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"The ECB Crisis Response and Its Implications for EMU Governance"
To what degree do the ECB's sovereign bond purchase programmes since 2012 provide opportunities for moral hazard of EMU member states?

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Abstract
The global financial crisis revealed the deficits of EMU governance and confronted the Eurozone with an existential crisis. To counter this tendency, the ECB introduced Outright Monetary Transactions and Quantitative Easing, thereby turning into the lender of last resort of EMU member states. By potentially providing EMU members with unlimited liquidity, the ECB successfully mitigated the crisis. Yet, this policy is criticised for providing opportunities for moral hazard inducing EMU members to greatly increase their public debt at the risk of EMU stability.
The master thesis deems this critique, mainly deriving from ordoliberal reflections, inaccurate. Based on an analysis of the lender of last resort policies' design, it identifies a series of countermeasures that successfully work against the occurrence of moral hazard. As at the same time, these provisions diminish the stabilising potential of the lender of last resort policies, the negative impact of excessive moral hazard critique for EMU stability becomes apparent.

Zusammenfassung
Die globale Finanzkrise offenbarte die Defizite der Governance der Europäischen Wirtschafts- und Währungsunion und stellte die Eurozone vor eine existenzielle Krise. Um dieser entgegenzuwirken, schuf die EZB Outright Monetary Transactions und Quantitative Easing, womit sie zum Lender of Last Resort der Mitgliedsstaaten der Eurozone wurde. Indem die EZB den Mitgliedstaaten potenziell unbegrenzt Liquidität zur Verfügung stellte, wurde die Krise erfolgreich entschärft. Nichtsdestotrotz wird diese Politik kritisiert, Moral Hazard zu ermöglichen und damit Möglichkeiten für Mitgliedstaaten zu bieten, ihre Staatsverschuldung massiv zu erhöhen. Dies gefährde die Stabilität der gesamten Eurozone.
Diese Masterarbeit hält die genannte Kritik, hauptsächlich aus ordoliberalen Überlegungen stammend, für unzutreffend. Basierend auf einer Analyse der Lender-of-Last-Resort-Politik, identifiziert sie eine Reihe von Gegenmaßnahmen, welche erfolgreich gegen Moral Hazard wirken. Da diese Maßnahmen jedoch gleichzeitig das stabilisierende Potenzial der Lender-of-Last-Resort-Politik mindern, werden die negativen Auswirkungen exzessiver Moral Hazard-Kritik für die Stabilität der Eurozone deutlich.

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List of abbreviations

APP	Asset Purchase Programmes
BOE	Bank of England
Council	Council of the European Union
CB	Central Bank
EC	European Commission
ECB	European Central Bank
ECJ	European Court of Justice
EDP	Excessive Deficit Procedure
ELA	Emergency Liquidity Assistance
EMU	European Economic and Monetary Union
ESCB	European System of Central Banks
ESM	European Stability Mechanism
EU	European Union
Fed	Federal Reserve
GFCC	German Federal Constitutional Court
HICP	Harmonised Index of Consumer Prices
IMF	International Monetary Fund
LOLR	Lender of Last Resort
LTRO	Longer-Term Refinancing Operations
NCB	National central bank
OMT	Outright Monetary Transactions
PEPP	Pandemic Emergency Purchase Programme
PSPP	Public Sector Purchase Programme
QE	Quantitative Easing
SGP	Stability and Growth Pact
SMP	Securities Market Programme

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1. Introduction

"Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough"[1]

This famous statement of the former president of the European Central Bank (ECB) Mario Draghi made history. It not only averted a breakup of the European Economic and Monetary Union (EMU), whose existence was threatened by the global financial crisis since 2007/2008 but also to have changed European governance.

This "most far-reaching deepening of European integration (…)" (Börzel 2016, 9) finds expression especially in the policy changes of the ECB (Börzel 2016; Riekmann and Wydra 2015). Following Draghi's statement, the ECB put in place permanent purchase programmes for sovereign bonds, a first in European history.[2] With its Outright Monetary Transactions (OMT) and Quantitative Easing (QE), the European System of Central Banks (ESCB) - the ECB together with central banks (CB) of EMU members - can now provide potentially unlimited liquidity to EMU member states. This turned the ECB into a lender of last resort (LOLR) (see for example: Gnath and Hainbach 2020; Homburg 2017; Riekmann and Wydra 2015).

This step was deemed necessary for the stabilisation of the European financial and economic system as it ended speculation over member states' solvency while providing states with room for manoeuvre[3] for economic stabilisation (Benroth et al. 2015, 314; Jabko 2015, 82f.). Nevertheless, LOLR policies were soon at the centre of exhaustive economic, political and legal debates and led to severe conflicts between the ECB and other actors of EMU governance.

In the centre of this critique stand moral hazard concerns. According to these concerns, brought up especially by German decision-makers and media outlets (Matthijs and McNamara 2015, 239f.; Pierret 2019; Young 2018, 8), LOLR policies provide individual EMU member states with liquidity and therefore the opportunity either to stop debt reduction (see for example: Buiter and Rahbari 2012; Hartmann and Smets 2018; Young 2018), or even greatly increase debt for excessive public expenditure (Feld, Köhler, and Nientiedt 2015, 58; Schelkle 2016, 15). Financial instability and inflation can follow that lead to costs and risks for the entire EMU (Buiter and Rahbari 2012, 19; Weidmann in: Financial Times 2016; Zahariadis 2013). Consequently, moral hazard is seen as a major mechanism for debt increase and inflation, which is in fundamental opposition to the EMU's priority of price stability.

The insistence on price stability and the resolute rejection of moral hazard derives from the economic theory of ordoliberalism. It places price stability in the centre of its reasoning as it is considered to be the precondition for economic development and prosperity (Böhm, Eucken, and Großmann-Doerth 1937, XIXf.; Eucken 1959, 239; Vanberg 2014, 1). Price stability is endangered by inflation that distorts the steering mechanism of prices and thus economic development (Eucken 1952, 256f.; McNamara 2006, 808; Röpke 1958, 285). Therefore, low and stable inflation is absolutely indispensable and finds its realisation in the ECB's primary

[1] Former head of the ECB Mario Draghi on 26 July 2012 in London.

[2] This policy aims to stabilise the EMU by greatly increasing the amount of money in the economic cycle and thus economic activity.

[3] Room for manoeuvre is understood throughout this master thesis as the amount of money a state has at its disposal for public expenditure.

mandate of an annual inflation of close to but below 2%.[4] Following this logic, in order to ensure price stability, public expenditure needs to be reduced, making the avoidance of moral hazard key in both ordoliberalism and the EMU. Subsequently, the EMU adopted a series of provisions, namely the prohibition of monetary financing and the no-bailout rule as well as fiscal rules like the Stability and Growth Pact (SGP). It is exactly these provisions that the ECB's LOLR policies are criticised to undermine. For ordoliberals, moral hazard and consequently excessive public expenditure are the consequence, conflicting fundamentally with ordoliberal prescriptions and the EMU's primary objective.

As shown, the debate on the ECB's LOLR policies and their limitation due to moral hazard concerns touches upon manifold aspects of academic and public life. Given the economic and political importance of the EMU, this debate is part of wider controversies within the international political economy on the benefit of price stability and the implications of public expenditure as major factor for economic redistribution (see for example: Hix 2015; Li, Milne, and Qiu 2020; Scharpf 2013a). It ultimately touches upon the question of how much room for manoeuvre should be granted to states in economic affairs. Given that LOLR policies have a great impact on states' refinancing options, it is directly linked to spending in public infrastructure, welfare and social security provisions (Dyson 1999, 41; Whyman 2018, 12), underlining the politico-economic dimension of the ECB's LOLR policy.[5]
LOLR programmes and their limitation, therefore, have major implications for individual citizens, economic development and equality as well as social cohesion and, ultimately, societal peace. These questions are especially pressing in the context of global economic uncertainty and financial instability since 2007 and the outbreak of the COVID19 pandemic.

Besides questions of social cohesion and international political economy, the topic of possible moral hazard effects of LOLR policies is of fundamental importance for future developments of EMU governance and, ultimately, EMU stability and unity.
If moral hazard is a predominant concern, future innovations of EMU governance are likely to focus especially on limiting public expenditure. If, in order to avoid moral hazard, LOLR policies are restricted, their potential to ensure state solvency and financial stability is undermined (Goodhart and Huang 2005, 1062). This could pose challenges not only to the sustainability of public debt but also to the stability of the entire EMU.
Beyond financial stability stands the question of EMU political unity (McNamara 2006, 816). The EMU seems to be caught in a morality play dividing its member states in a frugal North that shows a lack of solidarity and a careless South that engages in fiscal profligacy at the cost of the entire community (De Grauwe 2011b; Matthijs and McNamara 2015; Scharpf 2013a). As LOLR programmes subsidise this profligacy, especially northern EMU members, like Finland, the Netherlands and Germany, with its historically influential central bank, expressed their fierce opposition and called for the programmes' termination (Biebricher 2014, 14). Those calls are supported by influential decision-makers from politics and economics such as Jens Weidmann, former official of the International Monetary Fund (IMF), Merkel advisor and

[4] For the ECB's justification for its quantitative inflation target see: (ECB 2021b).
[5] Only recently, the ECB president Christine Lagarde stated that it was not the job of the ECB "to close spreads between the borrowing costs of member states" which led to sharp increases of Italian bond yields (Reuters 2020b). This short episode underlines the importance of the ECB, especially in the context of crises.

current head of the Bundesbank (Weidmann 2015). Beyond individual claims, also the German Federal Constitutional Court (GFCC) tried to repeal the programmes.
On the other hand, it is especially France and crisis-ridden member states like Italy, Spain and Greece that support the ECB's LOLR programmes (Bulmer and Paterson 2013; Hacker and Koch 2017) and defend them before the European Court of Justice (ECJ) (European Court of Justice 2015, 7f.; 2018). For them, the ECB's measures increase members states' ability to support their economy, protect their welfare systems and ultimately ensure solvency. They are supported by, inter alia, the ECJ (European Court of Justice 2015; 2018). Given these legal and political controversies, the debate over the effects of LOLR reveals fundamental differences between member states and institutions concerning the question of how to safeguard EMU stability and unity. While for some, LOLR policies are indispensable, others see them as a source of instability and disunity. Interestingly, the ECB seems to be at the centre of this divide, arguing that both the avoidance of moral hazard and the full unfolding of its LOLR purchase programmes are indispensable. This apparent contradiction makes the ECB's LOLR policies and their financial as well as political implications a highly significant case.

Against the relevance of the subject, this master thesis seeks to answer the following research question: To what degree do the ECB's sovereign bond purchase programmes since 2012 provide opportunities for moral hazard of EMU member states?

To answer this question, the master thesis will assess the theoretical link between LOLR policies and moral hazard to identify factors that favour its occurrence as well as relevant countermeasures. To do so, it will analyse ECB's LOLR policies in the context of EMU governance as single case study between 2012 and 2019. Like this, it wants to assess to what extent identified countermeasures were integrated into the design of the ECB's LOLR programmes and what this implies for the effect of the programmes on moral hazard.
Ultimately, the analysis seeks to contribute to research on moral hazard and LOLR policies within EMU governance while assessing the validity of the common critique against the ECB's crisis response.

To test the hypothesis, it will proceed in three steps.
In a first step, the master thesis will present the state of research and details of the thesis' hypothesis. It will then outline the lender of last resort as the conceptional framework and ordoliberalism as the theoretical framework of the analysis, especially regarding their link to moral hazard.
The second part is dedicated to the design and rationale of EMU governance and its crisis response. Special attention will be given to the evolution of the ECB's LOLR policies, which will lay the foundation for the empirical analysis. Within this analysis, the thesis contrasts the ordoliberal critique with the technical features of the ECB's LOLR programmes' design in order to assess their actual potential to provide opportunities for moral hazard.
After an outlook on the validity of moral hazard critique, the findings will be concluded to give an answer to the research question.

2. Research Design

2.1.Hypothesis

The hypothesis of this analysis is that the potential of the ECB's LOLR policies to provide opportunities for moral hazard by EMU member states is strongly limited.

LOLR policies can, in theory, induce moral hazard and thus excessive public expenditure as they may lead to monetary financing and create joint liability. Consequently, EMU member states could make use of the ECB's liquidity to increase expenditure. The EMU becomes collectively liable for potential risks and costs. At the same time, market pressure decreases, and fiscal rules lose credibility. This provides opportunities for destructive moral hazard leading to excessive budgetary expenditure at the risk of EMU stability.

Nevertheless, as a deeper look into the technicalities of the programmes reveals, the ECB's LOLR policies entail a series of countermeasures that work against moral hazard.

Purchase limits reduce the actual provision of liquidity and prevent joint liability through restrictions on risk-sharing quotas. Strict conditionality tightens eligibility criteria, especially for states that are criticised to excessively increase public spending. Ambiguity on the timing and quantity of purchases further disincentivise member states' reliance on LOLR purchase programmes. Moreover, the ECB has punitive measures at its disposal to punish states for excessive increases in expenditure. Besides their already restrictive effect on moral hazard, these measures also uphold market pressure and EMU fiscal rules.

Hence, the countermeasures, implemented in the design of the ECB's LOLR policies, limit opportunities for moral hazard and reduce incentives for excessive public expenditure. The ordoliberal critique thus seems to oversimplify the ECB's LOLR policies when considering their moral hazard potential. The rejection of LOLR because of moral hazard, therefore, seems undifferentiated, which is problematic given the limiting effect of moral hazard concerns on LOLR policies.

The validity of this hypothesis is therefore conditional upon the existence and extent of countermeasures against moral hazard.

2.2.Methodological approach

In order to answer the research question, the master thesis follows a qualitative approach. This approach enables a comprehensive politico-economic analysis of the ECB's LOLR policies in order to illuminate its multifaceted implications. As the analysis bases on theoretical considerations of how shifts in monetary policy relate to moral hazard and what this implies for EMU governance, this approach is more suited than a purely quantitative one.

Within this approach, a literature review will give an overview on the state of research. It will further help to outline and discuss critically the theoretical and conceptual framework as a basis for the subsequent analysis of the ECB's LOLR policies. Here, the thesis will apply a content analysis according to Philipp Mayring (Mayring 2010). Following Mayring's suggestions, clearly defined categories will serve to systematically evaluate the material and at the same time integrate a wide variety of sources into the analysis. The master thesis focuses on factual monetary policy decisions and their politico-economic implications rather than on discourses, as a content analysis is more suitable for the master thesis' purposes than other methods such as a discourse analysis.

Moreover, instead of comparative designs, the thesis chooses a governance approach to conduct a single case study on the ECB's LOLR policies within the context of the EMU. This is more suitable to capture the unique nature of the EMU system than a comparative approach (Börzel 2012b, 1). Further, it enables a more comprehensive assessment of the research question, including both the evolution of LOLR policies in the context of the EMU's governance system as well as its impact on moral hazard contextualised within ordoliberal theory.
This approach seems especially advantageous because comparing different central banks is considered misleading as their institutional structure as well as financial systems in which they operate differ immensely (see for example: Bagehot 1962; Bini Smaghi 2009). This is especially true for the chosen case given the EMU's unique structure of a centralised monetary policy and strongly decentralised fiscal policy. Nevertheless, other central banks will serve as a reference to underline the ECB's unique characteristics and to put its monetary policy in perspective. The design of a single case study makes a generalisation of the findings more difficult and, although some findings might be transferable to other cases, the results are to be seen under this limitation.

2.3.Operationalisation

To analyse the link between the ECB's LOLR policies as independent variable, and moral hazard as dependent variable, the analysis will cover the period between September 2012, the launch of LOLR programmes, and September 2019 to assess the policy's evolution and effects over time. In order to specify the variables and increase the thesis' validity, much time will be dedicated to the conceptual and theoretical foundations of moral hazard and LOLR. This is indispensable to identify factors through which LOLR provides opportunities for moral hazard and countermeasures that work against it. The successful integration of these countermeasures in the design of the ECB's LOLR programmes will serve as an indicator to assess to what degree the programmes provide opportunities for moral hazard.

Academic literature identifies four interdependent factors that are identified as a cause for moral hazard and thus excessive public expenditure through LOLR policies.
First, LOLR activities are criticised for creating monetary financing.[6] By providing great amounts of liquidity, actors rely on the CB to take on the responsibility for consequences resulting from excessive public expenditure and compensate potential losses (see for example: De Grauwe 2011a, 8; Freixas et al. 2000, 73ff.; Goodhart 1999, 352; Humphrey 1989, 8; Hülsmann 2006, 37). Not bound by responsibility for their decisions, states will engage in insufficient risk management and thus great public expenditure threatening individual solvency and overall financial stability (Gottesman and Leibrock 2017, 170; Moore 1999, 450).
Second, LOLR policies are criticised for creating joint liability. Through its purchases, the CB turns into a collective bailout instance (Schelkle 2016, 15) that holds bonds centrally while assuming risks and costs resulting from decisions of individual member states (Kaufman 1991, 103). This collectivisation of risk and potential losses undermines individual liability as for example Lars P. Feld, head of the Walter Eucken Institute and former top advisor of the German government, outlines (Feld, Köhler, and Nientiedt 2015, 58f.; Hülsmann 2006, 35) thereby

[6] Monetary financing is understood as purchases of sovereign bonds by a central bank on the primary market (Draghi 2015a) "in return for newly created base money so as to finance an expansionary fiscal policy" (Watt 2016, 245).

creating moral hazard (see for example: De Grauwe 2011a, 8; Freixas et al. 2000, 73ff.; Goodhart 1999, 352; Hülsmann 2006, 37).
Third, through monetary financing and joint liability, lender of last resort programmes undermine market pressure and fiscal rules, two important safeguards against excessive public expenditure (see for example: Demary and Matthes 2013, 10ff.; Issing 2011). States become more independent from capital markets in order to refinance themselves (Calomiris and Kahn 1991, 500ff.). Further, LOLR policies artificially increase the value of sovereign bonds and thus reduce interest rates and risk premia. This improves refinancing conditions for states and undermines the disciplining function of markets (Hengstermann and Herzog 2013, 5ff.; Plender 2019) as well as the credibility and effectiveness of fiscal rules (Buch et al. 2013, 124). Consequently, this creates opportunities for moral hazard (Gottesman and Leibrock 2017, 170; Moore 1999, 450).
These factors will serve as main analytical categories to evaluate the empirical data on the link between moral hazard and LOLR policies. On the other hand, the degree to which the factors provoke moral hazard, is strongly influenced by a series of countermeasures, which were designed to prevent or limit moral hazard by working against one or many factors simultaneously. Hence, each subcategory corresponds to certain main categories and sometimes to several simultaneously.
Therefore, in order to answer the research question, it is indispensable to weigh up the moral hazard factors and the respective countermeasures. Thus, the countermeasures are assigned as subcategories to the respective factors they are designed to mitigate. Using both the main and subcategories will be of fundamental importance to conduct a differentiated evaluation of the empirical data.
As the main categories, also the subcategories will be outlined briefly and analysed in-depth at a later state. They encompass ex-ante measures, namely 1) conditionality in the form of eligibility criteria, 2) limitations concerning duration and quantity of the purchases; ex-post measures, as 3) punitive measures in case of violations against collective rules; and continual measures, especially 4) effective provisions of budgetary limitation, 5) the prohibition of bailouts and 6) constructive ambiguity as to whether and to what extent the CB is willing to provide liquidity.

Table 1 – Analytical main categories and respective subcategories

Main categories	Subcategories
Monetary financing	Conditionality Programme limitations Constructive ambiguity
Joint Liability	Programme limitations No-Bailout
Undermining market pressure	Programme limitations Punitive measures Constructive ambiguity

	Conditionality
Undermining fiscal rules	Conditionality Programme limitations Punitive measures Provisions of budgetary limitation

Source: own illustration.

Besides these factors and countermeasures, the analysis will also consider the general setup and relevant budgetary provisions of EMU governance, such as the SGP. This is important to acknowledge other potential influences on the occurrence of moral hazard and isolate LOLR policies' impact for the sake of analytical clarity.

Nevertheless, given the limited scope, the analysis faces a couple of limitations.
First, although highly interesting, theories of European integration are of secondary importance as the master thesis focuses less on tracing integrative process but rather on their implications. Thus, the thesis is based on this relevant research but attempts to go a step further.
Second, a macroeconomic analysis of LOLR policies' effect on inflation, the primary ordoliberal concerns associated with moral hazard, would go beyond the scope of the master thesis.
Third, although LOLR policies also apply to banks, the thesis will focus on sovereign bonds purchases that are in the centre of academic and public controversies. Financial regulation through the Banking Union will, for the same reason, be given less attention.
Moreover, the important question of democratic legitimacy and accountability as well as transparency of the ECB,[7] will only be mentioned as a side note because of space limitations.

2.4.Choice of material

In order to assess to what degree the ECB's LOLR programmes provide opportunities for moral hazard, the analysis will take into account diverse material.
For the literature review, academic journal contributions as well as monographs and grey literature - like discussion and working papers - will serve to provide an overview on EMU governance and outline the theoretical and conceptual framework of the thesis.
To analyse the factual impact of the ECB's LOLR policies, the content analysis will rely on written documents of institutions like the ECB, the ECJ and the Bundesbank as well as political and economic decision-makers. ECB monetary policy decisions and their amendments are published in the "Official Journal of the European Union". They contain the technical features of the ECB's LOLR policies and will therefore be at the centre of the empirical analysis. They are complemented by speeches, press releases and the ECB's monthly bulletins.
The content analysis is confronted with data limitations concerning unpublished protocols on ECB negotiations and meetings. Hence, newspaper articles, economic reviews as well as case

[7] See for example: (Auer and Scicluna 2019; McNamara 2006; Tucker 2014; Borriello and Crespy 2015).

law of the ECJ and GFCC, in which critics and supporters of LOLR measures present their arguments, will be included in the analysis to face this difficulty.

In the next section, the thesis will give an overview of the state of research. Here, literature on fiscal federalism will be introduced briefly as it is tightly linked to the concept of moral hazard. The latter will then be brought into connection with literature on the ECB's LOLR policies.

3. State of research

3.1. The broader context: Fiscal federalism literature

Research on changes of EMU governance is located within the wider literature on fiscal federalism.

Fiscal federalism is understood as a system of financial relations between a central authority and its subunits. Within these relations, the central authority has budgetary competencies, but regional and local authorities manage budgets of their respective jurisdiction more or less autonomously (Oręziak 2018, 86; see also: Schelkle 2016). The power to tax and spend is distributed between the centre and subunits (Baimbridge and Whyman 2005, 1; Riekmann and Wydra 2015, 204). In parallel to this decentralisation exist strong central competencies such as a centralised monetary policy ensured through a central bank (Oates 2005, 351; Oręziak 2018, 86; see also: Giannini 2011).

The first generation of research on fiscal federalism emerged in the 1950s and 1960s. Fiscal federalism is especially influenced by Kenneth Arrow's conceptualisation of economic activity within markets and states (Arrow 1970) and introduced as a term by Richard A. Musgrave (Musgrave 1959). Both assign the central government an important role in resource allocation and in the compensation of market failure through macroeconomic stabilisation. The first generation shared the belief that government would promote the interest and the social welfare of its constituency out of benevolence and electoral pressure (Arrow 1962; Musgrave and Peacock 1958; see also: Oates 2005).
This view changed dramatically with the second generation of fiscal federalist theory, which was influenced by public choice theory assuming that public decision-makers seek the maximisation of utility for themselves (Oates 2005, 355ff.; see also: Buchanan 1995; Da Costa Cabral 2016). Yingyi Qian and Barry R. Weingast, two of the main theorists of the second generation, see great incentive problems as a consequence (Qian and Weingast 1997, 91) so that the question of moral hazard, largely neglected by the first generation and subject of the next section, shifted to the centre of research (see for example: Buchanan 1995; Kaufman 1991; Oates 2005; Qian and Weingast 1997; Riekmann and Wydra 2015). The strong influence of public choice theory shows the economically liberal roots of moral hazard thinking.

3.2. Moral hazard as a result of fiscal decentralisation

Moral hazard has been a well-known problem known in liberal economies for centuries (see for example: Smith 1776, 700). Despite previous accounts, research on moral hazard bases on the more recent works of Kenneth J. Arrow (Arrow 1962), James A. Mirrles (Mirrles 1976) and Bengt Hölstrom (Hölstrom 1979). They identify insurance logics behind moral hazard as the

insured is induced to maximise individual benefit "to the detriment of others [the insurer] in situations where they do not bear the full consequences" (Kotowitz 2008, 773f.; see also: Arrow 1962; Freixas et al. 2000; Hölstrom 1979; Mirrles 1976). Therefore, "any form of insurance, and liquidity and capital support are no exception in this respect, creates moral hazard (…)" (Freixas et al. 2000, 73). Moral hazard is thus marked by a trade-off between insurance and incentive (Coeuré 2012) as decision-making and responsibility are separated (Hülsmann 2006, 37; see also: Bothello and Djelic 2013; Krugman 2009). Limited liability stands in the centre of moral hazard enabling the shift of loss away from those closer to loss-making decisions to those who have had no responsibility for the decisions (Goodhart 1999, 352). This logic creates conflicts between the insured individual and the insuring collective that is unable to effectively sanction misbehaviour (Hülsmann 2006, 35; Kotowitz 2008, 773f.).

Based on the presented theoretical approaches, moral hazard is understood throughout the analysis as a collectivisation of risks and costs resulting from the separation between individual decision-making and liability through the existence of a collective insurance. This collectivisation ultimately incentivises an excessive use of resources of the utility-maximising individual to the disadvantage of the liable collective.

Moral hazard became a very important concept for the second generation of theorists on fiscal federalism. It is presumed that the presence of a central authority incentivises subunits to engage in excessive public expenditure at the cost of the entire community (Rodden 2006, 43ff.).
To ensure fiscal decentralisation, necessary to weaken central control and thus avoid public intrusion in markets (Weingast 1995; Qian and Weingast 1997), while avoiding destructive incentives, the second generation proposes hard fiscal constraints (Clayton 2012; Kornai 1979; Oates 1972; Qian and Weingast 1997).[8] This must be ensured through the prohibition of common debt or central bank bailouts as subunits should only rely on their "own sources of revenues for the finance of decentralized budgets" (Oates 2005, 354; see also: Weingast 1995). Further, monetary financing in the form of loans of central governments or CBs are rejected as they finance subnational governments' deficits and consequently induce excessive public expenditure (Weingast 2009, 28f.). Instead, legislative constraints on expenditure in the form of provisions for budgetary limitation are needed to avoid moral hazard (Oates 2005, 362f.).
Market pressure is another means to put pressure on public expenditure and thus to avoid moral hazard (Qian and Weingast 1997, 84ff.). Market pressure is understood as a synonym for market discipline, where states are pushed to reduce public spending through the risk of sovereign default or simply high interest rates and risk premia for sovereign bonds in case of imprudent economic policy (Oates 2005, 362ff.).

Putting EMU governance in the context of fiscal federalism literature, it is doubtful whether EMU can actually count as a fiscal federal system. There is some consensus among researchers that the EMU is not a fully-fledged federation (Burgess 2012; Da Costa Cabral 2016; Fossum and Jachtenfuchs 2017; Riker 1975) because of the absence of a large centralised budget and fiscal transfers between member states (Oręziak 2018, 88, 96). Still, because of its competence

[8] There are only few diverging voices from this perception referring to procyclical effects of fiscal constraint (see for example: Williams 2021, 9f.).

to "set and enforce legally binding decisions without requiring the consent of the member states" (Börzel 2012b, 614ff.; see also: Börzel 2020; Kohler-Koch and Rittberger 2006), "it shares with other federations enough institutional and policy features to justify the use of common analytical categories" (Mckay 2005, 530). This master thesis, therefore, aligns with the classification of the EU as "federal-like" system (Mckay 2005, 529f.; see also: Borriello and Crespy 2015; Burgess and Gagnon 1993). Yet, it will follow EU scholars and approach the case study with a governance perspective to break the state-centric view of classical federalist literature. This perspective will provide greater analytical clarity and enable a more precise capture of the EMU's "sui generis" characteristics.
As the EMU shares fundamental institutional features with federal systems, it is also affected by moral hazard concerns (see for example: Da Costa Cabral 2016; Hallerberg 2011). This is especially the case for the ECB's LOLR policies as centralised monetary policy that stays in strong interdependence to decentralised fiscal policies. As such, they are situated at the heart of the controversies around moral hazard within the second generation of federal theory and thus of great interest for academia and the following analysis.

3.3.The ECB's LOLR policies and their implications for moral hazard

Confronted with the question of the effect of LOLR policies on moral hazard, literature focuses primarily on financial rather than state institutions (see for example: Drechsler et al. 2016; Freixas et al. 2000; Freixas, Parigi and Rochet 2004; Goodfriend and Lacker 1999; Kindleberger 1978; Moore 1999).
Research on LOLR-induced moral hazard behaviour of states, especially in the context of EMU governance, is more limited and recent but shows some degree of consolidation and consensus.

First, it is widely acknowledged that in the aftermath of the crisis, the ECB took over the role as LOLR (see for example: Demary and Matthes 2013; Ferrara 2020; Gnath and Hainbach 2020; Homburg 2017; Illing and König 2014; Riekmann and Wydra 2015).
Second, academia agrees that this policy contributed to stabilise capital markets and therefore mitigate the crisis by reducing interest rates on sovereign bonds (see for example: De Grauwe 2011a; Drechsler et al. 2016; Krampf 2016; Saraceno 2016; Whyman 2018; Riekmann and Wydra 2015).
Third, this LOLR policy has the potential to create opportunities for moral hazard and thus debt-financed public expenditure (see for example: Bothello and Djelic 2013; Demary and Matthes 2013; Feld, Köhler, and Nientiedt 2015; Hopkin and Jacoby 2020; Zahariadis 2013).

Despite this consensus, academia is divided on the question of the factual extent of LOLR-induced moral hazard and resulting consequences. If moral hazard is not simply a side-note (see for example: Auer and Scicluna 2019; Mabbett and Schelkle 2019; Pisani-Ferry 2015), opinions differ on to what extent the ECB's LOLR policies provide opportunities for moral hazard and implications for public expenditure. Public expenditure is understood as the main factor for states' room for manoeuvre.
The following overview will present academic contributions on the link between the ECB'S LOLR policies but will also include opinions of institutions and policy-makers to present the debate in its entirety.

3.3.1. ECB LOLR policies as source of moral hazard

Many scholars base their critique on legal, economic and political reasons that are often intertwined and are unified in their claim that the ECB's LOLR policies induce moral hazard.

At the beginning of this critique stands the concern that by providing states with liquidity, the ECB engages in monetary financing (Buch et al. 2013; Homburg 2017) and accordingly becomes the biggest creditor of EMU member states (Storey 2019; Weidmann 2015). Especially the GFCC was vocal in its criticism over the ECB's LOLR policies that it deemed contrary to the European treaties (GFCC 2014).
Monetary financing leads to the creation of joint liability, thus turning the ECB in a "central bailout" instance (Schelkle 2016, 15) that is the "ultimate problem solver" for EMU member states (Weidmann 2015, 8). Like this, the fundamental principle of individual liability, which finds expression in the EMU's no-bailout clause, is heavily distorted as the EMU becomes jointly liable for the decisions of individual member states (Feld, Köhler, and Nientiedt 2015; Streeck 2015b; Young 2018).
Critics agree that by creating monetary financing and joint liability, the ECB provides opportunities for moral hazard of individual member states as they have tremendous amounts of liquidity at their disposal and are shielded against losses resulting from their mismanagement. Destructive incentives follow in the form of less incentive to reduce public debt (Buiter and Rahbari 2012; Boysen-Hogrefe et al. 2014; Hartmann and Smets 2018; Young 2018), or even strong increases in debt through public expenditure (Feld, Köhler, and Nientiedt 2015; Schelkle 2016).
The danger of moral hazard becomes even more imminent as the ECB's LOLR policies work against fiscal rules (Issing 2011) and lower market pressure by artificially decreasing interest rates and risk premia (Hengstermann and Herzog 2013; Plender 2019). Consequently, interest spreads are detached from underlying economic fundamentals and are no longer differentiated according to the debt-to-GDP ratios of the respective EMU members as the German Bundesbank repeatedly criticises (Bundesbank 2016; see also: Davies 2015). It is backed by German media outlets and politicians like Chancellor Angela Merkel (Matthijs and McNamara 2015; Kluth 2018; Schimmelfennig 2018).
The undermining of fiscal rules and market pressure further contributes to moral hazard of EMU member states. Ultimately, their excessive public expenditure threatens the solvency of entire member states, especially of highly indebted member states (Hengstermann and Herzog 2013). Inflation can be the result that conflicts fundamentally with the EMU's commitment to price stability (Weidmann 2015) and puts the stability of the EMU as a whole in peril (Buiter and Rahbari 2012; Weidmann in: Financial Times 2016; Zahariadis 2013). Federico Ferrara, based on his analysis of inter-meeting speeches of EMU decision-makers, identifies this stance as "fiscal discipline view" (Ferrara 2020, 1464) which, as will be shown throughout the analysis, follows an ordoliberal logic.

In order to avoid this scenario, critics in this camp call for a limitation of LOLR (Zahariadis 2013) or even their complete termination (GFCC 2014; see Weidmann in: Biebricher 2014). Contradicting these claims, others see the risks resulting from LOLR policies in a different light.

3.3.2. No moral hazard through ECB LOLR policies

These scholars see moral hazard as either limited in general or acceptable in the light of its benefits. This view is particularly shared by critics of fiscal constraint. Instead, they put their emphasis on greater public expenditure to stabilise demand and welfare. This stance is often found in Keynesian economics.

Moral hazard through LOLR policies is acceptable for these scholars as it guarantees financial stability and provides room for manoeuvre of EMU states by improving their refinancing conditions (De Grauwe 2011c; Panico and Purificato 2013; Streeck 2015b; Valiante 2011). This "systemic risk perspective" (Ferrara 2020, 1464) finds supporters in inter alia the Italian and Spanish governments (Weidmann in: Handelsblatt 2012) that defended the validity of the programmes before the ECJ (European Court of Justice 2015; 2018; see also: Hacker and Koch 2017). Malte Rieth and Jana Wittich even argue, based on a New Keynesian model with sticky prices, that LOLR policies help to reduce public expenditure in the long run as they provide greater room for manoeuvre for states and thereby induce structural adjustment reforms (Rieth and Wittich 2020; Gnath et al. 2020).

Others see moral hazard and resulting implications for the room for manoeuvre for states through LOLR policies as overall limited (Demary and Matthes 2013). In academia, this is either considered necessary as moral hazard must be avoided (Cukierman 2012; Frankel 2015; Warren 2020) or destructive as it implies a loss of potential room of manoeuvre of EMU member states (Hopkin and Jacoby 2020). A more neutral assessment of the link between the ECB's LOLR policies and moral hazard is hardly found, with the exception of Domenico Lombardi and Manuela Moschella, who take into account the technical details of the programmes within their analysis (Lombardi and Moschella 2016).

Despite their heterogeneity, the majority of these scholars share the view that the ECB's LOLR policies should not be hindered as unfolding their whole potential is indispensable to stabilise the financial system and to shield states from insolvency (De Grauwe 2011c; Hopkin and Jacoby 2020).

The review of the literature made clear that, despite being credited with averting a breakup of the EMU, the ECB's LOLR policies lead to great concerns of destructive moral hazard. Nevertheless, the question of the actual design features of the ECB's LOLR policies and their potential to provide opportunities for moral hazard of EMU member states is at best understudied. This is in stark contrast to the frequency with which the ECB's LOLR policies are criticised to cause moral hazard. It is especially unfortunate as this criticism goes hand in hand with calls for the programmes' limitation, which has great implications on the EMU's stability.

3.3.3. Research gap: The ECB's LOLR policies as understudied matter

There is a vast stock of academic literature on LOLR technicalities in general (see for example: Freixas et al. 2000; Freixas, Parigi and Rochet 2004; Rochet and Vives 2004). This literature was nevertheless isolated from policy debates, which is surprising given the relevance of the topic and the prominence of moral hazard concerns. Paul Tucker even speaks of a "tragedy" that contributed to the political stalemate of central banks at the very beginning of the financial crisis (Tucker 2014, 10).

Instead of moral hazard, research on LOLR policies in the context of EMU governance focuses mostly on the impact on macroeconomic development (see for example: Cassola and Jorge 2016; Asada and Nakao 2021) or financial stability (see for example: Afonso et al. 2018; Lewis and Roth 2017).

These analyses are well-reasoned, cover a wide range of topics concerning the ECB's LOLR policies and are as such indispensable for the master thesis' analysis. Still, there appears to be a blind spot in the literature, namely the lack of an in-depth analysis of the technical details of the sovereign bond purchasing programmes, their potential, range and limits with regards to moral hazard. A notable yet limited exception is the research of Lombardi and Moschella that focus on the design and implications of OMT but dedicate only limited space to QE (Lombardi and Moschella 2016).

This master thesis addresses this gap and analyses to what extent the ECB's LOLR policies factually provide opportunities for moral hazard. It does so through a differentiated assessment of their technical features in order to identify the degree to which they foster moral hazard or integrate countermeasures against moral hazard. Like this, the thesis contributes to the impressive stock of politico-economic literature on EMU governance and its reforms since the financial crisis of 2007/2008 in multiple ways.

Through the assessment of the programmes, it wants to provide research on causes for and measures against moral hazard as well as the concept of lender of last resort for states within the unique setting of EMU governance. Thereby, it seeks to advance knowledge on a highly relevant yet complex subject of European monetary policy that has enjoyed less attention in academia. Moreover, by discussing potential benefits and risks of this policy, the master thesis assesses the validity of the critique against LOLR programmes and resulting policy implications. This shall contribute to a differentiation of the debate over moral hazard by providing counterpoints to prevailing assumptions, which is especially relevant given the link of LOLR with financial and political stability.

The analysis moreover aspires to give insight into ordoliberal theory, credited limited scholarly attention,[9] as the ideational background behind much of the critique against LOLR programmes and into ordoliberalism in the context of EMU governance and crisis response. This shall help to shed light on possible future trends of European economic and monetary policy as well as integration also regarding the question of how much room for manoeuvre should be granted to states within EMU governance.

To give the analysis a sufficient theoretical and conceptional foundation, the next part will deal with the concept of the lender of last resort and its connection to moral hazard.

[9] Recently, scholars of governmentality showed increasing interest in ordoliberalism. Some even speaking of an "ordoliberal renaissance" (Biebricher 2014, 2), although this trend is recent and not linked to European monetary policy.

4. Conceptual and theoretical foundations: The lender of last resort and ordoliberalism

4.1.The lender of last resort as a policy of crisis response

LOLR is a vast concept that encompasses basically any instance that provides great amounts of liquidity for others (Wood 2000). Much has been written on governments taking over the role of a LOLR (see for example: Freixas et al. 2000; Gottesman and Leibrock 2017; Koo 2017) or the IMF as an international LOLR (see for example: Fischer 1999; Humphrey and Keleher 1984; Marks 2009; Rochet and Vives 2004). As this master thesis addresses the ECB, the LOLR function of central banks will be of primary interest.

Typically, LOLR policies become necessary in case of distortions in the interbank lending market, which can lead to bank runs. Given that financial institutions are highly interconnected, contagion of other banks can follow, threatening the overall stability of the financial market (Bagehot 1962, 67; Freixas et al. 2000, 66ff.; Gottesman and Leibrock 2017, 170).

Out of instability of financial markets, state insolvency can arise, making taxpayers liable for potential damage (Freixas et al. 2000, 68ff., 78f.; ECB 2019; Humphrey 2010, 334). As the lender of last resort is crucial to prevent this from happening, its vital importance is widely acknowledged (see for example: Bagehot 1962; De Grauwe 2011a; Drechsler et al. 2016; ECB 2019; Freixas et al. 2000; Goodhart and Huang 2005).

Research on CBs' LOLR policy has been particularly dedicated to purchases of bank derivates but given the similarity between sovereign bonds and other financial derivates, the findings of this literature can also be transferred to sovereign bonds (Buiter and Rahbari 2012; Drechsler et al. 2016, 1969; Humphrey and Keleher 1984).[10] Further, neither classical nor contemporary contributions deny the possibility of LOLR policies for sovereign bonds, as will be shown subsequently.

4.1.1. The classical concept: Conditional lending

Introduced in 1779 as lender of "dernier resort" by Francis Baring (Baring 1967), LOLR policies were systematised by Henry Thornton (Thornton 1962). In those times, according to Thornton CBs should intervene resolutely yet temporarily in the financial market to safeguard money stock stability by expanding the overall money supply through unlimited liquidity in exchange for securities (Thornton 1962, 124, 183ff.). For the same purpose, liquidity should also be provided to governments (Thornton 1962, 124, 183ff.). Anything different than an expansionary monetary policy would risk the destabilisation of the financial market (Thornton 1962, 122). Yet, LOLR programmes should under no circumstances be conducted for an unlimited amount of time (Thornton 1962, 124, 183ff.) in order to avoid price instability through inflation (Thornton 1962, 190).

Walter Bagehot fundamentally expanded Thornton's reflections (Bagehot 1962) and is credited with having established the classical concept of central bank LOLR policy (see for example: Humphrey 1989). Similar to Thornton, Bagehot sees the function of a LOLR to provide massive liquidity via free lending during crises (Bagehot 1962, 45, 333ff.). To do so, eligibility rules should be softened to provide liquidity in exchange for "all good securities, and as largely as the public ask for them" (Bagehot 1962, 25, 199). He enriches the concept by putting emphasis

[10] Moore provides an in-depth account of LOLR policies against bank runs (Moore 1999).

on the necessity to preannounce monetary measures for managing markets expectations (Bagehot 1962, 25ff., 36ff., 63ff.).
Yet, Bagehot recommends a series of restrictions to LOLR policies. Lending should be temporarily in accordance with the longer-term objective of stable money growth (Bagehot 1962, 25ff.). Further, institutions without good security should not get CB loans to avoid losses, which taxpayers will have to compensate (Bagehot 1962, 97, 200). Moreover, money should be provided at high interest rates to ensure that institutions do not lend for pure caution, that loans are repaid rapidly after the crisis and to avoid inflationary tendencies (Bagehot 1962, 85ff., 199).

Although Thornton's and Bagehot's reflections remain highly influential, contemporary contributions challenge parts of the classical concept.

4.1.2. The contemporary concept: Generous lending

The contemporary perception of LOLR has been influenced by a series of authors, amongst them, the renowned contributions of Charles A.E. Goodhart, Xavier Freixas and Thomas M. Humphrey (see for example: Freixas et al. 2000; Freixas, Parigi and Rochet 2004; Goodhart 1999; Humphrey 2010; 1989).

The contemporary conception shares its fundamentals with the classical concept.
LOLR policies are seen as indispensable to maintain financial stability but only for a limited amount of time in order to avoid inflation (see for example: Drechsler et al. 2016; Moore 1999). These policies should also regard states to avert sovereign default (Drechsler et al. 2016; see also: De Grauwe 2011a; Humphrey and Keleher 1984; Moore 1999).
The measures should be preannounced to manage expectations (Gottesman and Leibrock 2017, 170; Humphrey 1989, 8ff.) as already the mere announcement of LOLR policies might suffice to stabilise the financial system without issuing additional notes (Humphrey 1989, 10ff.; see also: Drechsler et al. 2016; Humphrey 2010; Moore 1999; Tucker 2014). LOLR can thus act as a theoretical reassurance that is never applied or actual liquidity provision.

Besides shared fundamentals, the concept of LOLR evolved in different regards, also taking into account the increasing complexity of financial systems (Niskanen 2002).
First and foremost, Bagehot's proposal to introduce high interest rates is challenged because of what Paul Tucker describes the "stigma problem" (Tucker 2014, 23). They may contribute to concerns regarding financial instability as some banks may not be able to or take risks to pay back the interests (Tucker 2014, 23). In addition, high interest rates may aggravate liquidity crises as they are passed on to consumers. For the same reason, Gregory Moore criticises strict eligibility criteria for assets (Moore 1999, 455; Freixas et al. 2000, 74, 78f.; Marks 2009, 91ff.).

The contemporary LOLR concept, building on the definition of Freixas and his colleagues (Freixas et al. 2000), is here understood as a form of expansionary monetary policy, through which the central bank expresses its willingness to provide unlimited liquidity during financial crises at favourable conditions. It is conducted to potentially or factually satisfy an increase in liquidity demand that cannot be satisfied by alternative instances.

Table 2 – Overview lender of last resort policies

	Classical concept	**Contemporary concept**
Objective	Protection of money stock while maintaining price stability	Stability of the financial system while maintaining price stability
Central bank status	Independent	Independent
Liquidity provision	Quantitively unlimited, limited in time	Quantitively unlimited, limited in time
Preannouncement	Yes	Yes
Eligibility rules	Lending for good collateral at high interest rates	Lending for different kinds of assets at low interest rates

Source: own illustration.

Despite their differences, the classical and contemporary concepts are united in their concerns about moral hazard through LOLR policies. The link between the two will be discussed in the next section to identify factors for the occurrence of moral hazard and countermeasures.

4.1.3. Factors for the occurrence of moral hazard and respective countermeasures

Moral hazard can result from any collective instance that is liable for individual actors. As LOLR represents such an instance with potentially unlimited resources, moral hazard has always been of major concern for LOLR scholars (see for example: Bothello and Djelic 2013; Gottesman and Leibrock 2017; Humphrey and Keleher 1984; Kaufman 1991; Moore 1999). Already Thornton saw excessive risk-taking and careless economic planning as a major problem of LOLR policies (Thornton 1962, 188). While he, like many scholars, sees LOLR as indispensable regardless of moral hazard risks, others criticise that the costs of moral hazard outrun LOLR's benefits (Kaufman 1991; Cordella and Yeyati 1999).
Consequently, moral hazard concerns have direct implications on the design and thus the effectiveness of LOLR policies (Drechsler et al. 2016, 1970). They can reduce the CB's incentive or possibility to provide LOLR programmes (Goodhart and Huang 2005, 1079; Lombardi and Moschella 2016, 855; Niskanen 2002, 7) and even lead to calls for their complete termination (Goodhart 1999, 354). Thus, strong moral hazard concerns pose "important challenges to CB in conducting LOLR policies" as illustrated by Goodhart's and Haizhou Huang's macro-level model on LOLR policy (Goodhart and Huang 2005, 1062).

LOLR policies are criticised for causing moral hazard through monetary financing, joint liability as well as the undermining of market pressure and fiscal rules. Like this, LOLR programmes are said to ultimately disincentivise states to reduce their debt and deficit through structural adjustment reforms (Hülsmann 2006, 880; Lombardi and Moschella 2016, 855). They may even lead to an increase of debt as they incentivise excessive spending regardless of potential risks (Goodhart 1999, 352; Marshall 1976, 880; Moore 1999, 450). Ultimately, this

may contribute to financial instability and crises (Djelic and Bothello 2013, 609; Gottesman and Leibrock 2017, 170; Kindleberger 1978, 163; Moore 1999, 450).

Given its multifaceted implications, moral hazard gained a central standing in LOLR literature and led to a series of measures for its limitation. These will serve, alongside measures recommended by literature on fiscal federalism and EMU governance, as indicators to assess the impact of ECB LOLR policies on moral hazard. For analytical clarity, the different measures will be classified in ex-ante, ex-post and continual measures.

Ex-ante measures shall prevent the occurrence of moral hazard.
Among ex-ante measures, conditionality, especially in the form of eligibility criteria, is considered as most successful in avoiding moral hazard (Moore 1999, 462; Prem 2020, 147; Tucker 2014, 23). These rules can, for example, entail the provision of liquidity only for actors that agree to an ex-ante limitation of state deficits (Goodfriend and Lacker 1999, 7) or to structural adjustment reforms (Freixas et al. 2000, 78f.; Jeffers 2010).
Another measure that is recommended widely in academia is "constructive ambiguity" (Freixas et al. 2000, 78f.; Marks 2009, 91ff.; see also: Goodfriend and Lacker 1999; Moore 1999). Charles P. Kindleberger has been credited with pioneer work on constructive ambiguity (Kindleberger 1978) that is a sort of expectation management in which CBs leave some degree of doubt as to whether they will provide how much liquidity. This uncertainty pushes agents to more self-reliance, thereby reducing risky behaviour and moral hazard (Freixas et al. 2000, 78f.; Marks 2009, 91ff.; Gottesman and Leibrock 2017, 170). Nevertheless, constructive ambiguity can induce financial instability "(…) if the bank can't make it credible to supply sufficient liquidity (…)" (Moore 1999, 459; see also: Freixas et al. 2000; Goodhart and Huang 2005; Jeffers 2010).
Besides conditionality and constructive ambiguity, the limitation of purchase programmes, especially in terms of duration and quantity, is another ex-ante measure known and used since the foundations of LOLR programmes (Goodhart 1999, 345; Humphrey 2010, 334; Thornton 1962, 182ff.). If quantity and duration of the programmes are limited, so is the potential impact on moral hazard.

Ex-post measures focus mainly on punishing moral hazard behaviour after it has occurred. Among those, punitive measures are most popular. These entail the shift of losses to individual actors (Humphrey 1989, 10f.; Prem 2020, 147) and the termination of agreements or the forced repayment of grants in case of moral hazard (Goodfriend and Lacker 1999, 4).
High interest rates are also considered suitable to disincentivise risk-taking (Moore 1999, 451, 470) via market pressure (Oates 2005, 362ff.; see also: Humphrey 2010). Still, given their potentially harmful effects, they remain controversial and should only be applied in combination with other policies to avoid Tucker's "stigma problem" (Tucker 2014, 23; see also: Moore 1999).

Permanent measures are implemented to avoid moral hazard before and after LOLR programmes are introduced. Thus, they are not linked exclusively to the design of LOLR policies but work as supportive measures against moral hazard.

First, as mentioned in the fiscal federalism literature, Provisions of budgetary limitation, ideally in the form of binding legislation (Oates 2005, 362f.), are considered crucial to limit moral hazard (Oates 2005, 362f.; see also: Clayton 2012; Qian and Weingast 1997).
Second, central bank independence is seen as a structural precondition to avoid moral hazard as it makes CBs independent from state orders (Freixas, Parigi and Rochet 2004, 1111). CB independence will nevertheless play a subordinate role throughout the analysis as they represent structural factors against moral hazard that, although certainly important, find no expression in the technicalities of the ECB's LOLR programmes, which are in the centre of the analysis. These technicalities will be central for the analysis of the moral hazard critique against the ECB at a later stage in this work.

Table 3 - Measures against moral hazard (LOLR literature)

Measures	
Ex-ante measures	Conditionality Constructive ambiguity Programme limitations
Ex-post measures	Punitive measures
Permanent measures	Provisions of budgetary limitation

Source: own illustration.

The presented measures, especially if combined, are deemed successful in avoiding moral hazard by leaving risk with individual actors (Tucker 2014, 23). Through the limitation of monetary financing, the avoidance of joint liability and the reinforcement of market pressure as well as fiscal rules, the measures manage to "(…) replicate the market outcomes that would have occurred in normal times if the lender-of-last-resort facility had not been introduced" (Moore 1999, 470).
Their exact impact on moral hazard will be assessed more in detail within the context of the ECB's LOLR programmes. Here, they will serve as indicators to assess the moral hazard potential of the ECB crisis response and thus the validity of the critique brought against it.

As already mentioned, this critique derives mostly from the economic theory of ordoliberalism, which will be the subject of the next section. Ordoliberalism is of theoretical relevance for the analysis, given its influence on EMU governance and the ECB's monetary policy. It is further the theoretical foundation of the moral hazard critique against the ECB's LOLR policies as will be shown at a later stage of the analysis.

4.2. Ordoliberalism

4.2.1. The origins of ordoliberalism

Ordoliberalism has its origins in the "Freiburg School". This school was established by Walter Eucken, often referred to as the "founding father" of ordoliberalism (see for example: Starbatty 2002, 251), Franz Böhm and Hans Großmann-Doerth, in the 1920s (Jessop 2019, 969; Vanberg 2001, 37).[11] The backbone of ordoliberalism is the "ordo theory" (*Ordnungstheorie)*. Ordoliberalism understands "order" as the changing status quo of real economic life (Eucken 1959, 239). It determines how which kind and degree of economic steering, activity and allocation of the means of production should interact (Eucken 1952, 7; Vanberg 2001, 39). It finds expression in the legal-institutional framework of the economic constitution (*Wirtschaftsverfassung*) (Böhm, Eucken, and Großmann-Doerth 1937, XX; Eucken 1952, 377; 1959, 239). This constitution structures the economic and political order with the help of rules (Böhm, Eucken, and Großmann-Doerth 1937, XVIII; Eucken 1959, 52; Starbatty 2002, 253), including the scope of governmental activity and the mode of interaction of individual economic units (Böhm 1980, 158; Böhm, Eucken, and Großmann-Doerth 1937, 54f.; Eucken 1952, 331ff., 374f.).

The economic constitution is also deemed indispensable to enforce ordoliberal principles that, as will be shown subsequently, are in conflict with LOLR policies.

4.2.2. Ordoliberal aversion against moral hazard

In ordoliberalism, the primary objective of the economic constitution is the creation of a viable pricing system of complete competition as a precondition for a free market economy (Eucken 1952, 254, 373; Müller-Armack 1989, 83). Only with competition, economic stability, social prosperity and individual freedom are possible (Böhm 1980, 101f.; Eucken 1959, 198ff.; Grossekettler 1989, 58). Competition relies on a viable pricing system that indicates supply and demand to ensure competitive price ranges and careful investment while pushing unprofitable agents out of the market (Böhm 1937, 57; Dürr 1954, 78; Eucken 1952, 70, 248).

In order for the pricing system of complete competition to work, ordoliberalism relies on a series of constitutive principles, out of which price stability and individual liability are of special interest for the analysis. This is the case, given their prominence in ordoliberal writings, their proximity to fiscal and monetary policy - especially in the EMU context - and the controversies surrounding them since the 2008 financial crisis.

Price stability is a precondition for a reliable economic policy in ordoliberal theory (Starbatty 2002, 261): "Every effort to realise a competitive order is in vain, as long as price stability is not guaranteed" (Eucken 1952, 256). Other objectives like full employment are secondary (Foucault 2008, 138f.). As inflation destabilises prices by creating uncertainty over their future development and interest rates (Eucken 1952, 256f.), it is heavily criticised to disincentivise investment and ultimately hurt economic development (Grossekettler 1989, 49; McNamara 2006, 808).[12] As a result, ordoliberalism is marked by a strong anti-inflationary stance seeking

[11] Also, Leonhard Miksch, Friedrich Lutz and Viktor Vanberg count as influential scholars of ordoliberal thought. Wilhelm Röpke, Alexander Rüstow and Alfred Müller-Armack also contributed vastly to ordoliberal thought, although they were not part of the Freiburg School.

[12] This is considered as a result of the hyperinflation experience of the Weimar Republic (Dyson 1999, 35; Starbatty 2002; Bonefeld 2012, 634ff.; Foucault 2008, 78).

to keep inflation stable at a low degree (Feld, Köhler, and Nientiedt 2015, 49; Röpke 1958, 285).[13]

For ordoliberals, as for scholars of fiscal federalism, the avoidance of moral hazard is indispensable to limit expenditure-induced inflation. To do so, individual liability, another ordoliberal principle essential for the functioning market economy, is of central importance (Eucken 1952, 279f.; Röpke 1979, 156).
Eucken's liability principle (*Haftungsprinzip*) describes the very essence of individual liability: "The one who has the benefit must also bear the damage" (Eucken 1952, 279, own translation). Only if the decision-maker that receives benefits is responsible for any potential damage, insufficient risk management can be inhibited as well as a waste of money, careless planning and a neglection of costs and risks avoided (Eucken 1952, 279ff.; 1959, 242; see also: Kluth 2018; Nedergaard and Snaith 2015).
Hence, "(…) ordoliberals look very sceptically at any tendency to place limitations on liability" (Grossekettler 1989, 50; see also: Dale 2019). Bailouts or limited liability, defined as the separation of decision-making from individual liability (Djelic and Bothello 2013, 599), is "a powerful structural source of moral hazard" (Djelic and Bothello 2013, 589; see also: Nedergaard and Snaith 2015; Schäfer 2016). If individuals do not have to bear the full consequences for their decisions and losses are collectivised, "destructive incentives" arise (Kluth 2018) that induce actors to take risks carelessly (Prem 2020, 147). Ultimately, this leads to excessive expenditure, which threatens price stability (Eucken 1952, 281; see also: Nedergaard and Snaith 2015; Schäfer 2016).

This strong refusal of any limitation of the liability principle reveals a conflictual relationship between ordoliberalism and the concept of lender of last resort. This becomes even more visible looking at policy implications resulting from ordoliberals reflections for monetary and budgetary policy.

4.2.3. Policy implications: restrictive monetary and fiscal policy

In ordoliberalism, monetary policy is given primacy over fiscal policy in order to ensure price stability (Eucken 1952, 255). Thus, the central bank is given "ultimate responsibility" for economic development (Röpke 1958, 264 own translation). It should follow a restrictive monetary policy of "neutral money" to ensure price stability (Böhm 1980, 68 own translation) as expansionary monetary policy is a sure path to inflation (Eucken 1951, 57f.).
To ensure restrictive monetary policy, CBs should refrain from monetary financing through buying sovereign bonds (Eucken 1952, 260).
As in LOLR literature, also for ordoliberalism monetary policy is of great importance. Both agree that inflation must be limited, underlining the economically liberal nature of both ordoliberalism and the LOLR concept and their aversion against moral hazard.
Yet, the contradictions between ordoliberal principles and LOLR policies seem to leave little space for the existence of LOLR measures, especially in their modern conceptualisation. The threat for CB independence seems too great as the CB could be forced to intervene against state

[13] Röpke sees inflation as an imminent threat that even needs war-like destruction: "In the fight against inflation, the front must be as broad as the counter front of its causes, with the central bank's heaviest artillery taking centre stage and going in with the strongest firepower" (Röpke 1958, 285).

insolvency if it threatens financial stability. Moreover, following ordoliberal logic, LOLR policies could undermine competitive pressures as they manipulate price formation for sovereign bonds. Indeed, while it is the very function of LOLR to influence market expectations (Wilsher 2013, 24), ordoliberalism demands the unhindered unfolding of market pressure. Further, LOLR measures undermine the ordoliberal principle of individual liability, which is not acceptable for ordoliberalism. This, together with monetary financing creates moral hazard and destructive public expenditure, which is in fundamental conflict with the ordoliberal principle of price stability (Eucken 1952, 281; see also: Nedergaard and Snaith 2015; Schäfer 2016). Without individual liability and price stability, ordoliberalism's primary objective of a viable pricing system of complete competition is not possible.
All in all, CB sovereign bond purchases seem incompatible with ordoliberalism as they inherently carry the threat of moral hazard.

This fundamental critique against LOLR also gives some insight into the reservations of ordoliberalism against state activity in general.
The state as "guardian of the competitive order" (Eucken 1952, 327, 336, own translation; see also: Miksch 1947, 15, 225) is responsible for the creation of a regulative framework to guarantee the functioning of the price system (Böhm 1980, 70; Eucken 1952, 337; Foucault 2008, 138f.).
Yet, governmental activity is regarded with great scepticism as for ordoliberals, it inherently carries the danger of central planning and even totalitarianism (Eucken 1952, 105; Röpke 1958, 210). The self-functioning of the market is clearly preferred (Jessop 2019, 969ff.; Starbatty 2002, 257) also given governments' general economic incapacities (Dürr 1954, 38; Eucken 1952, 327, 336; Miksch 1947, 15, 225). Ordoliberalism, therefore, stands clearly in the tradition of economically liberal and market-based economics. Limited state intervention, only admissible if guided by the principle of market conformity and goal conformity, shall mainly foster market pressure (Böhm 1960, 27; Foucault 2008, 159f.; Grossekettler 1989, 48). This holds true also in times of economic distortions (Starbatty 2002, 259f.) so that ordoliberalism positions itself clearly against Keynesian countercyclical state interventions.
For ordoliberals like Röpke, states' expenditure and increasing inflation are closely intertwined (Röpke 1958, 210; Eucken 1952, 105). Therefore, inflation through public spending (*Fiskalinflation*) is a source of risk as such and must be strictly avoided (Röpke 1979, 271ff.; 1958, 264; Peacock and Willgerodt 1989, 9).

Both the ordoliberal stance towards monetary policy and states' economic activity underline an aversion against LOLR policies. Instead of CB liquidity provision to states, policy of fiscal constraint must prevail to limit opportunities for moral hazard as a major source of public expenditure.

Fiscal constraint will be used throughout the analysis as a more neutral synonym for fiscal discipline, fiscal consolidation or austerity, which are widely used (see for example: Blyth 2013; Matthijs 2016; Schäfer and Streeck 2013; Griebel, Sturm, and Winkelmann 2017) but vested with negative or positive connotations.
Fiscal constraint is associated with a limitation or reduction of government debt and deficit through cuts in public spending, mostly via structural adjustment reforms (Blyth 2013, 2; Rieth

et al. 2020, 7; Griebel, Sturm, and Winkelmann 2017, 17f.). It is nevertheless highly controversial. Its restrictive effect on public expenditure and hence states' room for manoeuvre are criticised for reducing welfare and public infrastructure as those require great state resources (see for example: Breunig and Busemeyer 2012; Heise and Lierse 2011). Consequently, ordoliberal insistence on fiscal constraint is criticised for reducing state activity and causing procyclical effects resulting in economic recession (Blyth 2013; De Grauwe and Ji 2015; Scharpf 2011; Schmidt and Thatcher 2014; Streeck 2015b).

Deriving from these reflections, fiscal constraint is understood as a policy aimed at achieving a balanced budget or surplus through the limitation or reduction of public debt and deficit. Means to do so entail for example fiscal rules, structural adjustment reforms and the upholding of market pressure. Fiscal constraint works against moral hazard by limiting the possibility to engage in excessive public expenditure in line with ordoliberal principles and claims.

Given inter alia its insistence on fiscal constraint, ordoliberalism is often considered to be a stream of the more widespread neoliberalism (Dürr 1954; Jessop 2019; Kluth 2018; Whyman 2018), especially outside of Germany and Europe (Oliver 1960). Michel Foucault, for instance, refers to neoliberalism as "Chicago neoliberalism" and ordoliberalism as "German neo-liberalism" (Foucault 2008, 79, 103), a term repeatedly used in the literature (Dürr 1954; Grossekettler 1989; Kluth 2018; Young 2018), underlining the interchangeability of the terms. Yet there are differences between the two. Ordoliberalism in contrast to neoliberalism does not believe in a self-developing and -regulating economic equilibrium (Hayek 1960, 220ff.; see also: Jessop 2019, 969ff.). According to ordoliberal thought, the market needs rules (Jessop 2019, 973; Vanberg 2001, 18) and assistance of a state authority (Foucault 2008, 162; Müller-Armack 1989, 84; Storey 2019, 1036) to protect it against its own self-destructive potential (Biebricher 2014, 4; Grossekettler 1989, 59; Streeck 2015b, 363).
Still, both have many points in common. Neo- and ordoliberalism share a strong anti-inflationary bias (Roy-Mukherjee and Vassilis 2019, 957; see also: Bonefeld 2017) and thus a harsh rejection of excessive public expenditure (see as an example for neoliberalism: Friedman 1971, 107f.). For both, inflation must be controlled through restrictive monetary policy of an independent CB and through limitations of governments' impact on price development (Hayek 1971, 411ff.; Whyman 2018, 11; Willke 2003, 130f.). As, concerning public expenditure, neo- and ordoliberalism tend to a similar direction (Oliver 1960, 132; see also: Grossekettler 1989) or, as Michael A. Wilkinson puts it, "represent a single movement" (Wilkinson 2019, 1023), a detailed distinction between them is not indispensable for this master thesis' analysis. Ordoliberalism will therefore be used as a term of reference for both, especially given the importance for ordoliberal ideas for EMU governance as the master thesis' case study.
The EMU governance will be the subject of the next section.

5. Case study: EMU governance

Governance as a concept became increasingly popular since the 1990s and can be defined as "institutionalized modes of social coordination to produce and implement collectively binding rules, and/or to provide collective goods" (Börzel, Draude and Risse 2018, 7f.; see also: Benz 2004; Eising and Kohler-Koch 1999; Mayntz 2004). With the "governance turn" the concept found its way in European studies (Kohler-Koch and Rittberger 2006).
More recent literature emphasises the importance of hierarchical decision-making shared between members of the European Union (EU) and supranational institutions (Börzel 2010, 209f.; Kohler-Koch and Rittberger 2006) on which EU policy formulation relies (Börzel 2012b, 624; see also: 2012a). Here, Tanja A. Börzel identifies "multiple overlapping negotiation systems" (Börzel 2010, 209f.; Börzel 2020, 778) that are marked by a "shadow of supranational hierarchy" influencing intergovernmental actors (Börzel 2012b, 616; 2016, 7f.) and a "shadow of intergovernmental negotiations" of EU member states as the 'Masters of the Treaties', which shape the work of supranational institutions (Börzel 2010, 199f.).
As the EMU is marked by hierarchical decision-making involving both strong supranational institutions in monetary policy and intergovernmental coordination of fiscally sovereign member states, Börzel's understanding of governance is especially suitable for the subsequent analysis.

Before analysing the moral hazard potential of the ECB's LOLR policies, the next section will outline the influence of ordoliberal ideas on EMU governance. This shall serve to illustrate the conflictual relationship between EMU governance and the ECB's LOLR policies more deeply.

5.1. Ordoliberal influence on EMU governance

Putting the EMU in the context of ordoliberalism, it becomes apparent that the latter has had great influence on "(…) inflation, control over public finances, the convergence criteria for monetary union and Central Bank independence (…)" (Jessop 2019, 976). Here, German governments and the Bundesbank played a major role that are, themselves, strongly influenced by ordoliberalism (Dale 2019, 1047; Dullien and Guérot 2012; Feld, Köhler, and Nientiedt 2015, 56f.; Streeck 1995, 10).[14] As a result, restrictive monetary policy conducted by a strong and independent CB was assigned a central position within the EMU (Dyson 1999, 35ff.; McNamara 2006, 809f.; see also: Denord, Knaebel, and Rimbert 2015; Kluth 2018). Ordoliberal ideas of the primacy of price stability, ECB independence and rules of fiscal constraint saw themselves implemented in the EMU (Dyson 1999, 28; see also: Jessop 2019; Nedergaard 2020; Streeck 2015b) and form the EMU's "stability-oriented foundation" (Weidmann 2013, own translation).

The ordoliberal influence on the EMU becomes especially striking given the EMU's "(…) historically unprecedented convergence in beliefs and policies around the goal of price stability" (McNamara 2006, 803; see also: Balassone, Franco, and Maura 2003; Oręziak 2018)

[14] Müller-Armack, for instance, strongly influenced the Treaty of Rome; Walter Hallstein served as the first President of the European Economic Community's commission between 1958 and 1967 and shaped together with the Commissioner of Competition Hans von der Groeben the European Single Market (Dale 2019, 1048; see also: Denord, Knaebel, and Rimbert 2015).

"above all other goals" (McNamara 2006, 808; see also: Schimmelfennig 2010; Whyman 2018). It became the ECB's primary goal[15] and is considered a precondition for "people's individual welfare" (ECB 2020d). Low and stable inflation is therefore absolutely indispensable and finds its realisation in the ECB's primary mandate of an annual inflation of close to but below 2%.[16] This clearly differs from other big central banks such as the US-American Federal Reserve (Fed) that defines besides price stability also full employment as a priority, reflecting the difference of the ideational environment during the institutions' creation (Biebricher 2014, 9; Saraceno 2016, 135).
For the ECB, strict inflation targets are helpful regardless of the economic circumstances since they minimise deviations from the optimal economic path (Saraceno 2016, 136). To guarantee low inflation, restrictive monetary and fiscal policy is predominant in the EMU (see for example: Fitoussi and Saraceno 2013, 479ff.; McNamara 2006, 809; Saraceno 2016, 135). Although ordoliberal principles do, of course, not completely materialise in the EMU, it can legitimately be argued that the ordoliberal influence is predominant within the EMU.

Still, the centralisation of monetary policy confronted the EMU's founders with a structural dilemma that is seen to provide opportunities for moral hazard. This is the inability to enforce fiscal constraint upon its member states in the absence of a supranational fiscal authority (see for example: Da Costa Cabral 2016, 1285; Hallerberg 2011, 131; Oręziak 2018, 87; Wilkinson 2019, 1029). At the same time, because of the common currency, interest rates fell dramatically for many EMU members, thereby facilitating their refinancing conditions. The EMU is, therefore, a striking example for moral hazard concerns as described by the second generation of scholars of fiscal federalism.

In line with suggestions from this literature, the EMU governance system is composed of a series of institutions, rules and policies that seek to maintain restrictive fiscal and monetary policy and avoid or limit moral hazard.

5.2. Facing moral hazard with fiscal constraint

5.2.1. Fiscal constraint via legal provisions

First and foremost, the prohibition of common debt[17] is an essential provision to avoid moral hazard and maintain fiscal constraint.
The same goes for the no-bailout clause.[18] Following ordoliberal reflections, it was created to prohibit the Union or member states from bailing out other member states (Weidmann 2015,

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[15] Art. 127 TFEU: "The primary objective of the European System of Central Banks (…) shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union (…) in accordance with the principle of an open market economy with free competition (…)."

[16] For the ECB's justification of its quantitative inflation target see: (ECB 2020b); In July 2021 the quantitative target was changed moderately to 2% which nevertheless has no implications on the ECB's commitment to price stability (ECB 2020f).

[17] Article 310 TFEU (4): „With a view to maintaining budgetary discipline, the Union shall not adopt any act which is likely to have appreciable implications for the budget without providing an assurance that the expenditure arising from such an act is capable of being financed within the limit of the Union's own resources and in compliance with the multiannual financial framework referred to in Article 312."

[18] Article 125 TFEU (1): "The Union shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of any Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project. A Member State shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or

3f.; Young 2018, 8). This shall ensure fiscal constraint through the enforcement of the individual liability principle as a “constitutive principle of monetary union” itself (Weidmann 2014, 1ff.) by leaving the risk resulting from debt with the respective debtor state (Plender 2019). Thereby, the liability principle avoids the collectivisation of risk and cost, thus working against moral hazard.
For the same purpose, the prohibition monetary financing[19] was entrenched in the European treaties. It prohibits ECB loans for member states or the direct purchase of sovereign bonds, as recommended in fiscal federal literature and in ordoliberal theory. Only with this provision, member states’ reliance on ECB liquidity for excessive public expenditure can also be avoided by upholding market pressure (European Court of Justice 2015; Nedergaard and Snaith 2015; Schäfer 2016; Watt 2016, 245). According to influential decision-makers like Otmar Issing, who strongly shaped the ECB’s monetary strategy as a former member of the directorate of the German Bundesbank (1990-1998) and the ECB (1998-2006), it is absolutely indispensable to avoid moral hazard (Issing 2010). As well Weidmann underlines that the no-bailout clause and the prohibition of monetary financing are indispensable to enforce the liability principle (Weidmann 2015, 3f.).

Besides the mentioned legal provisions, also fiscal rules are seen as a “safeguard of sound public finances in a monetary union” (Weidmann 2015, 3f.).

5.2.2. Fiscal constraint via fiscal rules

Fiscal rules serve to reduce the risk of moral hazard by imposing constraints on member states’ public expenditure (Issing in: ECB 2006, 74; Heipertz and Verdun 2004, 765). Thus, they shall help to avoid the externalisation of “bad policy choices” (Weidmann 2015, 3f.) and support individual liability (Weidmann 2014, 1ff.). Hence, they are essential for ordoliberals to ensure price stability (Dyson 1999, 40; McNamara 2006, 808; Weidmann 2015, 3f.). Even Draghi, often in the focus of ordoliberal critique for introducing the ECB’s LOLR programmes, underlines that “the consequences of misguided fiscal policies in a monetary union are too severe to remain self-policed” (Draghi in: Weidmann 2015).

The two central fiscal rules of EMU governance are the Maastricht criteria and the SGP.
The Maastricht criteria demand an annual government deficit-to-GDP ratio of a maximum of 3% and a debt-to-GDP ratio of a maximum of 60% for EU accession candidates. These benchmarks were enshrined in the SGP to safeguard macro-economic stability and ensure fiscal constraint also after the accession (Börzel 2016, 8; McNamara 2006, 818) and decrease state activity (Fitoussi and Saraceno 2013, 480ff., 492; Majone 1997, 142; Mckay 2005, 529). These precautions are strongly influenced by ordoliberal principles (Dyson 1999, 38; Jessop 2019, 973ff.).

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public undertakings of another Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project.

[19] Article 123 TFEU (1): “Overdraft facilities or any other type of credit facility with the European Central Bank or with the central banks of the Member States (hereinafter referred to as "national central banks") in favour of Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the European Central Bank or national central banks of debt instruments.”

The SGP encompasses preventive and punitive instruments, through which budget imbalances can be sanctioned with 0.2-0.5% of GDP with a 2/3 majority in the Council of the European Union (Council). Although in 2005, its requirements were softened,[20] its restrictive effects on public expenditure and states' room for manoeuvre, through for example peer pressure, is widely acknowledged (De Grauwe 2014, 223f.; see also: Fitoussi and Saraceno 2008).

In conclusion, the EMU created a set of rules binding on budgetary policy" (Dyson 1999, 41) to ensure price stability as suggested by ordoliberal theory (Dyson 1999, 35ff.; Matthijs 2016, 379; Young 2018, 8). Together with the prohibition of monetary financing and joint liability, they ensure restrictive monetary and fiscal policy, thereby protecting price stability against moral hazard. These measures are compiled in table four together with measures suggested by literature on LOLR and fiscal federalism.

Table 4 - Measures against moral hazard

(Fiscal federalism, LOLR and governance literature)

Measures	
Ex-ante measures	Conditionality Constructive ambiguity Programme limitations*
Ex-post measures	Punitive measures
Permanent measures	No-Bailout Provisions of budgetary limitation

*For reasons of clarity, the section "programme limitation" encompasses the prohibition of monetary financing.

Source: own illustration.

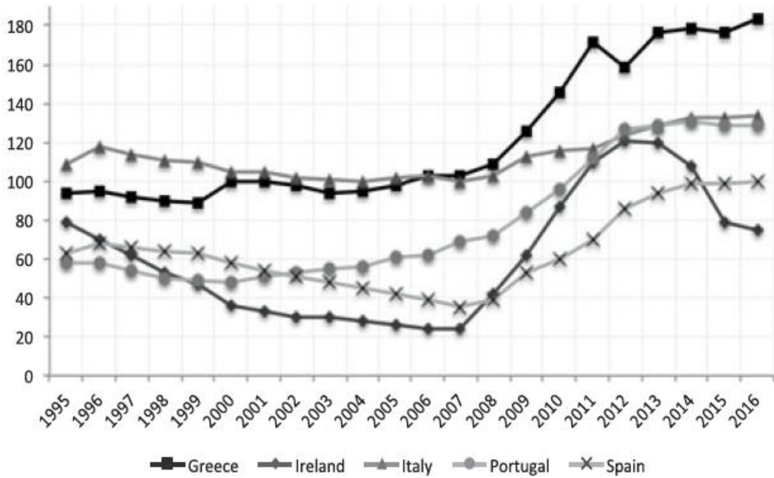
As LOLR's expansionary monetary policy is criticised to encourage moral hazard and thereby public expenditure, it seems to be irreconcilable with ordoliberal principles and the EMU's provisions of fiscal constraint. These cleavages became even greater in the aftermath of the global financial crisis, which will be in the focus of the next section.

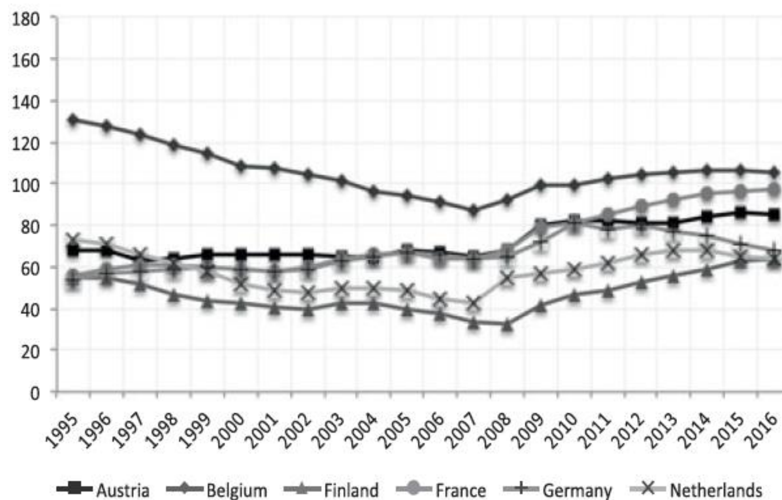
[20] This was a reaction to the repeated and unsanctioned violation of the SGP's benchmarks through inter alia Germany and France (De Grauwe 2014, 224; Feld, Köhler, and Nientiedt 2015, 56f.; Nedergaard 2020, 227).

6. The EMU in the aftermath of the crisis: Deficits and their consequences

The financial crisis that started in 2007 caused massive distortions in the EMU's interbank lending market, which soon threatened the solvency of big financial institutions. Consequently, financial instability increased and economic recession unfolded.
To stabilise the financial system and launch economic stimulus packages, EMU member states heavily increased their deficit soon after the outbreak of the crisis. In 2009, the uncertainty as to whether especially highly indebted members would be able to repay their debt culminated into a sovereign debt crisis (ECB 2009b, 61f.; Scharpf 2013b, 173; Schelkle 2016, 61f.). Sovereign bonds of those member states were sold to great extents and interest rates rose sharply, ultimately threatening individual states' solvency. The possibility of a contagion of other member states eventually threatened the very existence of the EMU (Illing and König 2014, 17ff.; see also: De Grauwe and Ji 2015). But more than factual debt-to-GDP ratios, a "bad equilibrium" was at play, understood as a loss of confidence in states' solvency because of growing debt and interest rates. This "bad equilibrium" triggered negative self-fulfilling market sentiments and consequently solvency crises of some EMU members as Paul de Grauwe and Ji Yuemei argue, based on their empirical assessment of sovereign bond markets (De Grauwe and Ji 2013b; 2015). While, for instance, the Italian debt was at around 105% of the GDP in 2002 and 2009, only in 2009 this led to a "bad equilibrium" and consequently speculation on a possible Italian default (Blyth 2013, 5). This assessment is consistent with factual debt-to-GDP ratios, as shown in Figure 1.

Figure 1 - Government debt 1995-2016 (in % of GDP)





Source: IMF. 2016. World Economic Outlook Database.

Despite this course of events, it was not the fiscal intemperance of banks but member states' low competitiveness and the violation of fiscal rules that were seen as the root cause for the crisis (Matthijs 2016, 376; Ryner 2015, 282).[21] Especially, moral hazard and resulting "fiscal sins" of struggling member states shifted at the centre of the attention (Matthijs and McNamara 2015, 230; see also: Blyth 2013). The EMU's crisis response was soon dominated by the "fiscal discipline view", as will be shown in the next section.

6.1.Persistence of ordoliberal crisis response

This diagnosis, or as de Grauwe and Ji argue "misdiagnosis" (De Grauwe and Ji 2015, 750; see also: Blyth 2013), only leaves one solution for the crisis, namely: the avoidance of moral hazard by means of strict fiscal constraint. This approach aims to considerably reduce public debt (Börzel 2016, 12; see also: Fitoussi and Saraceno 2013, 483; Matthijs 2016, 376; Whyman 2018, 15;) and avoid inflationary tendencies, which is "wholeheartedly shared by ordoliberal thought" (Biebricher 2014, 8). Ultimately, the role of the state should be reduced also to rebuild trust of the financial markets (Biebricher 2014, 8; Papadopoulos 2020). Ordoliberal policy proposals thus became the "prescription" (Blyth 2013, 141) or "mantra" (Biebricher 2014, 7) of crisis response (see also: Bulmer and Paterson 2013; Crespy and Schmidt 2014; Dullien and Guérot 2012). Consequently, Eurobonds or other measures that would run counter ordoliberal liability principles or make refinancing for public expenditure easier were rejected on the grounds of moral hazard. In Issing's words, Eurobonds "would send a message to highly indebted countries that they can enjoy modest borrowing costs without making efforts to bring public finances under control. This would reward bad policies and punish sound economic management (…)" (Issing 2014).

Within ordoliberal crisis response, Germany played a leading role (Biebricher 2014, 13; Dale 2019, 149; Young 2018, 2; see also: Crespy and Schmidt 2014)[22] supported by the Netherlands, Finland and even France during the Sarkozy presidency (Matthijs 2016, 382; Schimmelfennig 2018, 1583). As old standards for fiscal discipline were considered to be insufficient to reduce

[21] Already the term "sovereign debt crisis" represents for Blyth a politics of "bait and switch" (…) "when in fact it is a transmuted and well-camouflaged banking crisis" (Blyth 2013, 5).

[22] For more details on the role of German policy-makers see for example Nedergaard and Snaith 2015.

public expenditure and thereby debt (Oręziak 2018, 94f.; Schimmelfennig 2018, 1584; Young 2018, 8), new intergovernmental mechanisms were created to avoid moral hazard (Weidmann 2015, 4). Out of these, the "European Semester", the "Fiscal Compact", the "Six-Pack" and "Two-Pack", the "Excessive Deficit Procedure" (EDP) and the ESM are the main tools.

The Fiscal Compact, along with the Six- and Two-Pack, are the main pillars of the European Semester that places national budgets under additional monitoring by the Council and by the European Commission (EC) (European Commission 2018). According to the "Fiscal Compact", the annual deficit cannot exceed 0,5% of the GDP or 1%, but only in case of a debt-to-GDP ratio of 60%. These benchmarks are backed by quasi-automatic sanctions of 0,2%-0,5% of the GDP. A suspension of the sanctions is only possible with a qualified majority vote in the Council, making the EC's fiscal recommendations much more committing (Fitoussi and Saraceno 2013, 480; see also: Blyth and Matthijs 2018; Ricceri 2014).
Out of the mentioned measures, especially the intergovernmental ESM[23] caught academic attention (see for example: Börzel 2016; Elsässer and Streeck 2016; Ioannou, Leblond, and Niemann 2015). Founded in October 2012, the ESM can supply liquidity to struggling states with up to €705bn.[24] In order to have access to ESM liquidity, countries need to pursue structural reforms like the reduction of pensions, increases of the retirement age as well as minimum-wage reductions, for instance, by 22% in the case of Greece (Hopkin and Jacoby 2020, 1166). These highly controversial reforms are monitored and implemented by the so-called "Troika", today called the "Institutions", composed of the ECB, the EC and the IMF as main liquidity providers.
Restrictions on members' fiscal policies to face moral hazard concerns found their counterpart in the restrictive monetary policy of the ECB.
As an immediate response to the crisis, between September 2008 and January 2009, the ECB only slightly enlarged its main refinancing operations (Bini Smaghi 2009; ECB 2008) and reacted more reluctantly than other CB's. It increased its assets only by 45% compared to about 150% of the Fed and the BOE while capital injections in the banking sector remained only a fraction of the capital provided by the other CB's (Jeffers 2010). Further, the ECB did not lower the key interest rate, estimating in 2008 that inflation is "(…) likely to remain well above levels consistent with price stability for some time" (ECB 2008). In accordance with this approach, even the indirect purchase of government securities was clearly rejected as "this would amount to the monetisation of government debt, a sure road towards inflation (…)" (ECB 2009a).

All in all, this insistence on fiscal constraint shows a strong persistence of ordoliberal influence within EMU crisis response. The Banking Union led to some progress in financial regulation (see for example: Ohler 2015, 150f., 217ff.; Tömmel 2014, 200f.) and public expenditure, especially in the case of Greece, was overly excessive (see for example: Saraceno 2016, 130ff.). Yet, although financial speculation was the root cause of the crisis, policies focussed mainly on restricting public expenditure (Bothello and Djelic 2013, 609), instead of strict financial regulation. This approach put welfare systems of European member states under severe pressure

[23] The ESM largely took over the role of the European Financial Stability Facility and the European Financial Stabilization Mechanism.
[24] The € 705bn. consist of €80bn. of paid-in capital of EMU members and €625 bn. in committed capital that can be leveraged if needed.

and soon proved to be insufficient to sustainably mitigate the crisis. These deficits eventually pushed the ECB to become a lender of last resort for EMU member states.

6.2.Deficits of EMU crisis response

As shown in Figure 1, the ECB's conventional monetary policy did not suffice to increase the overall money supply rapidly enough (Bini Smaghi 2009). Financial institutions held back liquidity to recapitalise themselves, leading to a liquidity trap and a shortage of credit supply in the non-banking sector. Ultimately, this led to a strong deterioration of the economic situation (De Grauwe 2011a, 5; 2012, 1; Saraceno 2016, 130f.).

Figure 2 - Money supply growth in comparison

Source: Federal Reserve Bank of Dallas. 2020. National Central Banks; Haver Analytics: Globalization Institute.

At the same time, because of fiscal constraint that led to economic recession, the debt and interest rates of countries hit the most by the crisis further increased (Biebricher 2014, 8; Blyth 2013, 3f., 143; Frankel 2015, 433). Portugal's debt-to-GDP ratio, for instance, rose from 24,8% in 2007 to 106,4% in 2012, while the interest on its ten-year bonds rose from 4% in 2007 to 14% in 2011.

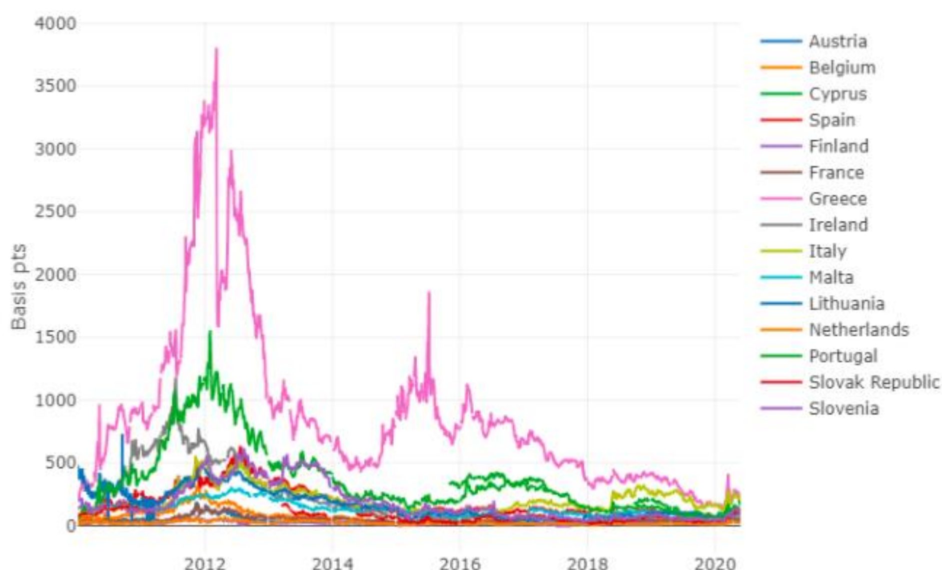
Ultimately, the policy of fiscal constraint proved to be "overly aggressive" and harmful to economic development (Hopkin and Jacoby 2020, 1170). This is the case, as it reduces demand (De Grauwe and Ji 2015, 751; Herr 2014, 71; see also: Streeck 2015a) and creates deflationary expectations that undermine investment (Blyth and Matthijs 2018, 120) while reducing states' room for manoeuvre for economic stimulus. Ultimately, this causes procyclical effects leading to greater recession.

Increasing financial instability revealed the limits of intergovernmental approaches (Fabbrini 2013), also because ESM resources were too limited to stabilise entire states (see for example: European Parliament 2012), and supranational measures were not feasible given the deadlock in the European Council. At the same time, policies of fiscal constraint divided EMU member states in creditors and debtors (Streeck 2015b, 15; see also: Matthijs and McNamara 2015; Scharpf 2013a). Creditors led by Germany insisted on a "stability union" rejecting any form of collective liability such as Eurobonds because of moral hazard concerns (Jabko 2015, 79ff.).

Especially German media outlets and influential politicians like Chancellor Merkel[25] and the influential long-time German Minister of Finance Wolfgang Schäuble[26] were vocal about their rejection of deeper integrative steps (Matthijs and McNamara 2015, 239f.; Young 2018, 8). Given their strong position, they prevailed over countries like Italy that pushed for a fully-fledged fiscal union (Buti and Carnot 2012, 252).

Confronted with this deadlock and ever-growing debt in many EMU member states, banks were increasingly unwilling to provide struggling EMU member states with credit as their debt was deemed unsustainably high (De Grauwe 2011a, 5; see also: Herr 2014). When in 2012, Greek insolvency seemed imminent, a "bad equilibrium" followed as investors were caught by panic. They sold Greek sovereign bonds and those of other struggling yet solvent "GIIPS states" (Greece, Ireland, Italy, Portugal, Spain) up to a point, where the EMU experienced a collapse of sovereign bond prices and unprecedented high interest rates as Figure 3 illustrates. These events even threatened the solvency of larger member states like Spain and Italy confronting the EMU with an existential crisis.

Figure 3 - Sovereign bond spreads in the euro area (2010-2020)



Source: Reuters. 2020. Eikon.

Driven by tight budgetary limitation, a persistently restrictive monetary policy and the deadlock of community measures in the face of financial and economic instability, the ECB was forced to shift towards an expansionary monetary policy to avert this crisis.

[25] Angela Merkel even declared that „as long as she lives", there will be no Eurobonds (Der Spiegel 2012).
[26] Schäuble is himself strongly influenced by ordoliberal thought (Schäuble 2020).

7. The ECB as lender of last resort – A product of the crisis

7.1.Lender of last resort for banks – A first but insufficient step

The ECB's shift can be segmented into two periods.
Within the first period, the ECB focused on providing "liquidity to banks and to keep financial markets functioning" (ECB 2021d). To do so, the ECB incrementally lowered the key interest rate from 2% in early 2008 to eventually zero until 2019. In 2008, it introduced a full-allotment policy providing unlimited liquidity to banks at increasing lending maturity. With the emergence of the sovereign debt crisis in 2009, it introduced negative interest rates on the deposit facility[27] and engaged in forward guidance[28] (ECB 2021d). It further supported financial institutions throughout the crisis with Emergency Liquidity Assistance (ELA) and Longer-Term Refinancing Operations (LTROs) to incentivise lending to the non-banking sector. Already at this point, the ECB served as LOLR for financial institutions, as Peter Praet, member of the Executive Board of the ECB underlines (ECB 2016b). While the ECB measures seemed to ease tensions in the EMU's interbank market (Bini Smaghi 2009), it still did not manage to calm down the turmoil in the sovereign debt market (Saraceno 2016, 141).

The abovementioned danger of sovereign default and the resulting systemic threats for the EMU in 2012 made the ECB the only actor left capable of responding quickly and effectively (Krampf 2015, 34; Matthijs 2016, 385; Young 2018, 389ff.; see also: Asmussen 2013; Saraceno 2016; Verdun 2017). Paradoxically, the "ever closer squeezing" of fiscal constraint made an "ever looser money" of the ECB necessary (Blyth and Matthijs 2018, 120) so that in 2012, the ECB entered the second phase of its purchase programmes. This measures against the malfunctioning of sovereign bond markets to reduce differences in financing conditions of EMU member states. In other words, the ECB, for the first time in its history, acted as the lender of last resort for EMU member states.

7.2.Lender of last resort for EMU member states - Beginning of the end of the crisis

In line with LOLR academic conceptualisation, the ECB signalled its preparedness to provide unlimited liquidity to financial agents to potentially or factually satisfy an increase in liquidity demand. This policy is based on Article 18.1 of the Statute of the ESCB allowing the ECB, or more precisely the ESCB - as purchases are conducted mainly by NCBs of the member states - to buy and sell marketable instruments. For clarity, the master thesis's analysis will refer to the ECB as the collective decision-making body for monetary policy, comprising decisions of the Governing Council and the ECB directorate. The ESCB, on the other hand, composed of the ECB and NCBs of the EMU members, is understood as the body implementing the ECB's monetary policy decision, such as sovereign bond purchases.
According to the aforementioned statute, purchases of sovereign bonds are permitted but only indirectly from financial institutions on the secondary market. The ECB, therefore, exercises its LOLR function exclusively via financial intermediaries, which will play an important role considering the question of its effect on moral hazard.

[27] Interest rate that financial institutions need to pay in order to park liquidity at the ECB.
[28] Forward guidance describes expectation management aiming to induce financial institutions to provide cheap credit for investment and spending, thereby stimulating economic activity (ECB 2020c).

The ECB's LOLR policies are comprised of "Outright Monetary Transactions" introduced in September 2012 and "Quantitative Easing" that started in September 2014. For comparison, the Fed started its QE programme already in 2008 and thus much earlier than the ECB.
Both OMT and QE, according to the ECB, are necessary to maintain price stability by stabilising monetary transmission channels and bringing inflation sustainably to close to but below 2% (ECB 2012a, 5f.; see also: 2015b; 2016b). LOLR policies also comprised the Securities Market Programme (SMP), which will be of lesser importance for this analysis as its limited duration and quantity[29] was not able to safeguard the monetary policy transmission channels. It was soon replaced by OMT (Draghi and Vítor 2012; Herr 2014).

OMT are linked to ESM conditionality demanding far-reaching macroeconomic adjustment reforms (ECB 2012b). Besides the primary goal of maintaining price stability, OMT were also designed "(…) to address severe distortions in government bond markets (…)" (ECB 2012a, 5). The ECB deemed this necessary to avoid a "Great Depression scenario" and price instability as Benoit Coeuré, member of the ECB's Executive Board until 2019, underlines (Coeuré 2012). By providing struggling states potentially with unlimited amounts of liquidity, the programmes successfully reduced financial market prices for sovereign bonds and closed the spreads of interest rates between EMU members. It thus managed to calm down the sovereign bond markets and averted a self-fulfilling "bad equilibrium" (Illing and König 2014, 28). This is remarkable given that it has never been used. This is the reason, why, despite its success, it did not increase the money supply so that inflation remained too low to counter deflationary trends (Draghi 2015b).
To change this, the ECB introduced QE. It is composed of different "Asset Purchase Programmes" (APP)[30] out of which the large-scale purchases of sovereign bonds via the "Public Sector Purchase Programme" (PSPP) will be of primary interest for this analysis as it is the only APP programme that addresses EMU member states.
Introduced in March 2015, PSPP purchases were initially capped at a quantity of €60 to €80bn. per month between March 2016 and September 2016 according to decision 2015/774 (ECB 2015d), which was deemed too low to guarantee price stability according to decision 2017/100 (ECB 2017). Soon, the ECB expanded PSPP's quantity and duration and held – as of December 2020 - sovereign bonds of €2,463,117bn. (ECB 2021a)[31] which makes the PSPP by far the most extensive programme of the APPs.
Therefore, PSPP differs from OMT insofar as it actually provides unsterilised liquidity and exclusively targets deflation risks through the continuous purchase of state bonds until inflation reaches the ECB benchmark below but close to 2% (Draghi 2015b). In stark contrast to OMT, "QE is part now of the toolbox, it's permanent and it is something that may be conceived as potentially usable in contingencies (…)" (De Guindos and Draghi 2018).

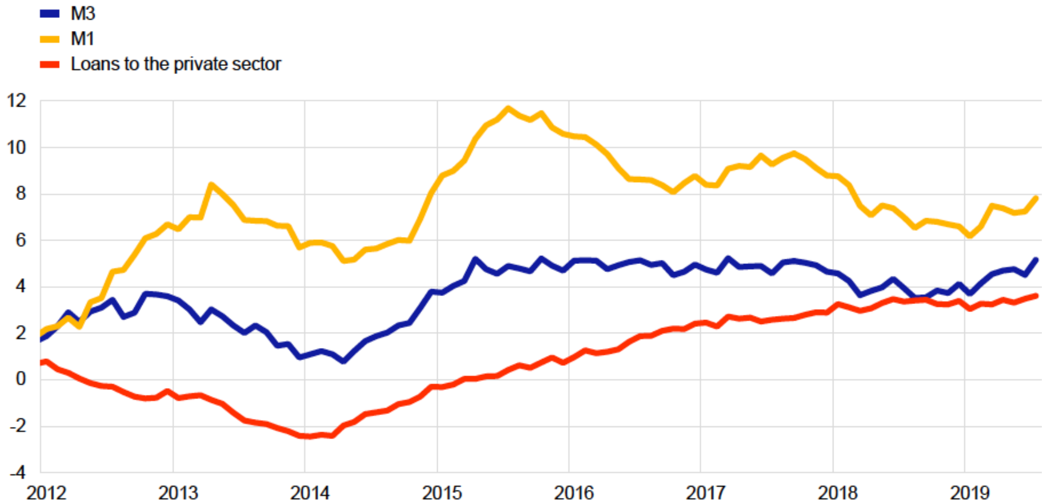
[29] Until 2013, SMP reached a volume of €600bn. which is too limited to guarantee financial stability (see for example: Herr 2014).

[30] Except PSPP, the programmes target especially refinancing problems of financial institutions by providing them with cheap liquidity (as of March 2021): "Covered Bonds Purchase Programme" (CBPP) amounting to €289.4bn.; "Asset-Backed Securities Purchase Programme" (ABSPP) of €28.7bn.; "Corporate Sector Purchase Programme" (CSPP) amounting to €266bn.

[31] Here, bonds of central governments and recognised agencies, regional and local governments represent 90% of all purchases, while international organisations and multilateral development banks located in the euro area represent 10% (ECB 2021a).

In conclusion, OMT and PSPP are widely considered to have turned the ECB into the EMU's lender of last resort (see for example: Demary and Matthes 2013; Ferrara 2020; Gnath and Hainbach 2020). Although the purchase of sovereign bonds is not explicitly forbidden by European law, it never had been a common practice.
With the programmes, the ECB successfully stabilised the EMU in times of severe crisis by boosting sovereign bond prices and closing spreads between EMU member states (De Grauwe and Ji 2015, 743; Saraceno 2016, 130f.; Whyman 2018, 40). It further increased the money supply (Figure 4) and brought demand and inflation to levels congruent with the EMU's objectives (Bundesbank 2016, 53).

Figure 4 - M1, M3 and loans to the private sector in the EMU



Source: ECB. 2019. Economic Bulletin September 2019.

At the same time, LOLR policies constitute a "game changer" for EMU governance (De Grauwe and Ji 2013a, 33). Many scholars see the ECB's LOLR policies as a major integrative step to fiscal federalism (Ricceri 2014, 86; Riekmann and Wydra 2015; Whyman 2018, 40). At the same time, these policies denote a shift of focus from price stability to the stability of the entire EMU (Majone 2014, 54; see also: Ferrara 2020; Schmidt 2016; Valiante 2011), questioning the ordoliberal dominance (Schmidt and Thatcher 2013, 346, 426).
Despite these claims, Demosthenes Ioannou and his colleagues correctly state that "(…) it is still a long way from a fully fledged fiscal union with an EU-level fiscal policy (…)" (Ioannou, Leblond, and Niemann 2015, 162). Further, it is still doubtful that the ECB really broke with the ordoliberal objective of price stability (see for example: Saraceno 2016).
Nevertheless, LOLR policies show a clear shift from a rule-based approach to a more discretionary crisis response (Matthijs 2016, 383; Schmidt 2016; Storey 2019, 1039f.). This leaves doubts on the ECB's commitment to fiscal constraint (Ferrara 2020, 1480) as the ECB set "(…) aside all fears of moral hazard and inflation, and concerns about the fiscal implications of its lending" (De Grauwe 2011a, 2). Consequently, LOLR policies and the EMU governance system seem to be in increasing conflict (Wilkinson 2019, 1030).

Although the ECB's LOLR measures and associated moral hazard concerns also regard financial institutions (see for example: Acharya, Pierret, and Steffen 2016; De Grauwe 2012;

Demary and Matthes 2013), support for banks has been of lesser concerns for ordoliberals. Instead, it is the provisions of liquidity for EMU member states that gave rise to strong critique against the ECB's LOLR policies especially for its potential to cause moral hazard. The next chapter will present this critique and weigh up factors through which the ECB's LOLR policies are seen to induce moral hazard with respective countermeasures suggested in literature. Evaluating the effectiveness of the LOLR policies for economic development, its legality and its implications for European integration, although relevant, will not be subject of the analysis.

8. The ordoliberal critique under scrutiny

Although the ECB's engagement stayed modest compared to other CBs, its LOLR policies were criticised the most by ordoliberals in academia and politics to undermine fiscal constraint (De Grauwe 2011a, 7). Consequently, for ordoliberals, LOLR policies not only disincentivise EMU member states to reduce deficit and debt (Demary and Matthes 2013, 3; Hartmann and Smets 2018, 61; see also: Hallerberg 2011; Issing 2011), but even create incentives for excessive public expenditure (Feld, Köhler, and Nientiedt 2015, 58; Schelkle 2016, 15).
This is especially harmful for highly indebted states that need deficit and debt reduction the most (Demary and Matthes 2013, 3). At the same time, ordoliberals argue that this behaviour threatens the entire EMU as costs and risks resulting from individual debt, such as high interest rates, state insolvency but especially price instability are transferred to the collective (Issing 2011; Weidmann in: Financial Times 2016; Weidmann in: Handelsblatt 2012).
The concern that LOLR policies might disincentivise debt reduction are shared even by supporters of LOLR (De Grauwe 2012, 2), but were formulated especially by German policy-makers like Issing and Schäuble as well as institutions like the Bundesbank.
In the ECB Governing Council, LOLR policies faced great resistance. OMT were passed presumably counter the vote of Bundesbank president Weidmann (Davies 2015), although this claim remains a presumption as minutes of Governing Council decisions are not published. Concerning QE, nine of 25 members of the ECB's Governing Council spoke out against a new round of QE in 2019 (Arnold and Chazan 2019).
Besides the political disagreement, LOLR programmes were also subject to judicial contestation. In 2014, the GFCC declared OMT illegal as they pursue economic policy which is not covered by the ECB's mandate (GFCC 2014). This put in doubt the participation of the Bundesbank in the purchase programmes challenging their very existence. In 2015, the ECJ contradicted the German Court and ruled that OMT are legal (European Court of Justice 2015, 14).
PSPP has also been contested before the ECJ by German politicians and economists but was upheld as necessary to guarantee price stability (European Court of Justice 2018, 11, 16). In May 2020, despite the ruling of the ECJ, the GFCC qualified PSPP as "ultra-vires", declaring that the ECB went beyond its legal mandate. This leaves doubts on the legality of LOLR policies (Brade and Gentzsch 2020). More importantly, the GFCC ruling also led to a premier in the history of EU law as a constitutional court of one EU member state refuted a decision of the ECJ thereby challenging the primacy of EU law over national law. In June 2021, the EC launched an infringement proceeding against Germany to inquire how the German government wants to ensure primacy of EU law (Deutschlandfunk 2021). A declaration is to be expected in the following months.

LOLR policies and its critics did not only create severe conflicts between EMU members, the ECB and individual member states, but also fundamental cleavages in the interpretation of European law (Riekmann and Wydra 2015, 210).
To bring more differentiation in these conflicts, the following section will present the factors considered to cause moral hazard. These will be analysed against the backdrop of the ECB's LOLR policies' technical features to assess the extent to which the programmes actually provide opportunities for moral hazard.[32] Although the main categories are interdependent, they will be analysed in an isolated manner to enable greater analytical depth and clarity.

Monetary financing stands at the beginning of the ECB critics' moral hazard concerns and will therefore be the starting point of the analysis.

8.1.Monetary financing – The ECB as a reliable source of liquidity?

Monetary financing is criticised to turn the ECB into the biggest creditor of EMU members (Storey 2019, 1036; Weidmann 2015, 8) and their "ultimate problem solver" (Weidmann 2015, 8). The ESCB purchases bonds only indirectly on the secondary market which is legally not a form of monetary financing (European Court of Justice 2015, 16; 2018, 19). Yet, for the Bundesbank, states and markets can permanently rely on ESCB purchases thus constituting a form of monetary financing (Bundesbank in: GFCC 2014, 13). The ECB therefore not only infringes the prohibition of monetary financing as an essential provision of EMU governance (Issing 2011; Krampf 2016, 460). According to critics, it also enables moral hazard as members rely on the ECB to take over responsibility for consequences of excessive debt-financed expenditure like unsustainable debt level and losses. The ESCB represents a collective insurance against risks resulting from member states' actions. These members are consequently incentivised to increase their expenditure at the cost of the EMU's financial stability and against the ordoliberal objective of price stability (Buch et al. 2013, 146; Weidmann 2015).

A closer look to the technical features of the ESCB's LOLR policies shows the invalidity of this critique.
First, concerning both OMT and PSPP the ESCB is free to decide whether and to what extent it purchases sovereign bonds (Coeuré 2013). The exact quantity of purchases and their timing is unknown and the ESCB can sell bonds at any time. This leaves serious doubts on the permanence of the programmes and the general willingness of the ESCB to purchase sovereign bonds in contrast to the GFCC's claims (European Court of Justice 2015, 18f.; 2018, 23). Member states may thus be forced "(…) to seek financing on the markets without being able to take advantage of the easing of financing conditions that implementation of the PSPP may entail" (European Court of Justice 2018, 23). For instance, the ESCB completely terminated its PSPP net purchases between January and September 2019 (ECB 2018). This constructive ambiguity heavily reduces member states' possibilities to rely on the ECB to take over responsibility for risks and losses resulting from their actions.
Second, both programmes are limited in time.

[32] For an overview of countermeasures see the Annex.

OMT are to be terminated when they reinstate monetary transmission mechanisms by bringing down exorbitant interest rates of member states (European Court of Justice 2015, 18). While this leaves some discretion to the ECB as to when to terminate the programme, limits for PSPP are more concrete. PSPP is bound by ECJ ruling to the ECB's inflation target of close to, but below 2% (European Court of Justice 2018, 13). As soon as the target is reached, the legal permission for its implementation cease to exist, forcing the ECB to terminate the programme. This legal limit, installed to calm down moral hazard concerns (Lombardi and Moschella 2016, 861ff.), even goes beyond suggestions in literature arguing for at least seemingly unlimited purchases.

Third, both purchase programmes are limited by quantity.

As already mentioned, OMT have never been applied. The ECB is unlikely to change this as OMT's mere announcement already fulfilled its objective (Lombardi and Moschella 2016, 861). Even if the ECB decided to apply OMT, they are capped at €524 bn. This amount, as the ECJ argues, is insufficient for the member states to rely upon (European Court of Justice 2015, 19). Moreover, OMT are only targeted at short-term bonds with a maturity between one and three years to limit the factual duration of purchases and the overall expansion of the ESCB's balance sheet, which "is an important aspect in maintaining fiscal discipline and addressing moral hazard" (ECB 2012a, 10).

Concerning PSPP, the ECB decided in its decision 2015/2101that purchases are limited to 33% of each issue (issue-specific limit) and to 33% of the overall amount of bonds of the same state (issuer-specific limit) in order to limit monetary financing and its consequences (ECB 2015e, Article 1).

Limitations are further ensured through the "specialisation scheme" that was introduced at the demand of the Bundesbank (Buhse 2015; Draghi 2015a). With this scheme, sovereign bonds of EMU member states are bought by their respective NCB and not by the entire ECB. Further, the "specialisation scheme" limits overall purchases to the member states' respective capital share at the ECB factually putting a cap on the quantity of bonds purchased by the ECB.

> Therefore, "(…) the considerable increase in a Member State's deficit resulting from the possible abandonment of a sound budgetary policy would reduce the proportion of that Member State's bonds purchased by the ESCB" (European Court of Justice 2018, 23).

If the amount of sovereign bonds, following a strong increase in debt, is not available anymore to the extent that PSPP would be able to purchase according to the respective countries' capital share, the liquidity provided by PSPP is simply reduced. Consequently, the "implementation of the PSPP does not (…) enable a Member State to avoid the consequences (…) of any deterioration in its budgetary position" (European Court of Justice 2018, 23). According to the ECJ, these limits create great uncertainty as to whether the ESCB purchases sovereign bonds in general, impeding private purchasers to fully act "as an intermediary of the ESCB for the direct purchase of bonds from a Member State" (European Court of Justice 2018, 21f.). Hence, one cannot speak of monetary financing through the ESCB, which also reduces the possibility of member states to rely on its purchases and, therefore, the opportunity for moral hazard.

Moral hazard is further limited through conditionality attached to the ECB's programmes presumably introduced to "(…) satisfy opposing political forces within the Governing Council"

(Lombardi and Moschella 2016, 861). Only states that are particularly threatened by insolvency and thus take part in the ESM are eligible for OMT (European Court of Justice 2015, 15ff.). A Memorandum of Understanding signed with "the Institutions" is a necessary precondition for participation in OMT, implying the implementation of far-reaching structural reforms (Coeuré 2013; see also: European Parliament 2012). Within the ESM, Germany has a de facto veto on granting or withdrawing financial support so that it can ensure the upholding of conditionality (Demary and Matthes 2013, 12f.). As the ECJ underlines, this conditionality inhibits OMT from "acting as an incentive to those States to dispense with fiscal consolidation, relying on the financing opportunities to which the implementation of such a programme could give rise" (European Court of Justice 2015, 19). In line with suggestions from academia, this conditionality does not only inhibit moral hazard but even increases pressure on states to limit public expenditure.

PSPP is not linked to the ESM but shows conditionality in the form of purchase criteria. The ESCB only purchases sovereign bonds that are beyond level three of the minimum credit quality requirement of the Eurosystem's harmonised rating scale demanding at least one credit rating by credit assessment institutions (ECB 2015d, Article 3(2a)).[33] Bonds below this threshold are excluded from the programmes so that members can rely even less on the ESCB to support them with liquidity in times of crisis. For example, Greek bonds were never included in PSPP, because of their insufficient credit rating (Reuters 2020a). For the same reason, purchases of Cypriote bonds were terminated between 2016 and 2018 so that Cyprus received much less liquidity than other countries (Kampouris 2018). Furthermore, countries without sufficient ratings can only become eligible if they adhere to an EU-IMF adjustment programme in order to prevent "potentially unsound policies" (ECB 2015c). Opportunities for moral hazard are, therefore, clearly limited, especially for states that are often in the centre of the critique due to their alleged fiscal profligacy.

To conclude, ambiguity and limits regarding quantity and duration of the programmes as well as conditionality mechanisms restrain even indirect forms of monetary financing and associated possibilities for moral hazard. The ECJ is thus correct in arguing that the programmes "(…) cannot be treated as equivalent to a measure granting financial assistance to a Member State" (European Court of Justice 2015, 17; see also: European Court of Justice 2018, 19). Thanks to the indirect nature of the purchases, member states simply cannot use the programmes to engage in excessive public expenditure as they have to be first bought by private creditors (European Court of Justice 2018, 25).

It is even argued that the programmes reassert the prohibition of monetary financing (Lombardi and Moschella 2016) or alternatively avoid monetary financing as the non-existence of LOLR policies would make monetary financing necessary to prevent a potential breakup of the EMU in case of crises (Draghi 2015b). Although this remains doubtful, the design of the programmes clearly follows recommendations from literature on the limitation of LOLR programmes. By design, the possibility of moral hazard is strongly reduced so that the ordoliberal moral hazard concerns associated with monetary financing seems inaccurate.

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[33] According to section 6.3.1 of Annex I to Guideline ECB/2011/14, this requirement is equivalent to a 0.4% default probability over one year (ECB 2011, 14) and a Standard and Poor rating of A-2/A-3 for short-term bonds and BBB+/BBB/BBB- for long-term bonds (ECB 2021c).

For their opponents, the ECB's LOLR policies are also a problem because they are seen to create joint liability, which will be the subject of the next section.

8.2.Joint liability – Collectivisation of risks and costs?

Following ordoliberal logic and criticism, LOLR policies create joint liability. The ESCB purchases bonds of individual member states so that the EMU as a whole becomes responsible and liable for its member states' deficits and debt (Sinn 2018, 1409; Weidmann 2015, 3f.). This leads to a "far-reaching collectivisation of risk" (Weidmann in: Spiegel Online 2012) finding expression in a newly established regime of debt mutualisation (Sinn 2018, 1409; Weidmann 2015, 3f.).

The view that through its LOLR purchase programmes the EMU became liable for potential risks and factual losses is also supported in academia (Krampf 2016, 460f.; Young 2018, 8). Even Streeck, not an outspoken critique on LOLR measures, speaks of an "ersatz debt mutualization" (Streeck 2015b, 15).

Ultimately, the collectivisation of risks and losses violates the no-bailout clause by turning the EMU into a central bailout instance for individual member states (Schelkle 2016, 15). At the same time, this undermines the ordoliberal principle of individual liability (Feld, Köhler, and Nientiedt 2015, 58f.; see also: Young 2018). As a consequence, responsibility and decision-making become separated, which leads to moral hazard (Feld, Köhler, and Nientiedt 2015, 58; Schelkle 2016, 15). Hence, individual states could engage in excessive debt-financed expenditure as they are not anymore solely liable for consequences and can shift costs and risk to the entire EMU (Weidmann in: Spiegel Online 2012).

Risk-sharing is indeed a part of the programmes and deemed necessary to ensure their effectiveness by increasing the stability of some through collective action (Coeuré 2013; Draghi 2015b). This supports the view of LOLR critics.

Still, and in stark contrast to the critique, the programmes are marked by provisions to limit joint liability and common bailouts.

Concerning PSPP, the ECB itself only purchases 10% of member states' bonds, which mostly aims to align overall purchases with the capital key, while the remaining 90% of sovereign bonds are bought by NCBs (ECB 2020a; 2015a). Here again, the "specialisation scheme" leaves the by far greatest share of risks within the responsibility of the NCBs, thus upholding the principle of individual liability.

Further, only 10% of the overall bonds purchased through PSPP are subject to loss-sharing or bailout (ECB 2020a). Therefore together with the 10% purchased by the ECB, an overall maximum of 20% of all purchases can be subject to risk-and loss-sharing (ECB 2015a, 2020a). Potential collectivisation of risks and losses is therefore drastically limited to a small share of overall purchases. If losses of bonds within the 20% of PSSP risk-sharing occur, they are either paid by ESCB reserves or are balanced out with ECB revenues in the following years as laid down in ECB decision 2015/298 (2014a, Article 3), again according to the capital key (European Court of Justice 2018, 18f.). This underlines the ECB's commitment to the mitigation of "concerns about potential unintended fiscal consequences" (ECB 2016a) and the validity of the no-bailout rule (Draghi 2015b).

The ECJ declared these mechanisms sufficient to avoid joint liability and did not see a violation of the no-bailout clause (European Court of Justice 2018, 18f.). Accordingly, possibilities of

moral hazard through ESCB purchases and resulting increases in public expenditure are strongly limited.

Notwithstanding, the critique on joint liability is not as easy to refute as monetary financing. OMT, for instance, imply full risk-sharing deemed necessary for the programmes' success (Coeuré 2013). Concerning PSPP, after all 20% of purchases are subject to common risk-sharing and ad hoc deviations from the ECB capital key are possible if the ECB deems it necessary to maintain price stability (ECB 2015d, Article 6). This could, in theory, offer opportunities for moral hazard.

Still, this eventuality is unlikely to occur as a decrease in risk-sharing quotas would lead to strong political and legal contestation. Both PSPP and OMT are subject to the mentioned purchase limits concerning quantity and time, which at least limit the extent of joint liability for potential losses. Further, both programmes so far did not cause any losses, which is also thanks to the prohibition of low-rating bonds purchases in the case of PSPP and the fact that OMT have never been activated. Moreover, as shown in Table 5,[34] PSPP purchases have always been aligned with the ECB capital key proving that concerns on systematic deviations to create joint liability are not justified. There are small deviations, which nevertheless do not correspond to differences between member states' debt-to-GDP ratios (Figure 5 and 6). For instance, although until 2021 Italy slightly increased its deficit in contrast to Portugal, bonds of both countries were purchased by PSPP to the same extent relative to their share of the ECB capital key. Hence, PSPP does not support highly indebted countries disproportionally. These measures, going beyond recommendations in academia, seemed to have convinced even opponents of the ECB's LOLR policies as PSPP was passed unanimously by the ECB Governing Council. Even Weidmann openly admits that joint liability and bailout through PSPP are very limited, which for him mitigates problems associated with sovereign bond purchases (Weidmann in: OneStopBrokers 2015). Especially concerning PSPP, NCBs are doubtlessly the main actors in charge of the purchases and have to bear the greatest share of potential risk and losses on their own or as Weidmann puts it:

> "That's why the new asset purchase programme is less problematic than others before it — each national central bank in the euro area buys the sovereign debt of its own country at its own risk" (Weidmann in: Financial Times 2016).

Ordoliberals seem to be more concerned with OMT as they do not entail as many provisions against joint liability and bailout. Although the ECB declared that it would not make use of the programmes, in theory, OMT could still lead to a limited degree of joint liability and thus moral hazard but only to a limited extent.

Joint liability is, if present at all, strictly limited, weakening moral hazard opportunities drastically. This leaves some doubts on the validity of the critique.

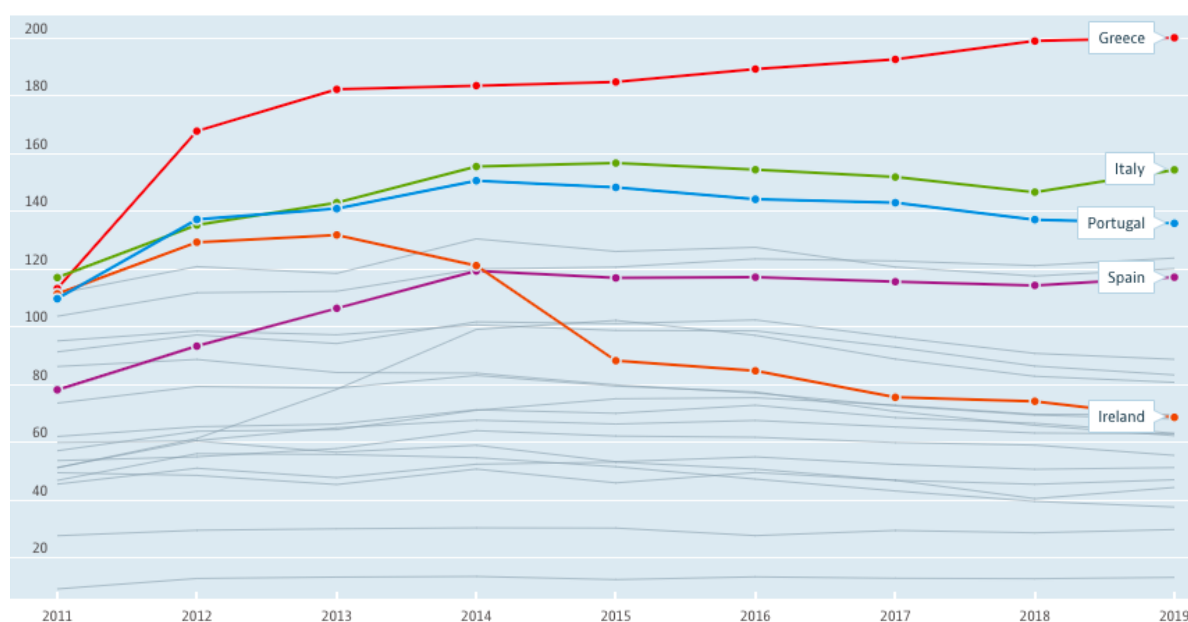
[34] As OMT was never applied, data is non-existent.

Table 5 - Share of PSSP purchases and ECB capital key (in %; as of April 2021), selected countries

Country	Share of ECB Capital Key	Share of PSPP purchases	Difference
France	20.1	19.6	0.5
Germany	25.6	23.7	1.7
Ireland	1.6	1.5	0.1
Italy	17.5	16.8	0.7
Portugal	2.5	1.8	0.7
Spain	12.6	11.8	0.8

Source: ECB. 2021. Asset Purchase Programmes; own illustration.

Figure 5 - Sovereign debt (2011-2019, in % of GDP), selected countries



Source: OECD. 2020. General government debt.

As demonstrated in the previous two chapters, monetary financing and joint liability are a problem for opponents of OMT and PSPP. This is especially the case, as they lower market pressure and undermine fiscal rules as other factors that provide opportunities for moral hazard. These concerns will be the subject of the next section.

8.3.OMT and PSPP lowering market pressure?

According to ordoliberal critique, LOLR programmes make EMU members more independent from capital markets in order to refinance themselves, thereby reducing market pressure as another safeguard against moral hazard (Weidmann 2015, 8; see also: Hengstermann and Herzog 2013; Plender 2019). This market pressure finds expression in interest rates and risk premia. At least in theory, they rise proportionally to sovereign debt and are thus an expression of the credibility of member states to follow fiscal constraint and to stay solvent (GFCC 2014, 31f.). Consequently, highly indebted countries are confronted with high interest rates and risk premia forcing them to debt reduction.

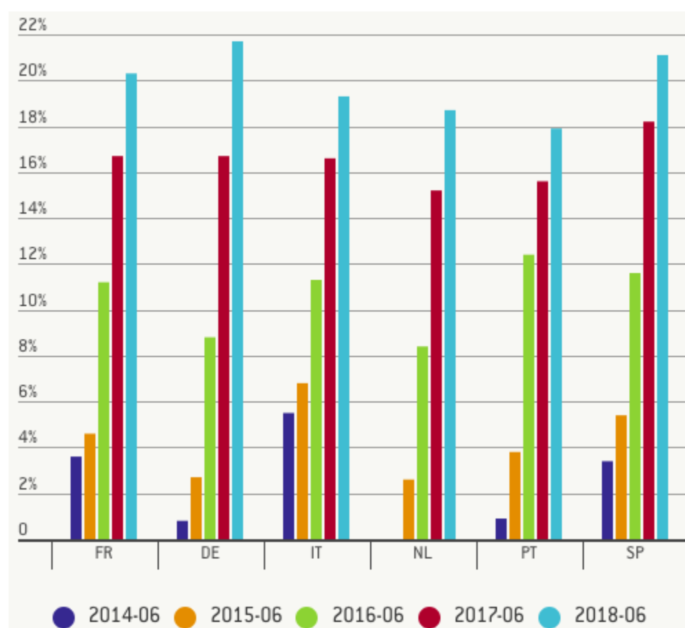
With its sovereign bonds purchases, the ECB is criticised to artificially reduce interest rates and thereby market pressure (see for example: Demary and Matthes 2013; Hengstermann and Herzog 2013; Plender 2019; Weidmann in: Biebricher 2014). According to this interpretation, LOLR policies detach member states' interest rate spreads from underlying economic fundamentals as spreads are not anymore differentiated according to countries' debt-to-GDP ratio (Bundesbank 2016, 44):

> "(…) Market sentiments of fear and panic first drove the spreads away from their fundamentals. Later as the market sentiments improved thanks to the announcement of the ECB, these spreads declined spectacularly – once again out of line with fundamentals" (De Grauwe and Ji 2013a, 35).

In the ordoliberal logic, this causes moral hazard as it rewards unsound public expenditure and heavily undermines fiscal constraint (Bundesbank 2016, 44). Moreover, lower market pressure leads to reform disincentives and greater debt-financed public spending of individual member states, even according to supporters of LOLR policies (De Grauwe and Ji 2015, 743).

Nevertheless, as was the case with allegations over monetary financing and joint liability, also this critique faces a series of objections deriving from the technical details of LOLR programmes.
First, the limitations of LOLR programmes must be reconsidered.
Bonds are only purchased indirectly and therefore after the market price has been formed, which aims to limit the distortive impact of the ESCB purchases on market pricing (ECB 2016a). Concerning OMT, purchases are just possible for bonds with a maturity between one and three years. This limitation restraints the overall effect on market pressure in order to maintain fiscal constraint and avoid moral hazard (ECB 2012a, 10; Coeuré 2012). All other bonds are subject to full market pressure (ECB 2012c). These purchases cease when transmission mechanisms of monetary policy are reinstated to limit the effect on interest rates and thereby market pressure. This is also in line with the ECJ's evaluation (European Court of Justice 2015, 18).
In case of PSPP, the already mentioned "specialisation schemes", guaranteeing that 90% of the purchases within PSPP are performed by the respective national central banks, enable the differentiation of market pressure in the form of interest rates according to the debt-level of the respective member states. Hence, highly indebted member states still have to face high interest rates. Moreover, the issue- and issuer-specific limitations guarantee that the greatest share of bonds is still traded and distributed exclusively between private actors. This successfully upholds the proper functioning of market pressure (Riekmann and Wydra 2015, 213) and price formation (ECB 2020a).
Ultimately, member states still face market pressure according to the level of their indebtedness which limits moral hazard through LOLR policies and puts obstacles on excessive public expenditure.

Figure 6 - ESCB holdings of domestic sovereign bonds (% of sovereign bonds), selected countries



Source: Baltensperger; Callan; Bruegel. 2018. Euro-area sovereign bond holding.

Second, the ECB's constructive ambiguity also supports the unfolding of market pressure. It increases the uncertainty concerning the timing of the ESCB purchases, while the quantity of purchases and the ESCB's general willingness to engage in purchases remains uncertain for both programmes (European Court of Justice 2015, 18f.; 2018, 20ff.). This creates ambiguity for states as they might be forced to temporarily seek refinancing exclusively through private actors, thereby increasing dependence on capital markets (European Court of Justice 2018, 23). It also forces private actors to carefully assess their bond purchases and set differentiated interest rates for different countries. Interest rates are thus still differentiated according to member states debt-to-GDP ratio, underlining the persistence of market pressure. The interest rates on Portuguese bonds, for instance, increased by almost 6% in 2013, as reforms for debt reduction were not implemented even though OMT were already in place (Trading Economics 2021). PSPP even entails a "blackout period" that forbids the purchase of bonds that have just been issued and those that are close to maturity in order to "permit the formation of a market price" (ECB 2015d, Article 4(1)).

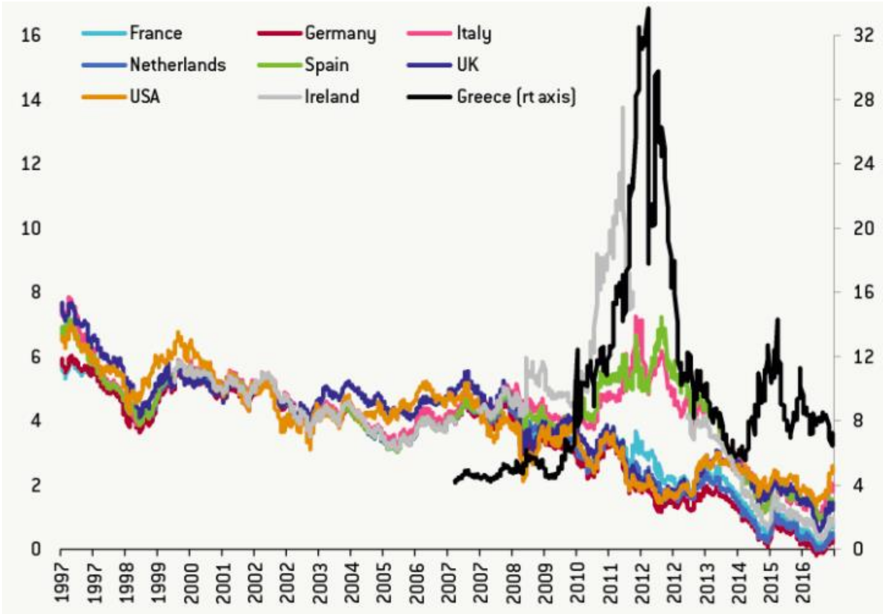
Hence, member states cannot completely rely on the reduction of market pressure through LOLR programmes. They are still dependent on the capital market in order to refinance themselves and must take into account market pressure carefully.

Third, the ECB has punitive measures at its disposal that it can use to support market pressure. Within both programmes, the ECB reserved itself the right to terminate a country's participation or even resell bonds at any time (ECB 2012b; ECB 2015d, Article 3(2d)) "(…) even if this will result in major economic difficulties for the Member State concerned" (ECB in: GFCC 2014, 12). Therefore, market pressure is not lowered but actively upheld by the ECB and states must always take into account market parameters as their refinancing could suddenly rely entirely on capital markets.

The fact that, as mentioned before, PSPP only purchases sovereign bonds that are beyond level three of the ESCB's minimum credit quality requirement further maintains market pressure on states as high debt levels can lead to an insufficiently low rating (ECB in: GFCC 2014, 12). The example of Greece and Cyprus prove this point. The sovereign bonds of both countries were partly or completely excluded from the purchase programme because their bonds were below the investment-grade threshold. Hence, PSPP "(…) cannot be considered to reduce the impetus of the Member States to follow a sound budgetary policy" (European Court of Justice 2018, 25).

All in all, the design of LOLR programmes shows the successful implementation of countermeasures against moral hazard. The indirect nature of LOLR purchases and their various limitations uphold differentiated market pressure on member states as their bonds are still subject to market evaluation. Furthermore, both programmes are marked by strong ambiguity so that states are still widely dependent on capital markets. They must take into account market pressure while private actors are induced to adjust interest rates according to EMU member states' debt levels. Together with the possibility of the programmes' termination or even resell of sovereign bonds in case of insufficient market rating, these measures can legitimately be seen to avoid moral hazard. Fiscal constraint is consequently still upheld via market pressure, contrary to ordoliberal critique. The spread differences between EMU members (Figure 8) underline this point as they show differentiated market pressure on member states.

Figure 7 - Ten-year bond spreads (1995-2016), selected countries



Source: Bruegel. 2017. A European perspective on overindebtedness.

Still, the interest rates for some members decreased disproportionally as OMT, unlike PSPP, target individual countries and are not subject to comparable limitations. Thereby, OMT created easier refinancing options and even widened the room for manoeuvre for some member states (Benroth et al. 2015, 314; Jabko 2015, 82f.). Draghi himself says that OMT are designed to "suppress the interest rates" (Draghi 2015a), which is certainly the case. The question is,

therefore, whether market pressure before OMT was proportionate. For the ECB, the great spreads of 2012 were "unjustified" and "excessive" to begin with (European Court of Justice 2015, 14; ECB in: GFCC 2014, 12). OMT were thus created to support the proper functioning of the market by breaking a "bad equilibrium" caused by panic (ECB in: GFCC 2014, 13). It further only applies to certain member states and only to bonds with a maturity between one and three years and is marked by strong conditionality that complements market pressure (Coeuré 2013). Ultimately, the claim that the purchase programmes decreased market pressure is not completely arbitrary. Whether this, given the series of countermeasures, leads to moral hazard and excessive public expenditure can nevertheless be doubted. In addition, it should be recalled in which situation OMT was introduced in the first place. Fiscal constraint, preferred by ECB critics, was certainly unable to mitigate the crisis. Therefore, not introducing OMT would have been at the risk of an EMU breakup.

8.4.OMT and PSPP working against fiscal rules?

Besides the weakening of market pressure, the ECB's programmes are heavily criticised for providing opportunities for moral hazard by undermining the credibility of EMU fiscal rules (Issing 2011; Weidmann 2015, 3f.). As they provide great amounts of liquidity, pressure on public expenditure to abide by fiscal rules is reduced (Weidmann 2015, 8). For instance, the German Council of Economic Experts ("Sachverständigenrat"), a defender of ordoliberal policies, sees this as provoking destructive incentives leading to an increase of member states' debt (Buch et al. 2013, 124).

Against these arguments stand the already presented countermeasures.
The purchases are limited in quantity and time and remain uncertain in general. Issue- and issuer-specific limits as well as the "specialisation scheme", at least in the case of PSPP, further reduce the factual impact of LOLR policies. These measures reduce the programmes' potential to undermine fiscal rules as the amount of liquidity that could be used to circumvent or ignore the latter is reduced. Countermeasures also oppose concerns over monetary financing and joint liability, while upholding market pressure so that the ECB's LOLR policies do not challenge fiscal rules as much as criticised.
In addition, LOLR policies are embedded within EMU governance, whose provisions of budgetary limitation and coordination mechanisms have been reinforced significantly in the aftermath of the financial crisis (Ioannou, Leblond, and Niemann 2015, 164; see also: Rommerskirchen 2015; Whyman 2018). Through the Fiscal Compact, the ESM and the European Semester, fiscal rules are now more difficult to circumvent (Nedergaard 2020, 227) and are more effective in guaranteeing fiscal constraint (Panico and Purificato 2013, 1; see also: Ioannou and Stracca 2014). Heinrich Reuter supports this view, underlining with his empirical assessment of fiscal statistics in the EMU that the new fiscal rules successfully reduce public expenditure as they act as a point of reference for policy-makers (Reuter 2015). Consequently, even if the rules are not followed, they push national fiscal policy towards the EMU's benchmarks (Reuter 2015, 70ff.). States bound by ESM conditionality, a precondition for OMT participation, reduced their deficit even further (Demary and Matthes 2013, 16 f. see also: De Jong and Gilbert 2020). Even if LOLR programmes cause moral hazard, the risk of excessive

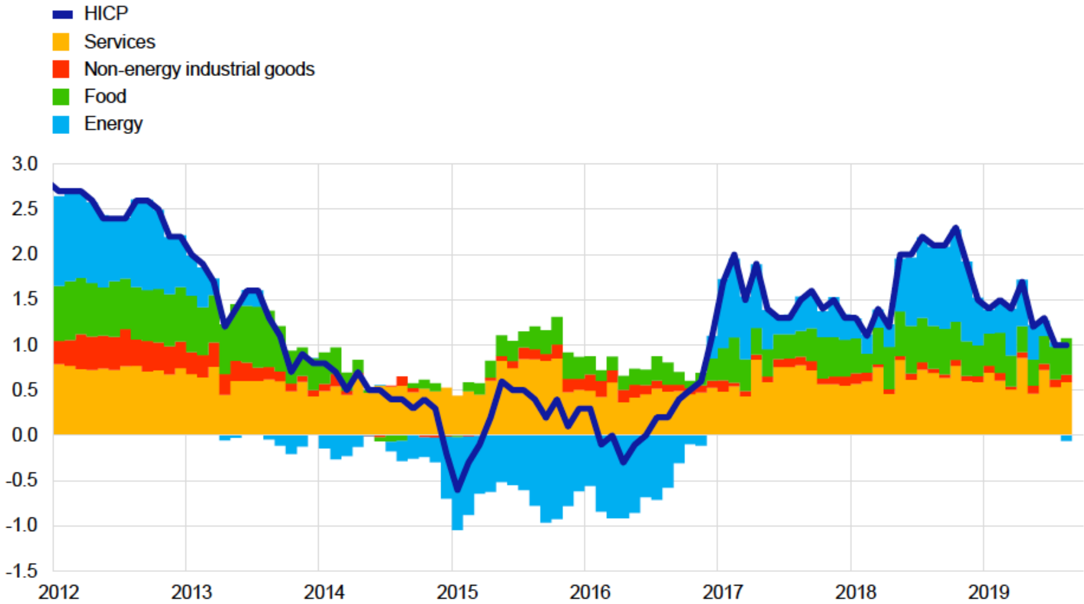
public expenditure "has been reduced significantly in the new institutional environment (…)" (De Grauwe 2012, 2) marked by "expansive budget constraints" (Rodríguez-Ortiz 2014, 142). The ECB never left any doubt on its support for this "shadow of supranational hierarchy" that limits member states' expenditure and discretion (Börzel 2016, 9ff.). Rather, the institution positioned itself as a clear proponent of fiscal constraint through strict conditionality and compliance with the SGP as the "key for confidence in [the EMU's] fiscal framework" (Draghi 2015a). The ECB even went beyond fiscal rules and requirements of "the Institutions" by using ELA to promote privatisation, lower public sector salaries and looser labour market regulations in some member states (Hopkin and Jacoby 2020, 1167).
Moreover, the ECB is in charge of LOLR policies' scope and duration (ECB 2015d) which further increased the ECB's leeway on member states' fiscal policy (Demary and Matthes 2013, 18). This influence was used not to undermine but reinforce fiscal rules.
During his time as ECB president, Draghi considered a "two-legged" approach of expansionary monetary policy and member states' fiscal constraint as indispensable for the proper functioning of LOLR programmes (Draghi 2015b; European Parliament 2012). According to the ECB, the programmes are not made to support states but correct "policy mistakes" through fiscal constraint (Draghi 2015b; Draghi and Vítor 2012). Greater room for manoeuvre for EMU member states through LOLR programmes must therefore be used to correct excessive deficits (Draghi 2015a; De Guindos and Draghi 2019; ECB 2012a).[35] For instance, OMT are attached to ESM conditionality in order to ensure "great determination with fiscal consolidation" (Draghi and Vítor 2012) and is thus not in contrast, but in completion of fiscal rules. It further involves monitoring through "the Institutions" (ECB 2012b), whose positive review on reform efforts is necessary for member states' participation (Demary and Matthes 2013, 19; ECB 2020a). In case of violations of fiscal thresholds, the ECB even signalled to make use of punitive measures, such as the termination of the programmes (ECB 2015d, Article 3(2d); ECB 2012b). So far, this remains a verbal threat as compliance with fiscal rules is not a hard eligibility criterion for LOLR liquidity. Still, the mentioned threats are seen to have increased pressure, especially on highly indebted like Greece and Cyprus, to abide by fiscal rules and reduce public expenditure (Auer and Scicluna 2019, 1421, 1436f.; Demary and Matthes 2013, 13; Streeck 2015b, 16).
Ultimately, the programmes were designed „(…) to not only remind governments of their fiscal obligations but to also promote fiscal discipline" as a "priority" of the programmes (Lombardi and Moschella 2016, 860; see also: Coeuré 2013).

To conclude the analysis, LOLR policies' potential to undermine fiscal rules is limited through its provisions against monetary financing and joint liability. They are additionally embedded in the reinforced policies of fiscal constraint of EMU crisis response. Even if this was not the case, the ECB itself shows a clear commitment to fiscal rules and signalled to make use of punitive measures within LOLR policies to reinforce them. It becomes evident that the ECB had "the insurance-versus-incentives trade-off in mind" when it launched its programmes (Coeuré 2012). This leaves little opportunity, if any, for moral hazard. The ECB's LOLR policies are

[35] Some evidence indicates that expansionary monetary policy indeed induces reform efforts of EMU members, as they are supplied with liquidity providing greater room for manoeuvre to implement reforms (Gnath et al. 2020, Rieth and Wittich 2020).

therefore not necessarily in conflict with ordoliberalism but can potentially be used to even support fiscal constraint. Nevertheless, this stays a mere opportunity the ECB has not yet used. As shown in Figure 9, the programmes at least did not increase the inflation rate dramatically, unlike the ordoliberal critique feared. Peaks in inflation did not sustainably reach the ECB's objective and were primarily caused by fluctuations in energy prices rather than bonds purchases. Thus, OMT and PSPP at least didn't contribute to massive distortions of price stability.

Figure 8 - Contributions to EMU HICP* inflation



*HICP stands for: Harmonised Index of Consumer Prices
Source: ECB. 2019. Economic Bulletin March 2019.

9. Outlook

As the analysis showed, the ordoliberal critique lacks differentiation and does not consider sufficiently the technicalities of the purchase programmes.
The ECB's LOLR policies proved to be highly effective to calm down sovereign debt markets and stop deflationary processes (De Grauwe 2011a, 5), thereby averting an existential crisis of the EMU. Despite these measures and the ECB's success, ordoliberal critique still persists, as the most recent judgment of the GFFC shows.
Due to this criticism the ECB has not only been reluctant to intervene in the crisis at the cost of liquidity traps and the initial aggravation of the crisis (De Grauwe 2012, 2; Saraceno 2016, 130f.). It also aspires to reconcile its LOLR policies with ordoliberal provisions of EMU governance through the programmes' limitations. This happens at the price of states' room for manoeuvre and of the effectiveness of LOLR programmes to avoid state insolvency and financial instability (Demary and Matthes 2013, 18). Consequently, states have less room for manoeuvre to support public welfare and especially engage in macroeconomic stabilisation during crises. How important both a functioning welfare system and public expenditure are to stabilise the economy is illustrated by the current COVID19 pandemic. Of course, public

expenditure should not be without limits to remain sustainable, but especially during crises, states must have sufficient room for manoeuvre to stabilise the economy.
Moreover, if persistent criticism leads to the limitation or termination of LOLR policies, it can undermine the ordoliberal objective of price stability, to which especially PSPP is seen to have contributed fundamentally. Paradoxically, the ordoliberal critique seems to pose challenges to EMU stability, for whose protection it was initially formulated. These risks must be considered when criticising the ECB's LOLR policies, especially when a matter has so much divisive potential.

The critique against the ECB's LOLR policies shows another major inconsistency. While moral hazard was the overarching topic during the financial crisis, the COVID19 pandemic showed a radical change in discourse among policy-makers. When the ECB launched its Pandemic Emergency Purchase Programme (PEPP), moral hazard concerns were simply put aside. This is surprising, as PEPP especially supports EMU members that already have little room for manoeuvre because of their high indebtedness (Bonatti, Fracasso, and Tamborin 2020, 20f.). It even includes Greek sovereign bonds and intends deviations from the ECB's capital key if necessary (ECB 2021e). Yet, it was not subject to moral hazard concerns as (Bonatti, Fracasso, and Tamborin 2020, 20). Isabel Schnabel, the current German member of the ECB's directorate, even declared:

> "(…) Moral hazard plays a minor role during the current crisis: it is desirable that governments increase their borrowing so as to mitigate the adverse effects of the crisis on the people and the economy" (Schnabel 2020).

This is striking as both the financial and COVID19 crisis arguably went beyond the control of EMU governments and demanded strong fiscal efforts to stabilise the economy. Both times, ECB sovereign bond purchases were thereby indispensable to support states, especially those with little room for fiscal manoeuvre. But while during the financial crisis, moral hazard concerns almost led to the termination of LOLR programmes, public expenditure backed through PEPP does not face comparable contestation.
This, and the fact that LOLR policies for financial institutions did not face comparable criticism, underline the arbitrariness of moral hazard critique. It seems to be a strategic means (Pierret 2019, 30f.) to limit public expenditure for the sake of price stability in line with both the EMU's provisions and ordoliberalism.
Instead of their limitation, the ECB's LOLR policies should be able to unfold their whole potential to permanently ensure EMU stability, a matter that ordoliberals are predominantly concerned with.

10. Conclusion

Since the global financial crisis in 2007/2008, EMU governance changed. Besides new intergovernmental mechanisms for financial assistance and fiscal constraint, the ECB illustrates this change in particular as it turned into the lender of last resort for EMU member states. Unlike policy of fiscal constraint and restrictive monetary policy that dominated the EMU's crisis response, LOLR policies successfully stabilised the EMU in times of crisis. Notwithstanding, they gave rise to severe moral hazard concerns, especially among ordoliberal decision-makers.

Yet, as this case study showed, the ECB implemented a series of measures within its sovereign bond purchase programmes that successfully limit their potential to provide opportunities for moral hazard of EMU member states. The hypothesis of this master thesis is therefore confirmed.

This was not evident as, at least in theory, LOLR policies may induce moral hazard. This is particularly relevant in the EMU that is marked by the absence of a central instance being able to force fiscal constraint upon member states. According to the ordoliberal critique, the provision of potentially unlimited liquidity violates essential provisions of EMU governance, namely the prohibition of monetary financing and the no-bailout clause. Consequently, member states can rely on ESCB liquidity to increase their expenditure while the EMU becomes jointly liable for risks and costs resulting from individual states' debt. This debt mutualisation heavily undermines market pressure and gives member states the opportunity to ignore fiscal rules. According to ordoliberal critique, moral hazard and excessive public expenditure follow, which increase the probability of sovereign default and high inflation threatening price stability and ultimately the EMU as a whole.

In contrast to these ordoliberal claims, the analysis of the ECB's monetary policy decisions showed that the ECB integrated a series of countermeasures that successfully work against moral hazard. Purchase limits restrain the overall liquidity provision of the ECB. At the same time, the countermeasures prevent joint liability and risk collectivisation via clear limits on risk- and loss-sharing quotas. Thus, the EMU does not present a central bailout instance as member states are individually liable for their debt. Moreover, strict conditionality mechanisms were introduced to tighten eligibility criteria, especially for already indebted member states. Ambiguity as to when and how many bonds the ESCB purchases further discourages member states from relying on ESCB liquidity in order to increase debt-financed expenditure. In addition, the technicalities of the programmes furnish the ECB, which still adheres strongly to principles of fiscal constraint, with punitive instruments. These enable the ECB to terminate the programmes if member states violate benchmarks for public expenditure such as fiscal rules. Fiscal rules, reinforced since the financial crisis, are therefore upheld. Moreover, the measures limit LOLR programmes' effects on market pressure, which is still differentiated according to member states' debt-to-GDP ratio.

Together, these countermeasures, that in part even go beyond recommendations of academia, credibly limit the opportunity for moral hazard of EMU members.

In light of these findings, ordoliberal critique on LOLR policies seems inaccurate. It oversimplifies the effect of the ECB's LOLR programmes on moral hazard by not taking into account essential aspects of its design. The rejection of LOLR policies on the grounds of moral

hazard concerns, therefore, lacks differentiation. This is especially hazardous given the trade-off between moral hazard concerns and the effectiveness of LOLR policies, which are indispensable for financial stability in the EMU.

With its assessment of the ECB's LOLR policies and their possible implications on moral hazard, this master thesis contributes to a central yet less extensively discussed topic of EMU governance. Within its scope, it thus advances knowledge on both moral hazard and LOLR policies in the context of the EMU before and after the financial crisis.
In addition, this analysis gives insight into the understudied matter of the influence of ordoliberalism within EMU governance. It further identifies causes for and measures against moral hazard, thereby differentiating the ordoliberal critique against the ECB's monetary measures. Ultimately, the master thesis adds an additional perspective to the already exhaustive stock of politico-economic literature on EMU governance since the crisis.
Yet, its results are to be seen under some limitations.
The analysis could not gain insight into protocols of ECB negotiations and meetings as those are not published. This is unfortunate, as insight in these documents would have provided valuable information for the empirical analysis on the reasoning of the ECB as to why it introduced LOLR measures and on the arguments of its opponents. Notwithstanding, diverse sources were included to compensate for this limitation.
In addition, given that the EMU governance system is a system "sui generis" marked by centralisation of monetary policy and strong decentralisation of fiscal policies, the findings only have limited external validity. Yet, as monetary systems and LOLR measures still show similarities, the findings can be applied to a certain degree to other monetary policies.
Moreover, the master thesis was successful in identifying measures that limit moral hazard. Whether and to what extent EMU member states would actually engage in moral hazard, if countermeasures were not implemented, remains an open question. Ultimately, this touches upon the question whether moral hazard is actually a potential danger or merely an argumentative instrument to impose certain policy ideas. Given the relevance of the topic, this question should be answered through further research.

LOLR policies led to particularly controversial debates in the EMU. These policies are less controversial in actual states with a central fiscal capacity that can formulate collectively binding rules and has instruments at its disposal such as a sufficiently large central budget and common debt. As became clear during the analysis, the ECB's LOLR measures were needed precisely because these instruments were missing which revealed deficits of the EMU governance system.
Of utmost interest is therefore the question, whether member states will be willing to put aside their fear of moral hazard and provide the EMU with greater competences for macroeconomic stabilisation? This might prove crucial to complement monetary policies, thereby increasing the EMU's crisis resilience and overall democratic control over ECB decisions. Here, the EU recovery fund to counter the economic distortions of the COVID19 pandemic is an important step, but it is uncertain whether the EU will create permanent mechanisms for common debt. Because this would at least potentially put into doubt the ordoliberal insistence on fiscal constraint and thereby the restrictive bias of monetary and fiscal policy such a step would mark a radical change of EMU governance.

The ECB showed its determination to do “whatever it takes to preserve the Euro”. Whether EMU member states will be willing to take the next step remains to be seen.

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12. Annex

12.1. Moral hazard factors and respective countermeasures (OMT and PSPP)

Factor		Countermeasures	
		OMT	**PSPP**
Monetary financing	Programme limitations	• Indirect purchases • Time limitation (only short-term bonds) • Quantity limitation	• Indirect purchases • Time limitation • Quantity limitation (issue-specific; issuer-specific; specialisation scheme)
	Constructive ambiguity	• Timing and quantity of purchases	
	Conditionality	• ESM conditionality	• ESCB minimum credit requirement
Joint liability	Programme limitations	• Indirect purchases • Time limitation (only short-term bonds) • Quantity limitation	• Indirect purchases • Time limitation • Quantity limitation (issue-specific; issuer-specific; specialisation scheme)
	No-bailout	• Programme never activated • Potential losses balanced out within time	• Loss-sharing limitations • Potential losses balanced out within time

<table>
<tr><td rowspan="5">Undermining market pressure</td><td>Programme limitations</td><td>• Indirect purchases
• Time limitation (only short-term bonds)
• Quantity limitation</td><td>• Indirect purchases
• Time limitation
• Quantity limitation (issue-specific; issuer-specific; specialisation scheme)</td></tr>
<tr><td>Constructive ambiguity</td><td>• Ambiguous timing and quantity of purchases</td><td>• Ambiguous timing and quantity of purchases (+ “Blackout period”)</td></tr>
<tr><td>Conditionality</td><td></td><td>• ESCB minimum credit requirement</td></tr>
<tr><td>Punitive measures</td><td colspan="2">• Programme termination
• Resale of bonds</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td rowspan="4">Undermining fiscal rules</td><td>Programme limitations</td><td>• Indirect purchases
• Time limitation (only short-term bonds)
• Quantity limitation</td><td>• Indirect purchases
• Time limitation
• Quantity limitation (issue-specific; issuer-specific; specialisation scheme)</td></tr>
<tr><td>Conditionality</td><td>• ESM conditionality</td><td></td></tr>
<tr><td>Punitive measures</td><td colspan="2">• Programme termination
• Resale of bonds</td></tr>
<tr><td>Provisions of budgetary limitation</td><td colspan="2">• Embedded within EMU’s provisions of budgetary limitation</td></tr>
</table>

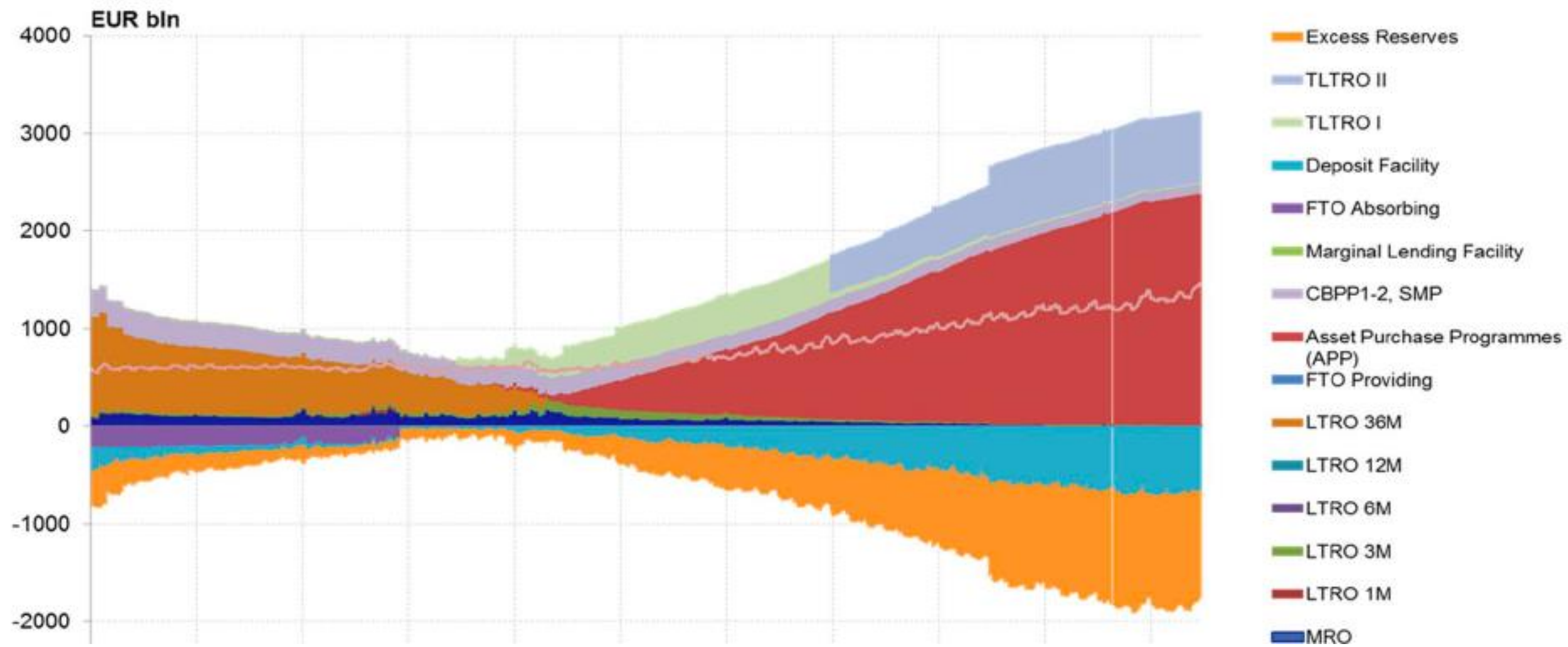
Source: own illustration.

12.2. Sovereign debt of EMU countries (2011-2019, in % of GDP)

Location	2011	2012	2013	2014	2015	2016	2017	2018	2019
Australia	46.29	59.24	55.71	61.37	64.18	68.39	65.60	65.90	75.86
Austria	91.47	97.34	94.36	101.87	101.29	102.53	96.55	90.95	88.89
Belgium	111.62	120.99	118.66	130.61	126.24	127.67	120.86	117.73	120.29
Czech Republic	46.98	56.23	55.97	54.84	51.71	47.43	43.33	39.74	37.73
Denmark	60.11	60.62	56.73	59.14	53.43	55.11	52.54	50.82	51.41
Estonia	9.39	13.02	13.50	13.72	12.63	13.58	13.09	12.94	13.39
Finland	57.24	63.99	64.52	71.27	75.23	75.61	73.04	69.88	69.76
France	103.81	111.94	112.47	120.16	120.83	123.67	122.94	121.23	123.36
Germany	86.41	88.86	84.33	84.11	80.05	77.22	72.79	69.59	68.23
Greece	113.58	167.08	181.65	182.96	184.45	189.22	192.73	199.17	200.68
Hungary	95.26	98.67	97.39	100.81	98.90	98.76	93.12	86.57	83.49
Ireland	111.58	129.45	131.96	121.34	88.43	84.92	75.74	74.38	68.82
Italy	117.20	135.38	143.17	155.63	156.85	154.55	152.00	146.79	154.51
Latvia	49.64	48.71	45.55	50.89	46.13	49.72	47.03	45.65	47.20
Lithuania	45.68	51.19	47.92	52.59	53.34	50.89	47.00	40.67	44.54
Luxembourg	27.82	29.71	30.22	30.55	30.47	27.87	29.65	28.84	29.96
Netherlands	73.73	79.48	78.94	83.33	79.62	77.63	70.87	66.03	62.46
Poland	62.18	65.55	66.45	71.44	70.21	73.01	68.72	66.76	63.32
Portugal	109.88	137.32	141.07	150.75	148.42	144.31	143.13	137.26	135.98
Slovak Republic	51.44	60.78	65.17	67.83	66.49	67.74	65.48	63.38	63.12
Slovenia	51.33	61.51	78.51	99.26	102.38	97.21	88.99	83.02	80.93
Spain	78.34	93.46	106.56	119.47	117.08	117.33	115.78	114.51	117.32
Sweden	53.83	55.14	57.99	64.19	62.32	61.92	60.09	59.20	55.88

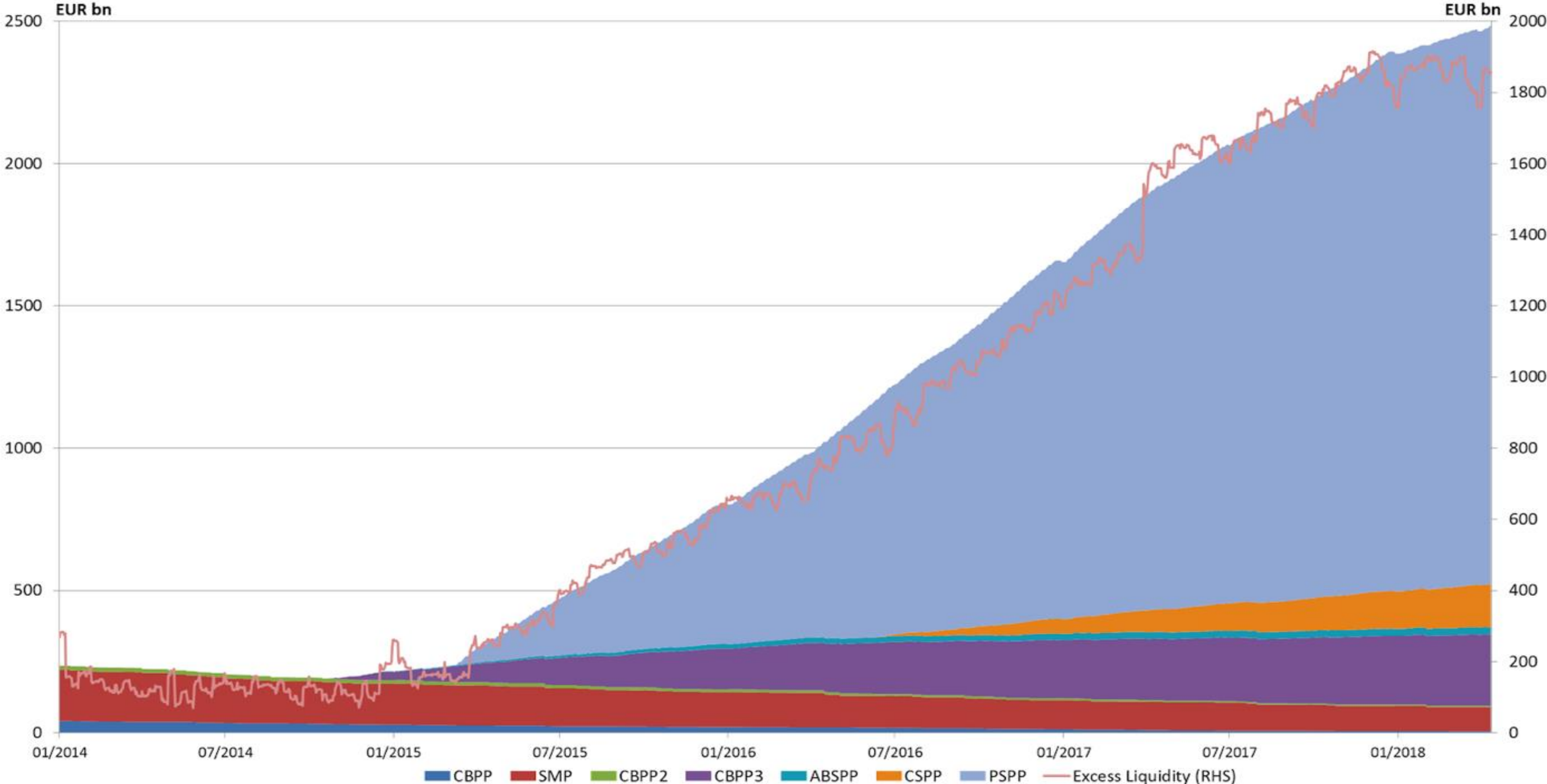
Source: OECD. 2020. General government debt.

12.3. The Eurosystem measures during the financial crisis (financial institutions)



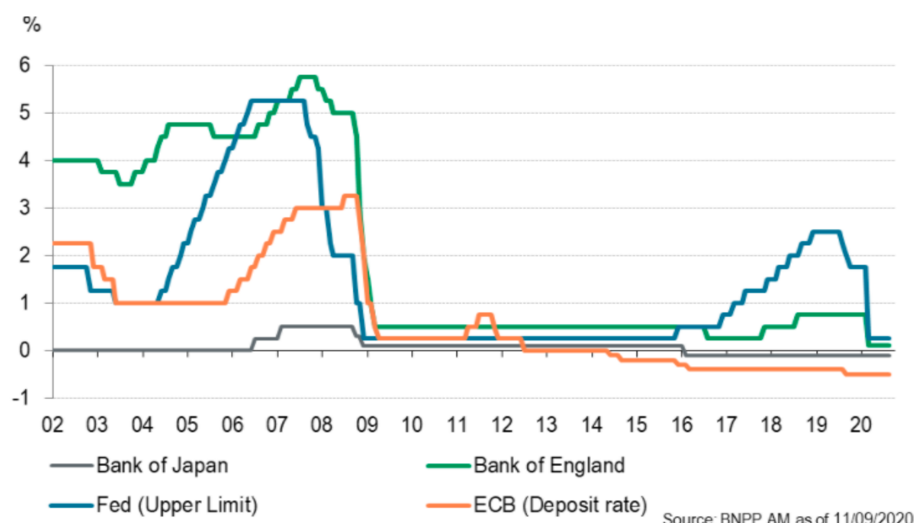
Source: Kerner. 2018. The implementation of the ECB's monetary policy.

12.4. APP Purchases and Excess Liquidity



Source: ECB data, in: Kerner. 2018. The implementation of the ECB's monetary policy.

12.5. Changes in key policy rates (BOE, Fed, ECB, Bank of Japan)



Source: BNP Parisbas. 2020. Interest rates at the heart of the economy.

12.6. Breakdown of debt securities under the PSPP (as of December 2020)

Country	Cumulative net purchases (EUR millions)
Austria	68,160
Belgium	86,392
Cyprus	3,277
Germany	580,224
Estonia	281
Finland	35,897
France	488,536
Ireland	37,522
Italy	411,197
Lithuania	4,586
Luxembourg	2,987
Latvia	2,802
Malta	1,215
Netherlands	118,662
Portugal	45,891
Slovenia	9,804
Slovakia	14,614
Spain	292, 880

Source: ECB. 2021. Asset purchase programmes.