis and ECB intervention within the framework of its LoLR function and, hence, also the occurrence of possible problems in terms of their independence, would be significantly reduced if an insolvency code for states would exist, as has already been discussed on several occasions.[25]

VI. Selected Measures of the ECB After the Financial and Acute Sovereign Debt Crisis

1. Public Sector Purchase Programme (PSPP)

a) The PSPP – A Description

At the beginning of 2013, the inflation rate in the euro area (measured as the year-on-year change in the Harmonised Index of Consumer Prices) was just under 2 %. It then fell continuously until it reached a low of –0.6 % in January 2015 (data source: ECB).[26] At the beginning of 2015, ECB projections pointed to a relatively low inflation path; the target inflation rate of 2 % seemed unattainable for some time. The ECB feared that "… inflation would remain too low for a prolonged period, implying risks to medium-term price stability" (European Central Bank 2015b). The problem, however, was that additional expansionary monetary policy stimuli were no longer possible to reach through interest rate cuts. The ECB's key interest rates were already close to their effective lower bound.[27] Against this background, the ECB decided in January 2015 to launch the extended Asset Purchase Programme (APP). Using this monetary policy instrument, also known as Quantitative Easing (QE), the ECB has so far (as of October 2018) purchased securities from the public and private sectors in the amount of 2,547 billion euros, of which 82 % were securities acquired under the

[25] See e. g. Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2015, first chapter, IV) and *Fuest* et al. (2016).

[26] Market-based measures of medium- and long-term inflation expectations took values between 1.5 % and 1.6 % in January 2015. Survey-based measures of long-term inflation expectations took values of 1.8 %, shorter-term survey- and market-based inflation expectations declined (European Central Bank 2015c).

[27] In January 2015, the interest rate on the ECB's main refinancing operations was already located at 0.05 %, the interest rate on its deposit facility was already negative at -0.2 % and the interest rate on the marginal lending facility took a value of 0.3 % (data source: ECB).

Public Sector Purchase Programme (PSPP). The latter thus represent by far the largest proportion.[28]

The purchases of securities made under the PSPP are subject to certain rules. For example, purchases may only be enacted on the secondary market. Furthermore, government bonds of all countries of the euro area are purchased, whereby the respective shares are generally based on the ECB capital key. In addition, the Eurosystem may only hold up to 33 % of a single government bond and a total of only 33 % of the total outstanding bond volume of a country. A country's government bonds are only bought by the respective national central bank, e. g. German government bonds only by the Deutsche Bundesbank and Italian government bonds only by the Banca d'Italia. Possible losses due to purchases made by the national central banks are not subject to loss-sharing within the Eurosystem.[29] The aim of these bond purchases is to directly lower long-term interest rates in order to improve financing conditions for households and firms so that they consume and invest more. By this aggregate demand and thus also prices are intended to rise, until the target inflation rate of less than but close to 2 % is finally reached again (European Central Bank 2015a).

b) The PSPP and Central Bank Independence

The introduction of the APP, and in particular the programme to purchase government bonds, the PSPP, has been met with exceptionally strong criticism, especially in Germany. It has been feared that the purchase programme would have only a relatively minor effect, but would be associated with considerable risks and negative side effects.[30] These risks and negative side effects include, for example, the misallocation of capital and risks, the risk of emerging asset price bubbles, misdirected incentives for governments in the form of delays in necessary reforms, a loss of credibility of the ECB (and thus indirectly the danger of losing independence), but also the direct danger of losing independence. The latter two aspects are discussed in more detail below.

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[28] In the framework of this programme, the ECB bought securities from the public and private sector in the amount of 60 billion euros per month from March 2015 to March 2016, of 80 billion euros from April 2016 to March 2017 and again 60 billion euros from April 2017 to December 2017. From January 2018 to September 2018 the monthly purchase volume was 30 billion euros. Since then, monthly purchases amount to 15 billion euros. The ECB intends to end net purchases with the beginning of 2019 (European Central Bank 2018a).

[29] For this and further information on the PSPP, see European Central Bank (2018b).

[30] See, for example, Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2015, p. 141–145), Deutsche Bundesbank (2016) and Weidmann (2017). Constâncio (2017) also addresses the risks and side-effects associated in particular with a possible withdrawal from this programme.

With the introduction of the PSPP, the ECB has lost confidence and *credibility*, especially in Germany (see also Figure 1). As pointed out also by *Weidmann* (2017), one problem with government bond purchases by the Eurosystem is the blurring of the boundaries between monetary and fiscal policy. The vicinity of monetary to fiscal policy raises two fundamental questions. First, is this purchase compatible with the prohibition of monetary state financing? Secondly, does the ECB exceed its mandate by purchasing government bonds? With regard to both questions, a constitutional complaint was lodged with the German Federal Constitutional Court and proceedings opened. By order of 22 July 2017, this procedure was suspended and referred to the European Court of Justice. In a corresponding statement, the German Federal Constitutional Court announced that in its view there were doubts as to whether the PSPP decision was compatible with the prohibition of monetary state financing and covered by the mandate of the ECB (Bundesverfassungsgericht 2017). The public thus got the information that the Federal Constitutional Court had doubts as to the legality of the PSPP.

In addition, Bundesbank President Jens Weidmann, was also opposed to the use of this programme, but his position did not meet a majority in the ECB Governing Council. Headings of newspaper articles dealing with the PSPP, for example, read as follows:[31] "Mario Draghi enteignet die deutschen Sparer" (Bild Zeitung, 19 January 2015), "Die falsche Medizin von Doktor Draghi" (Rheinische Post, 22 January 2015), "Wie die EZB Vertrauen zerstört" (Frankfurter Allgemeine Zeitung, 22 January 2015), "Notenbank als Geisterfahrer" (Süddeutsche Zeitung, 23 January 2015), "Draghi-Schock: Machen die EZB-Banker unser Geld kaputt?" (Bild Zeitung, 24 January 2015), "Wem Draghis Geldpolitik wirklich nutzt" (Süddeutsche Zeitung, 12 March 2016), "Warum die EZB Verbotenes tut" (Frankfurter Allgemeine Zeitung, 24 January 2018). On the one hand, these newspaper articles reflected the reduced confidence in the ECB's monetary policy. On the other hand, however, they also reinforced the ECB's loss of public confidence and credibility. What is crucial in this context is not whether the ECB actually provided monetary public finance or whether it actually exceeded its mandate, but the extent to which a sufficiently high proportion of the population believed that the ECB did so. However, the credibility of a central bank is important to ensure the *formal independence* of a central bank (see Section II.2.b)).

However, this programme also poses a threat to the *de facto independence* of the ECB. The indebtedness of a large part of the EMU member states is still at a very high level[32] and because of the government bond purchases, "the na-

[31] The articles can be found on the websites of the respective newspapers: bild.de, rponline.de, faz.net, sueddeutsche.de. Retrieved on 9 February, 2018.

[32] In 2017, the ratio of government debt to gross domestic product was 89 % in the euro area as a whole, 132 % for Italy, 98 % for Spain and 97 % for France (data source: ECB).

tional central banks have become the most important creditors to their governments, which might ultimately put the independence of monetary policy at risk" (*Weidmann* 2018). A regime of fiscal dominance in the sense of *Sargent/Wallace* (1981) may be the result. Sargent and Wallace argue that, if monetary policy dominates fiscal policy, the central bank can conduct monetary policy independently, which ultimately results in the amount it pays to the fiscal authority in the form of seignorage. The fiscal authority is then subject to the restriction that its national budget be designed in such a way that a deficit can be financed by a combination of the issue of new government bonds and seignorage determined by the central bank. If, on the other hand, fiscal policy dominates monetary policy, the fiscal authority draws up its national budget, and the central bank is forced to shape its monetary policy in such a way that the portion of the deficit that can no longer be covered by issuing new government bonds is financed by appropriate seignorage. Referring to *Sargent/Wallace* (1981), one speaks of fiscal dominance when the central bank is forced to support the government's fiscal policy (*De Haan/Eijffinger* 2016). Fiscal dominance has long been seen as a problem relevant only in theory. However, in view of the extremely high indebtedness of many countries, a situation of fiscal dominance has become a real danger (*De Haan/Eijffinger* 2016). In the euro area, the PSPP is exacerbating this risk. The programme has a direct impact on the yield on government bonds and thus on the interest burden on government budgets.[33] This increases the political pressure to exit the programme at a slower pace than appears necessary from the point of view of a monetary policy primarily oriented towards maintaining price stability. Apparently, the longer the PSPP is maintained, the higher the risk of fiscal dominance turns out to be.

Also *Constâncio* (2017) points out that the overall risks associated with the PSPP increase with the continuation of the programme. Among other things, he emphasises that the ECB's monetary policy could already be "behind the curve without realising it", especially due to uncertainties regarding the measurement of macroeconomic activities and possible inflationary pressures, combined with the time-lag in the impact of monetary policy measures. This would require a correspondingly strong correction and turnaround in monetary policy, which would, however, entail considerable risks for the financial sector, as the refinancing costs of the banks would then rise faster than the interest income from

[33] Within the framework of an empirical analysis, *De Santis* (2016) shows that the discussion about a possible introduction of the PSPP in the run-up to the actual announcement and implementation of this programme has already lowered the yields of ten-year government bonds issued by countries in the euro area by an average of 63 basis points beforehand. *De Santis/Holm-Hadulla* (2017) find a smaller effect in the actual purchase of the corresponding bonds ("flow effect"). This is estimated by these authors to amount to around 7 basis points.

their lending business (*Constâncio* 2017). According to these arguments, there is therefore a danger of *financial dominance*. Financial dominance exists when "central banks take financial-sector doings as fixed and adapt their monetary strategies to minimize systemic damage from financial-sector risks" (*Hellwig* 2015). The PSPP therefore poses a threat to the independence of the ECB because it has led to a loss of credibility of the ECB and because it increases the risk of fiscal and financial dominance.[34]

As explained in Chapter II.2.c), a measure of a politically independent institution is a problem if it is associated with (significant) *distributional effects*, as these require democratic legitimacy. However, unlike the SMP, under the PSPP the Eurosystem generally buys government bonds from all EMU countries according to their share in the ECB's capital key, so that all and not only some countries are affected by the measure. However, as explained by *Heinemann* (2018), over time increasing deviations from the capital key orientation emerged. This makes the PSPP less symmetrical for the individual countries in the euro area, which is problematic with regard to central bank independence (democratic deficit, see Section II.2.c)).

2. Single Supervisory Mechanism (SSM)

a) The SSM – A Description

In July 2013, the German Bundesrat approved a law passed by the German Bundestag in June 2013, which allowed the approval by the German representative in the European Council for the establishment of a Single Supervisory Mechanism (SSM) and thus the transfer of the task of banking supervision to the ECB. Since November 4, 2014, the significant financial institutions have been directly supervised by the ECB, whereas the less important ones have been supervised by the national supervisory authorities, i. e. in Germany by the Bundesbank and the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin).[35]

[34] It should be noted that the incentive to exit from the PSPP as well as generally from an extremely loose monetary policy at a slower pace than appears warranted from the perspective of a monetary policy geared primarily to maintaining price stability is reinforced by the privileged treatment of government bonds in banking regulation. The fact that banks, for example, do not have to back EU government bonds on their balance sheets with equity capital means that the banks' holdings of domestic government bonds are higher than they would be without this privilege. This increases the danger that the financial problems of the sovereing associated with a decline in prices could spread to the banking sector, leading to a systemic crisis. This in turn exacerbates the problem of fiscal and financial dominance.

[35] A bank (or banking group) is significant if its balance sheet total is at least EUR 30 billion (or 20 percent of the national gross domestic product) and is one of the three larg-

However, the ECB has the possibility of taking over the supervision of other banks at any time. In principle, Article 127 (6) TFEU is cited as the legal basis for the delegation of banking supervision to the ECB. This Article allows for the delegation to the ECB of specific tasks relating to the prudential supervision of credit institutions. The transfer of banking supervision to the ECB was made with the aim of "contributing to the safty and soundness of credit institutions and the stability of the financial system within the Union and each Member State" (SSM Regulation, Chapter I.). With the acquisition of banking supervision, the ECB has been granted far-reaching supervisory and investigative powers. For example, as part of its supervisory tasks, the ECB may withdraw a bank's licence, require it to restrict its business activities or dispose of entire parts of its business activities. The ECB may also impose sanctions in the form of fines for breaches of statutory provisions. These competencies are regulated in Chapter III. of the SSM Regulation.

The ECB must also act independently with regard to its prudential supervisory tasks (SSM Regulation, Chapter IV.). The supervisory tasks are performed by an internal body of the ECB, the Supervisory Board. This body is composed of four representatives of the ECB who must not be entrusted with direct monetary policy tasks and one representative of the national banking supervisory authority from each country. In addition, there is a chairperson and a vice-chairperson. The chairperson must not be a member of the Governing Council. The vice-chairperson, on the other hand, is a member of the Governing Council. The Supervisory Board proposes complete draft resolutions for adoption by the Governing Council, so that the Governing Council also takes the final decisions on supervisory issues. These organisational aspects are governed by Chapter IV. of the SSM Regulation.

b) The SSM and Central Bank Independence

The transfer of banking supervision to the ECB described above should be viewed critically from the perspective of central bank independence. For various reasons, the credibility of the ECB may have declined with the transfer of banking supervision. The primary legal basis on which the transfer took place has already been critically discussed (see, for example, *Lehmann/Manger-Nestler* 2014; *Neyer/Vieten* 2014). Article 127 TFEU, cited as the legal basis, states that "specific tasks" relating to the prudential supervision of credit institutions may be transferred to the ECB. The question is whether the delegation of all banking supervision to the ECB with far-reaching powers is covered by this article. *Leh-*

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est credit institutions in the participating country. In Germany (as of January 2017) 21 banks (groups of banks) are directly supervised by the ECB, 1,660 less significant banks are supervised by the Bundesbank and the BaFin (Deutsche Bundesbank 2018).

mann/Manger-Nestler (2014) deny this and argue that an adjustment especially of Article 127 is urgently recommended. The credibility of an institution that is not subject to parliamentary scrutiny is weakened if the legitimacy of its tasks is called into question.

The credibility of the ECB can also be affected by a possible conflict of objectives. This may happen, for example, if from a monetary policy point of view, it is necessary to consider raising interest rates, but this is problematic from a supervisory point of view, as this would further burden a banking sector already struggling with financial problems. In an acute crisis situation, when systemic risks exist, a central bank responsible exclusively for maintaining price stability will also take measures to stabilise the banking sector. However, what will be the decision if there is not the threat of a systemic crisis but "only" of a malfunctioning banking sector? *Hellwig* (2011) explains in this context that "if banking supervision and monetary policy are under the same roof, the integrity of monetary policy can be compromised by concerns about financial institutions. Such a development can lead to bad monetary policy." The risk of *financial dominance* was thus increased by the transfer of banking supervision to the ECB. In order to mitigate this potential conflict of objectives, rules have been introduced (SSM Regulation, Article 25) to establish a "Chinese Wall" between the monetary and supervisory tasks of the ECB. For example, there should be an organisational separation between staff dealing with monetary policy and staff dealing with supervisory tasks. There should also be a strict separation of the relevant meetings and agendas.

But these rules limit the credibility of the ECB, since they lead to internal contradictions. On the one hand, there should be a strict separation of the monetary and supervisory functions (SSM Regulation, Article 25). On the other hand, a member of the Governing Council, for example, stresses that the advantage of combining these policy areas lies in better coordination: "If the monetary policy objective and the supervisory objective are distinctly defined and separate instruments are assigned to each of them, then a single institution could take the interdependencies better into account than separate authorities." (*Cœuré* 2013). Furthermore, a strict separation of personnel has not taken place and is not even possible. A member of the Supervisory Board is also a member of the Governing Council. Monetary policy and supervisory decisions are also ultimately taken by the same body, the Governing Council. The Supervisory Board is not allowed to take any decisions because this is prevented by European primary law. The Supervisory Board therefore proposes draft decisions for adoption by the Governing Council. Hence, the decision ultimately lies with the Governing Council. If there are differences of opinion between these two bodies, a Mediation Panel is called in. This leads to another problem in connection with the assumed banking supervision with regard to the credibility of the ECB: who actually decides, who is responsible?

So far, it has been argued that the transfer of banking supervision to the ECB may imply a threat to its independence. Another problem is that the ECB has been entrusted with the task of exercising banking supervision with sovereign functions and powers that require parliamentary scrutiny (withdrawing authorisation from banks, requiring them to restrict business activities or divest businesses altogether and/or imposing sanctions in the form of fines). In this respect, the independence of the ECB itself poses a problem in that there may be a democratic deficit. It should also be borne in mind that these decisions have no effect on the euro area as a whole, but only affect certain institutions and, where appropriate, regions. These decisions should therefore be left to elected politicians and not delegated to an independent institution (see Chapter II.2.c)). This is all the more important if the decision is also associated with fiscal effects, because "when it comes to deciding which financial institutions shall live on with taxpayer support … and which shall die …, political legitimacy is critically important. The central bank needs an important place at the table, but it should not be making such decisions on its own. If the issue becomes politicized, as is highly likely, the Treasury, not the central bank, should be available to take most of the political heat – even if the central bank provides most of the money" (*Blinder* 2012).

Overall, the transfer of banking supervision to the ECB should therefore be viewed critically with regard to the independence of the central bank. On the one hand, the transfer poses a significant risk of losing its credibility (questionable legal basis, conflict of objectives, measures not convincingly implemented to mitigate this conflict). On the other hand, the ECB was given tasks and powers that should be subject to parliamentary scrutiny (democratic deficit). Overall, the problem can be summarised with *Buiter* (2017), who in this respect also includes further activities of the central banks after the crisis: "Central banks [are] not 'sticking to their knitting".

3. Macroprudential Supervision

a) Macroprudential Supervision – A Description

Before the outbreak of the global financial crisis, micro-prudential supervision, i. e. supervision geared to individual financial institutions, was considered sufficient to avoid financial crises. However, the crisis experience has shown that this is not the case. Rather, it is necessary to keep an eye on the entire financial system. Due to the strong interconnectedness of the financial system, developments at individual financial institutions can have repercussions for the entire financial system. These experiences have led to the establishment of macroprudential institutions which pursue the goal of identifying, assessing and mitigating risks to the financial system as a whole. At the national level, the Financial

Stability Committee ("Ausschuss für Finanzstabilität, AFS") plays a crucial role for Germany in this respect. It is composed of representatives of the Bundesbank, the BaFin and the Ministry of Finance. At the European level, the European Systemic Risk Board (ESRB) is the decisive body. The ESRB is based at the ECB and is composed of representatives of the ECB, the national central banks and supervisory authorities as well as the EU Commission. The supervisory authorities can communicate warnings of risks and undesirable developments and identify scope for action to avert dangers. The countercyclical capital buffer, credit-specific instruments such as the limitation of the loan-to-value ratio and borrower-specific instruments such as the limitation of the debt-to-income ratio or the debt-service-to-income ratio are typical macroprudential instruments. Decisions on the use of the instruments are taken at the country level, in Germany, for example, by the BaFin. However, the ECB may tighten up the use of these instruments (SSM Regulation, Article 5).[36]

b) Macroprudential Supervision and Central Bank Independence

The newly established macroprudential policy area in the wake of the global financial crisis led to intensive discussions about its significance for monetary policy. The Deutsche Bundesbank (2015) summarises this discussion in three different perspectives. 1. Idealized perspective: monetary policy should continue to be closely aligned to the goal of price stability, while macroprudential policy should continue to focus on financial stability and its own instruments. 2. Extended perspective: monetary policy should incorporate the target of financial stability more strongly than in pre-crisis times, even if the re-orientation of monetary policy leads to a deviation from the price stability objective in the short run. The resulting costs can be justified by the avoided higher medium- to long-term deviations from the inflation target and the higher costs thus averted in the event of a crisis. 3. Integrated perspective: Both policy areas should be brought together under one roof and work closely together. Macroprudential and monetary policy instruments should be used to achieve both objectives – financial and price stability. There is as yet no consensus on which view is the "right" one. In EMU, monetary policy and macroprudential policy are currently organised according to the idealised view, albeit with slight deviations.

The idealised view (no close cooperation, money and macroprudential policies are conducted separately) is the "best" solution from the point of view of central bank independence, as the following considerations show. Close cooper-

[36] For an overview of the extent to which these instruments have been used in the past in EU countries, see Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2017, fifth chapter, IV. 2).

ation between the two policy areas, placing both under the responsibility of the central bank, can lead to conflicting objectives. The main starting point for both policy areas is bank lending. If indicators point to a future inflation rate that is too low, the central bank would have to lower its interest rates from a monetary policy point of view, so that the refinancing costs of the banks would fall. Lending by the banks would then be stimulated, macroeconomic demand and thus prices would rise. However, high private sector indebtedness, which could lead to considerable problems in the banking sector, requires the use of macroprudential instruments, such as a limitation of the loan-to-value ratio and/or a limitation of the debt-to-income ratio, which have a contractionary effect on bank lending. If the central bank then fails to communicate to the public that a particular decision is not based on a softening or abandonment of an objective, but on the result of a balancing process in the course of a temporary conflict of objectives, the central bank's credibility will be adversely affected (Deutsche Bundesbank 2015). For the central bank, this entails the risk of losing its formal independence as the political acceptance of central bank independence decreases (see Section II.2.b) of this contribution).

In this respect, it should also be borne in mind that for a monetary policy primarily committed to the objective of price stability, there is a clearly defined and verifiable inflation target which is mechanistically linked to the objective of price stability. This is not the case for financial stability. Possible targets such as credit growth and indebtedness are not mechanistically linked to the goal of financial stability and cannot be clearly defined in quantitative terms, so that target achievement cannot be verified, which makes the political acceptance of central bank independence more difficult (Deutsche Bundesbank 2015). It should also be borne in mind that macroprudential measures in particular have considerable distributional effects. Limiting the loan-to-value ratio or limiting the debt-to-income ratio, for example, primarily affects (potential) homeowners and the construction sector (*Balls* et al. 2016; *De Haan* et al. 2018). Macroprudential measures should thus be decided by elected politicians, not by an independent institution. Here, too, *Blinder* (2012) can be quoted as saying: "The central bank needs an important place at the table, but it should not be making such decisions on its own."

From the perspective of central bank independence, macroprudential supervision in the euro area is rather unproblematic. The ECB is involved in identifying and assessing potential risks to the financial system through the ESRB as part of the macroprudential process and can provide recommendations for action and thus contribute its knowledge and expertise in this field (see also *Jordan* 2017). The same applies to the Bundesbank, which performs this task at the national level within the AFS. The central banks have thus an "important place at the table" as called for by *Blinder* (2012), but the decisions regarding the taking of appropriate macroprudential measures are not taken by the central bank,

but in Germany, for example, by the BaFin, which is assigned to the German Ministry of Finance and thus subject to parliamentary control. For the Eurosystem, possible conflicts of objectives, which are problematic for its credibility, are thus limited to a more "informational and advisory" activity. Distributional effects associated with macroprudential measures are thus rightly not the responsibility of the Eurosystem, but are subject to parliamentary control. From the point of view of central bank independence, however, it is problematic that the ECB can tighten up macroprudential measures taken (SSM Regulation, Article 5). This can lead to the above-mentioned problems and thus pose a threat to its independence and be accompanied by a democratic deficit.

VII. Conclusions

During and after the financial crisis and the sovereign debt crisis, the ECB has employed new policy instruments and has assumed new tasks and responsibilities. These new instruments and tasks have triggered discussions in both academia and politics on how these new instruments and tasks should be assessed with regard to central bank independence. This paper contributes to this debate by taking a closer look at important new instruments and tasks against the background of two main questions. Firstly, do the new instruments and tasks of the ECB pose a threat to its independence? Secondly, can the use of the new instruments and the assumption of the new tasks by an independent institution justified in a democracy, or does it lead to a relevant democratic deficit?

This contribution has come to different conclusions with regard to the individual instruments and tasks. *During the financial crisis*, the ECB used new instruments to provide liquidity to the banking sector. In order to prevent a collapse of large parts of the banking sector and thus a systemic crisis, it acted as LoLR for banks. This "bank rescue" could explain part of the loss of credibility that the ECB faced with the outbreak of the financial crisis. In principle, a loss of credibility poses a problem for the independence of a central bank, as it reduces the political acceptance of its independence and thus poses a threat to its formal independence. In order to underpin the legitimacy of the ECB's meaningful LoLR function and thus strengthen its credibility in exercising this function, it should be considered whether this LoLR function of the ECB should be explicitly anchored in law.

During the sovereign debt crisis, the ECB first newly introduced the *SMP*, which was later replaced by the *OMTs*. These instruments allow the ECB to act as a LoLR for sovereigns. In the case of the SMP, both the design and the communication during implementation were a problem in terms of central bank independence. Weaknesses in the design of the SMP were eliminated in the case of the OMTs. In a monetary union, a LoLR function of the central bank also

makes sense for states. In order to underpin the credibility of the ECB and thus strengthen its independence, it is necessary to consider whether a LoLR function of the ECB for states should be explicitly enshrined in law, i. e. whether the ECB should be endowed with a clear mandate for exactly this function.

Of the instruments and tasks that the ECB has newly implemented or taken over after the crises, the PSPP and the ECB's role in micro- and macroprudential supervision of the financial system have been discussed in this paper. With the introduction of the *PSPP*, the ECB has lost credibility. This weakens the political acceptance of central bank independence and thus increases the risk of increasing efforts to limit formal independence. The PSPP also increases the risk of losing de facto independence (fiscal dominance, financial dominance). The task of microprudential supervision that the ECB took over in 2014 as part of the takeover of banking supervision in the euro area must be viewed critically as regards central bank independence. The assumption of this task can be associated with a credibility problem for the ECB (legal basis, conflict of objectives). This can jeopardise the formal independence of the ECB. Furthermore, the problem of financial dominance, which undermines the independence of the ECB, is exacerbated. In addition, the ECB's task of banking supervision has endowed it with sovereign powers that should be subject to parliamentary scrutiny; otherwise, there is a democratic deficit. The ECB's role in macroprudential supervision is rather uncritical from the point of view of central bank independence, as the ECB has a more informational and advisory role. Decisions within the framework of macroprudential policy measures are generally not taken by the ECB. However, it must be critically assessed that the ECB is allowed to strengthen appropriate measures.

References

Alesina, A./*Stella*, A. (2010): The Politics of Monetary Policy, in: Friedman, B. M./Woodford, M. (Hrsg.), Handbook of Monetary Economics, Bd. 3, pp. 1001–1054, Elsevier Science Publishers B. V.

Alesina, A./*Tabellini*, G. (2007): Bureaucrats or Politicians? Part I: A Single Policy Task, in: American Economic Review, 97(1), pp. 169–179.

– (2008): Bureaucrats or Politicians? Part II: Multiple Policy Tasks, in: Journal of Public Economics, 92(3–4), pp. 426–447.

Bagehot, W. (1873): Lombardstreet – The Description of the Money Market, London.

Baldo, L./*Hallinger*, B./*Helmus*, C./*Herrala*, N./*Martins*, D./*Mohing*, F./*Petroulakis*, F./*Resinek*, M./*Vergote*, O./*Usciati*, B./*Wang*, Y. (2017): The Distribution of Excess Liquidity in the Euro Area, ECB Occasional Paper Series No. 200, European Central Bank, Frankfurt/Main.

Balls, E./*Howat*, J./*Stansbury*, A. (2016): Central Bank Independence Revisited: After the Financial Crisis, What Should a Model Central Bank Look Like?, M-RCBG Associate

Working Paper No. 67, Harvard Kennedy School, Mossavar-Rahmani Center for Business and Government, Boston, November.

Barro, R. J./*Gordon*, D. B. (1983): Rules, Discretion and Reputation in a Model of Monetary Policy, in: Journal of Monetary Economics, 12(1), pp. 101–121.

Berg, T. O./*Carstensen*, K. (2012): Baldige Rückkehr zur alten Rolle erforderlich, in: Wirtschaftsdienst, 92(2), pp. 79–81.

Blinder, A. S. (2012): Central Bank Independence and Credibility During and After a Crisis, Griswold Center for Economic Policy Studies Working Paper No. 229, Princeton University, September.

Buiter, W. (2017): Central Bank Independence: Mirage and Mythos, Paper presented at the Conference of the Bank of England on "Independence – 20 Years on", 29 September 2017, London.

Bundesanstalt für Finanzmarktstabilisierung (FMSA) (2008): Fonds zur Stabilisierung der Finanzmärkte in Deutschland nimmt Arbeit auf, press release, 27 October 2008.

Bundesministerium der Finanzen (2018): Haushaltspolitische Überwachung der EU, www.bundesfinanzministerium.de, retrieved on 2 February 2018.

Bundesverfassungsgericht (2017): Verfahren zum Anleihekaufprogramm der EZB ausgesetzt und dem Gerichtshof der Europäischen Union vorgelegt, press release 15 August 2017.

Coeuré, B. (2013): Monetary Policy and Banking Supervision, Speech at the Symposium "Central Banking: Where Are We Headed?" Goethe University Frankfurt, 7 February, 2013.

Constâncio, V. (2017): Challenges for Euro Area Monetary Policy in Early 2018, Speech at the "32. Internationales ZinsFORUM", 6 December, 2017, Frankfurt/Main.

Cukierman, A. (1992): Central Bank Strategy, Credibility, and Independence, MIT Press, Cambridge (Mass.).

Cukierman, A./*Webb,* S. B./*Neyapti*, B. (1992): Measuring the Independence of Central Banks and Its Effect on Policy Outcomes, in: World Bank Economic Review, 6(3), pp. 353–398.

De Haan, J./*Bodea*, C./*Hicks*, R./*Eijffinger*, S. (2018): Central Bank Independence Before and After the Crisis, in: Comparative Economic Studies, 60(1), pp. 1–20.

De Haan, J./*Eijffinger*, S. (2016): The Politics of Central Bank Independence, de Nederlandsche Bank NV Working Paper No. 539, Amsterdam.

De Santis, R. A. (2016): Impact of the Asset Purchase Programme on Euro Area Government Bond Yields Using Market News, ECB Working Paper No. 1939, European Central Bank, Frankfurt/Main.

De Santis, R. A./*Holm-Hadulla*, F. (2017): Flow Effects of Central Bank Asset Purchases on Euro Area Sovereign Bond Yields: Evidence from a Natural Experiment, ECB Working Paper No. 2052, European Central Bank, Frankfurt/Main.

Deutsche Bundesbank (2015): The Importance of Macroprudential Policy for Monetary Policy, in: Deutsche Bundesbank, Monthly Report, Frankfurt/Main, March, pp. 39–71.

– (2016): The Macroeconomic Impact of Quantitative Easing in the Euro Area, in: Deutsche Bundesbank, Monthly Report, Frankfurt/Main, June, pp. 29–53.

– (2018): Zusammenarbeit im einheitlichen Aufsichtsmechanismus, web: http://www.bundesbank.de/Redaktion/DE/Standardartikel/Aufgaben/Bankenaufsicht/aufsichtsmechanismus.html, retrieved on 12 February, 2018.

Deutscher Bundestag, Dokumentations- und Informationssystem (DIP) (2018): Basisinformation über den Vorgang: Gesetzgebung, Gesetz zur Umsetzung eines Maßnahmenpakets zur Stabilisierung des Finanzmarktes (Finanzmarktstabilisierungsgesetz-FMStG), web: http://dipbt.bundestag.de/extrakt/ba/WP16/162/16233.html, retrieved on 12 February, 2018.

Draghi, M. (2012): Verbatim of the remarks made by Mario Draghi at the Global Investment Conference in London on 26 July, 2012; web: http://www.ecb.europa.eu, retrieved on 30 October 2018.

Eser, F./*Schwaab*, B. (2016): Evaluating the Impact of Unconventional Monetary Policy Measures: Empirical Evidence from the ECB's Securities Markets Programme, in: Journal of Financial Economics, 119(1), pp. 147–167.

European Central Bank (2010): The ECB's Response to the Financial Crisis, in: ECB Monthly Bulletin, European Central Bank, Frankfurt/Main, October, pp. 59–74.

– (2012a): Monetary Policy Measures Decided by the Governing Council on 6 September 2012 (Box I), in: ECB Monthly Bulletin, European Central Bank, Frankfurt/Main, September, pp. 7–11.

– (2012b): Technical Features of Outright Monetary Transactions, ECB press release, 6 September 2012.

– (2013): Details on Securities Holdings Acquired under the Securities Markets Programme, ECB press release, 21 February 2013.

– (2015a): ECB Announces Expanded Asset Purchase Programme, ECB press release, 22 January 2015.

– (2015b): The Governing Council's Asset Purchase Programme (Box I), in: ECB Economic Bulletin, 1/2015, pp. 15–18.

– (2015c): Update on Economic and Monetary Developments, in: ECB Economic Bulletin, European Central Bank, Frankfurt/Main, 1/2015, pp. 5–14.

– (2018a): Asset Purchase Programmes, web: http://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html, retrieved on 28 November, 2018.

– (2018b): Public Sector Purchase Programme (PSPP) – Questions and Answers, web: http://www.ecb.europa.eu/mopo/implement/omt/html/psppqa.en.html, retrieved on 8 February 2018.

European Commission (2018): Public Opinion, Eurobarometer, Umfrage zu „Trust in European Institutions, European Central Bank", web: http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Chart/getChart/themeKy/9/groupKy/27, retrieved on 15 August, 2018.

Fischer, S. (2015): Central Bank Independence, Paper presented at the "2015 Herbert Stein Memorial Lecture of the National Economists Club Washington, D.C.", 4 November, 2015, Washington.

– (2017): The Independent Bank of England – 20 Years On, Paper presented at the Conference of the Bank of England on "Independence – 20 Years On", 28 September, 2017, London.

Fuest, C./*Heinemann*, F./*Schröder*, C. (2016): A Viable Insolvency Procedure for Sovereigns in the Euro Area, in: Journal of Common Market Studies, 54(2), pp. 301–317.

Görgens, E./*Ruckriegel*, K./*Seitz*, F. (2014): Europäische Geldpolitik, 6th ed., Lucius und Lucius, Stuttgart.

Heinemann, F. (2018): Zur Aufteilung der PSPP-Anleihekäufe auf die Euro-Mitgliedstaaten, Veröffentlichung des Zentrums für Europäische Wirtschaftsforschung (ZEW), web: www.zew.de/de/presse/pressearchiv/ezb-anleihekaeufekonzentrieren-sich-zunehmend-auf-hoch-verschuldete-staaten/, retrieved on 19 July, 2018.

Heinemann, F./*Hüfner*, F. P. (2004): Is the View from the Eurotower Purely European? – National Divergence and ECB Interest Rate Policy, in: Scottish Journal of Political Economy, 51(4), pp. 544–558.

Hellwig, M. (2011): Quo vadis, Euroland? European Monetary Union between Crisis and Reform, Preprints of the Max Planck Institute for Research on Collective Goods Bonn 2011/12, Bonn.

– (2015): Financial Stability and Monetary Policy, Preprints of the Max Planck Institute for Research on Collective Goods Bonn 2015/10, Bonn.

Jordan, T. J. (2017): Unabhängigkeit von Zentralbanken nach der Finanzkrise: Die Schweizer Perspektive, Speech at CFS Presidential Lectures at Goethe University Frankfurt, 9 November 2017.

Krishnamurthy, A./*Nagel*, S./*Vissing-Jorgensen*, A. (2018): ECB Policies Involving Government Bond Purchases: Impact and Channels, in: Review of Finance, 22(1), pp. 1–44.

Lamla, M. J./*Sturm*, J.-E. (2012): Die EZB und ihre politische Unabhängigkeit, in: Wirtschaftsdienst, 92(2), pp. 85–88.

Lehmann, M./*Manger-Nestler*, C. (2014): Einheitlicher Europäischer Aufsichtsmechanismus: Bankenaufsicht durch die EZB, in: Zeitschrift für Bankrecht und Bankwirtschaft, 26(1), pp. 2–21.

Neyer, U./*Vieten*, T. (2014): Die neue europäische Bankenaufsicht – eine kritische Würdigung, in: Credit and Capital Markets, 47(2), pp. 341–366.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2010): Chancen für einen stabilen Aufschwung, Jahresgutachten 2010/2011, Wiesbaden.

– (2012): Stabile Architektur für Europa – Handlungsbedarf im Inland, Jahresgutachten 2012/2013, Wiesbaden.

– (2015): Zukunftsfähigkeit in den Mittelpunkt, Jahresgutachten 2015/2016, Wiesbaden.

– (2017): Für eine zukunftsorientierte Wirtschaftspolitik, Jahresgutachten 2017/2018, Wiesbaden.

Sargent, T. J./*Wallace*, N. (1981): Some Unpleasant Monetarist Arithmetic, in: Federal Reserve Bank of Minneapolis Quarterly Review, Fall 1981, pp. 1–17.

Schwäbe, C. (2012): Unkonventionelle Geldpolitik – Warum die EZB ihre Unabhängigkeit nicht verloren hat, in: List Forum für Wirtschafts- und Finanzpolitik, 38(3–4), pp. 147–172.

Trebesch, C./*Zettelmeyer*, J. (2018): ECB Interventions in Distressed Sovereign Debt Markets: The Case of Greek Bonds, in: IMF Economic Review, 66(2), pp. 287–332.

Trichet, J.-C. (2010): ECB Press Conference, European Central Bank, Frankfurt/Main, 6 May 2010.

Ullrich, K. (2003): Unabhängigkeit und Verantwortlichkeit der Europäischen Zentralbank, ZEW Discussion Paper No. 03-65, Zentrum für Europäische Wirtschaftsforschung, Mannheim.

Walsh, C. E. (2008): Central Bank Independence, in: Durlauf, S. N./Blume, L. E. (Publisher), The New Palgrave, Dictionary of Economics, pp. 1001–1054, Palgrave Macmillan, Basingstoke.

Weidmann, J. (2017): Die Geldpolitik nach der Krise, IMFS Distinguished Lecture on 14. September, Frankfurt/Main.

– (2018): Monetary and Economic Policies on Both Sides of the Atlantic, Speech at the GIC/SUERF/Deutsche Bundesbank Conference "Monetary and Economic Policies on Both Sides of the Atlantic", Frankfurt/Main, retrieved on 8 February 2018.

von Weizsäcker, C. C. (2012): Grenzen des Konzepts einer unabhängigen Zentralbank, in: Wirtschaftsdienst, 92(2), pp. 91–94.

Winkler, A. (2013): Ordnung und Vertrauen – Zentralbank und Staat in der Eurokrise, in: Perspektiven der Wirtschaftspolitik, 14(3–4), pp. 198–218.