

MASTER THESIS

THE MONETARY AND REGULATORY POLICIES TO  
REVITALISE THE SECURITISATION MARKET IN THE  
EUROZONE AND THEIR IMPACT ON VARIETIES OF  
CAPITALISM: TOWARDS FURTHER FINANCIALISATION?

Arne Millahn

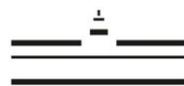
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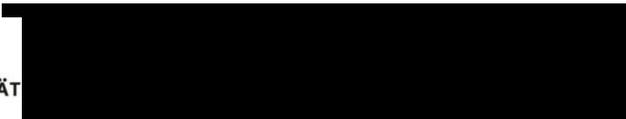
EXAMINATION COMMITTEE

Shawn Donnelly, University of Twente and Markus Lederer,  
University of Münster

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WESTFÄLISCHE  
WILHELMS-UNIVERSITÄT  
MÜNSTER



## Abstract

As of early 2014, the supranational authorities in the Eurozone, the European Central Bank (ECB) and the European Commission (EC) have increased efforts to revitalise the market for securitisation. Securitization is the process of packaging loans made by banks, transferring them off their balance sheets into a Special Purpose Vehicle (SPV) and issuing claims for purchase by investors on the basis of the income received on the loans. As such this practice stands at the core of the financialisation process, which describes the process of an increasing detachment of the financial sector from the real economy. The ECB and EC claim that securitisation would restart growth in the Eurozone economies and decrease the dependency of firms on bank lending to access finance, especially Small and Medium sized Enterprises (SMEs). Comprising these efforts, first the ECB has started to purchase Asset-Backed Securities (ABS) under its Asset-Backed Securities Purchase Programme (ABSPP). The EC has started to develop a standard of Simple, Transparent and Standardized Securitisation, which would receive beneficial capital requirements treatment. Taken together these efforts aim towards fundamentally changing the financial systems of the Eurozone Member States from a bank-based to a market-based financial system. The aforementioned process of change is dependent on achieving a permissive consent with the MSs. The Master thesis thus aims to shed light on the question whether such change is taking place. The theoretical framework used is the Varieties of Capitalism (VoC) approach. According to its proponents, financial systems are one constitutive part of a framework of institutions. The VoC categorises economies between the ideal types of Liberal Market Economies (LMEs), which relies on market based finance that favours investment into transferable assets, and Coordinated Market Economies (CMEs), which relies on bank-based finance that favours investment in long-term assets. In the LME, firms rely on markets to engage in their relationships with labour and finance. In CMEs firms base their relationships on strategic coordination, which takes the form of bargains by a small set of decision makers, reaching credible commitments. Within LMEs and CMEs lie Mixed Market Economies (MMEs). These are characterized by a lack of coordination which is compensated by direct state intervention, which limits their economic performance. They share a dominantly bank-based financial system with CMEs. Financialisation through securitisation has changed the relationship between borrowers and lenders from long-term commitment into a marketable asset, hence undermining the CME and MME model of financial system. Incremental institutional change is to be expected as the financial sector is incentivised towards securitisation. The analysis compares Italy, a MME and Eurozone periphery country, and Germany, a CME and core country on the basis of their financial systems and their respective positions towards the ECB's and EC's securitisation efforts. The findings show that the ECB's and EC's efforts shape a permissive consensus with the MSs that leads to incremental change towards more securitisation, but without leading to a transformation of the financial systems to market based finance.

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## Introduction

It is nowadays a widespread consideration that advanced capitalism is in a transformation process named financialisation, which describes the expansion of the role of the financial sector within and across advanced capitalist economies. In their financial systems this has been taking place through the spreading of securitisation. At the EU level the process was furthered by the integration and deregulation of financial markets and monetary union. While securitisation was a main factor responsible for the financial crisis of 2007 and was deemed to receive larger scrutiny and stricter regulation, financial and political elites have recently become active to reframe securitisation as a tool for economic recovery in the Eurozone as growth remains subdued. (Aalbers & Engelen, 2015) At the supranational level, both the European Commission (EC) and the ECB have pushed for a revitalisation of the securitisation market in the EU and the Eurozone in particular, with the goal to fundamentally transform the financial systems of the Eurozone Member States towards increased securitisation. First, the EC first put securitisation high on its agenda in the green paper “Long-term Financing for the Real Economy” in March 2014, which would develop into the Capital Markets Union(CMU), featuring securitisation as a prime objective in the near term. (European Commission, 2013; European Commission, 2014; European Commission, 2015) Second, the ECB has been very active in this development: As early as May 2014 it has become apparent that the ECB aims to achieve an economic recovery by channelling the currently dormant stocks of capital concentrated in the books of primarily institutional investors, such as insurers and pension funds, towards investment in the real economy. To this end the ECB focuses on the “emergence of a robust securitisation market”. (European Central Bank, 2015b) In the view of both the EC and the ECB the securitisation market is potentially a vital factor for economic recovery of the Eurozone as it enables the transformation of illiquid bank loans into liquid marketable financial instruments to be sold to capital markets. This means that in principle bank loans, which are the dominating source of financing for Small and Medium-sized Enterprises, that are the backbone for the Eurozone’s economy and thus a significant factor for economic recovery, can be passed on to institutional investors and do no longer put pressure on bank’s balance sheets, which are continuously in the need of deleveraging and which face increasingly demanding regulation in the form of higher capital requirements.

The choice for securitisation by the ECB and EC can be interpreted as fostering a shift in the financial system from the traditional bank lending model towards credit intermediation through securitisation. This development is considered to be at the core of financialisation and the erosion of relationship banking that provides patient capital for long-term economic development. (Davis & Kim, 2015) Since the onset of the financial crisis, the ECB has incrementally eased its refinancing conditions to counter the collapse of the interbank market and the resulting funding difficulties for banks. Interest rate measures however fail to deliver credit expansion in a credit crunch, which led economists suggest that the ECB should instead directly target credit expansion for GDP transactions (lending to the real economy). In this light one should also see the recent targeting of a revival of securitisation. (Cour Thimann, 2012, pp. 768 - 771; Lyonnet & Werner, 2012)

Theoretically, Securitisation as a form of shadow banking is able to reduce the cost of credit by benefitting from less stringent regulation. In other words, while the shadow banking system and its practice of loan securitisation is able to significantly increase investment in the real economy, it also is prone to irrational market behaviour, sudden stops in liquidity and collapse, which constitutes an important threat to financial stability. In simple terms, stability is undermined due to the complexity of the process of securitisation. The more steps that are needed to transform a pool of loans with low liquidity and inherent riskiness into a highly liquid and low risk marketable financial instrument, the higher are the threats to overall financial stability if too much of these opaque instruments are

traded on the market. (Pozsar, Adrian, Ashcraft, & Boesky, 2010) To reap securitisations benefits, while constraining its threats to financial stability, the measures pursued at the supranational level have thus focused on the identification of securitisation structures that are assumed to be prudent and robust.

In practice the ECB and the EC pursue the goal of expanding credit (by increasing growth to influence inflation to achieve price stability) through transforming financial systems via two complementing policy measures that promote securitisation: First the ECB conducts an asset purchase program called ABSPP that became operational in October 2014. (Draghi, 2013; Draghi, 2014) Secondly the EC aims to increase standardisation, transparency and simplicity of ABS to increase their attractiveness to investors. This complements the ECB's measures as it mobilises additional capital from the private sector to purchase the riskier ABS tranches that the ECB is prohibited to buy. At the same time the abovementioned threats to financial stability are intended be counteracted by increased market discipline fostered by the standard. The ECB and the Bank of England (BoE) had consequently put forward outlines of a new standard for securitisation which builds on the previous work in this direction in the Basel Committee. (European Central Bank & Bank of England, 2014) In the form of the renewed regulatory framework for securitisation proposed by the Commission these proposals have now entered the legislative process at EU level. (European Commission, 2015) These concerted efforts are assumed to have a pull effect on MSs to support securitisation as a policy option and to move further away from traditional bank-based finance and hence become more financialised.

The political justification given for an expansion of the quantity of credit through securitisation is that it would especially improve the supply of credit for Small- and Medium-sized Enterprises (SMEs). Prior to the global financial crisis of 2007, it was already difficult for SMEs to obtain credit, compared to larger enterprises which have better access to equity, which only deteriorated after the economic downturn. This resulted in a serious problem for economic growth and employment rates, as Europe's economy relies on the success of SMEs. They employ more workers than other businesses as their products are on average more labour-intensive. A lack of available finance for this sector might lead to higher unemployment rates, which pose problems for domestic demand, since the more people are unemployed, the less they obviously can spend. This impairs the ability for households to deleverage. The background of the problem to obtain credit is that banks in the Eurozone remain unwilling to lend to SMEs in particular. Large firms distinctively remain able to either obtain credit from banks as they typically hold larger assets or find alternative sources of finance, but SMEs on the other hand represent a riskier investment for banks. (Kaya, 2014; Öztürk & Mrkaic, 2014) The financial fragmentation in the Eurozone, which has been a direct result of the financial crisis as well as the crisis management that was opted for by the Member States (MSs), causes differing effects on SMEs access to finance dependent on the respective MSs. The problems for SMEs are high in so-called peripheral countries, generally perceived as the Eurozone south, which feature low economic growth, high unemployment and severely damaged bank balance sheets. Furthermore, private and public debt positions are unsustainable. This places the burden of economic adjustment on the periphery MSs. (Belke, 2013, p. 4) On the national level MSs have therefore stepped up existing programs or introduced new ones to facilitate access to finance for SMEs. From a larger perspective, both the gravity of the problem as well as the ability of the national governments varies according to a north-south divide, with northern European countries faring comparatively better off. (Gert Wehinger, 2014, p. 2)

## Research Goal and Research Question

From the underlying background of the problem of access to finance for SMEs and its obstructing effect on the recovery of the Eurozone's economy, this study aims to shed light on the ECB's and Commission concerted efforts to create more credit in the Eurozone through the establishment of

institutions and policies in monetary and financial supervision that promote securitisation and analyse its impact on the bank based financial systems in core and periphery MSs on a national level. For the purpose of the study the shifts in the financial system from the core and periphery MSs are compared to identify processes of institutional change and trajectories of financialisation that could lead to more market based forms of financial intermediation. One asks the following general

**Research Question (RQ):**

***To what extent do the ECB's and EC's efforts to increase securitisation change national bank-based towards market-based financial systems?***

Access to Finance for SMEs (Policy Problem)

SMEs have a central position when it comes to investment in the real economy. On the hand they form the largest part of the company structure of basically all MSs. On the other they are exceptionally dependent on bank credit as a source of finance, which means that their only realistic access to capital market finance on a sufficient scale is by the securitisation of bank loans: SMEs rely primarily on credit provision from banks in contrast to large enterprises, which have additional sources of finance and receive preferential treatment from banks due to their better endowment with collateral and their smaller probability of default in general. But the Banking sector at large still suffers from the fallout of the financial crisis which feeds down to SMEs. The two main causes for sub-optimal bank lending to SMEs, in the form of decreased lending and interest rates above what the firms' business situations would suggest compared to non-crisis times, lie first in those claims on bank balance sheets that remain likely to default which hinders banks on taking up new risks in the form of lending and second lie in the macroeconomic condition of the recession which implies that the value of the claims will not improve in the future. (Darvas, 2013, p. 7)

The aforementioned problem is disproportionately present in the Eurozone periphery which creates however pressure on the entire Eurozone due to the interdependence between the Member States financial systems. Defaults of banks as well as sovereign default pose severe threats to other Member States due to cross border financial linkages. (Darvas, 2012) The weak fiscal situation of those MSs in which the access to finance problem is the most dire limits the means of public intervention. Furthermore, the proper assessment of risks in the process of bank credit allocation in the periphery is hindered by the policy to re-establish financial stability in the Eurozone in the form of new prudential requirements. A feature of SMEs when applying for loans is their lack of transparency which discourages banks to lend, indifferently from stressful conditions in the economy. (Öztürk & Mrkaic, 2014) Now, while banks need to recapitalise and deleverage, they opt for providing loans only against collateral, which hinders eventually profitable business models to access the necessary financing and constitutes market failure. The overestimation of interest rates may lead into a downward spiral of businesses that have to pay too high interest which reduces their profitability further and thus deteriorating their access to finance even further. Consequently, a remedy to a problem of this scale justifies explicitly a solution sought at the EU level. (Darvas, 2013, p. 5)

Whether securitisation would be a suitable instrument to ease the financing conditions of SMEs is disputed however. Critics claim that securitisation changes the aggregate composition of credit in an economy, which refers to the issue that business loans are harder to securitise than consumer and mortgage loans. The cause for this lies in the structure of the loans. Mortgage and consumer loan contracts are more standardised and predictable and hence more easily assessed by quantitative variables than business loans, which depend more on local economic conditions and involve qualitative information, e.g. the reputation of the entrepreneur, that can better be assessed by establishing long-term relationships between borrower and lender. The argument for securitisation

from the wider real-economic perspective and its growth enhancing potential ultimately rests on the design of the measures adopted and to what extent these would lead to lending for investment purposes. (Bertay, Ata Can Di Gong & Wagner, 2015; Hache, 2015a) Indeed, it has been argued that the revival of securitisation in the Eurozone would only have a beneficial effect for medium-sized companies, because securitisation involves costly assessment and analysis of the idiosyncratic risk of the firm<sup>1</sup> which reduces the economies of scale of securitisation below that firm size. (Véron & Wolff, 2016)

### Policy options of the ECB in Monetary Policy

The pull effect that the ECB exercises on financial systems of the MSs is first of all conditional on the choice it makes concerning the monetary policy instruments that it deems suitable to achieve a resurgence of economic growth so that it can achieve price stability. The ECB can provide banks with long-term liquidity on the condition that they increase lending to the private sector. In this case ECB acts as traditional Lender of Last Resort (LOLR) to the banking sector, by insuring liquidity of banks' assets in the form of repo transactions. In a previous effort the ECB provided liquidity to the banking sector through the Long-Term Refinancing Operations (LTRO) scheme. But the liquidity provided did flow into the government bond market, because of the lower risk associated with these products compared to the private sector. (Hellwig, 2015, p. 22) A new LTRO that could be helpful in the current environment in the periphery would be targeted to lending to the private sector. As the first LTRO was intended to ease the situation in the sovereign bond markets, a goal that is now complemented by the ECB through the Outright Monetary Transaction (OMT) program, the new LTRO could focus solely on lending to the private sector. To provide banks with liquidity against collateral can circumvent the problem of high bank funding costs in the periphery whereas the risk to the ECB depends on the types of collateral accepted. (Darvas, 2013, pp. 8, 12 - 14) LTROs are more conventional monetary refinancing operations, in which banks fund themselves for collateral, including securitized SME loans. They conform to the traditional LOLR function of any Central Bank and hence unlike the ABSPP have little impact on the structure of the financial system.<sup>2</sup>

Directly purchasing assets on the other hand potentially has a more forceful pull effect. Unlike liquidity provision asset purchases target the balance sheets of banks directly by providing capital relief. By focusing on the ABS asset class the ECB "has the potential to meaningfully alter credit supply dynamics in the Eurozone if effectively executed. This would carry positive implications for banks as capital is freed up and risk assets move off of balance sheets". (Bank of Montreal, 2014) Specifically, the transformation of national financial systems towards more securitisation is targeted by the ECB through two complementary policy measures: First, the ECB directly intervenes in the ABS market through outright asset purchases (the ABSPP). Second, the ECB encourages the development of a new standard of high quality ABS products with the Commission being the primary legislator<sup>3</sup>.

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<sup>1</sup> Idiosyncratic risk defines the risk of an underperforming loan affecting the risk of the overall stock of loans. The idiosyncratic risk of an entire ABS is considered low due to the granularity of the securitised loans.

Granularity refers to the portfolio diversification in an ABS. The greater effort in the risk assessment for the individual loan, the costlier it becomes to achieve a desired high granularity/low idiosyncratic risk structure.

<sup>2</sup> As the ECB describes it, "targeted lending measures have a great deal in common with passive term funding interventions – notably, the provision of central bank credit for a lengthy period of time and the dependence of lending volumes in these operations on counterparty demand." The notion of "counterparty demand" is crucial in this context: If Banks are still unwilling to lend, targeted lending measures will neither lead to credit easing nor alter the structure of the financial system. (European Central Bank, 2015d, p. 6)

<sup>3</sup> Further actors include the European Banking Authority (EBA), which proposes the technical guidelines and standards to the Commission, and international bodies such as the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO) providing their own non-binding

## The Asset Backed Securities Purchase Programme

In the ABSPP the ECB ensures liquidity in ABS markets, which is described as acting as Dealer Of Last Resort (DOLR)<sup>4</sup>. By purchasing tranches of ABS the ECB actively intervenes in the ABS market to drive up their prices and reduces their yields. As a consequence, the ECB can actively stimulate the economy by easing funding conditions and capital requirements for banks which enables them to improve credit conditions for the real economy called the pass through effect/bank funding channel. (Raab, König, & Bernoth, 2015, p. 4) The intended effect is greater if the ECB rightly identifies the most impaired segments of the ABS market where the ECBs purchases are needed the most. Naturally, this would put periphery SME ABS at the forefront of potential purchases. (Atkins, 2014) However, as is also acknowledged by the theory on DOLR, the ECB has to make a proper judgement the inherent risks of these products to avoid ABS products with inherent solvency problems. Due to these (unknown) risks associated with ABS purchases the ECB has to have the backing by the Eurozone financial authorities if the assets incur losses, as they have to be borne by the taxpayer through the ECB's balance sheet.<sup>5</sup> Secondly, a greater volume of purchases leads to a reduced supply for the potential investors in these products. They would therefore have to invest into different but similar assets, improving other market segments, such as mezzanine ABS tranches indirectly, which is called the portfolio rebalancing effect. (European Central Bank, 2015d; Raab et al., 2015, p. 2) In sum, both the type and the volume of ABS are important factors to judge the effectiveness of the ABSPP. The problem for the ECB in this regard is first of all to make the right judgment between potential risk and desired magnitude of its effect.

### The Dealer of Last Resort and Credit Easing

To assess the appropriate balance between taking on risk and relaxing the money supply one must posit the ABSPP within the established principles of Central Banks' function of liquidity providers in times of financial stress, which brings one to the discussion of the DOLR function. According to the literature the ECB should follow in the shadow banking sector the same principles that guides its LOLR function in the banking sector<sup>6</sup>, albeit modified for the specifics of the ABS market in which it operates. The necessary extent and limit to its actions lie in its task is to counteract the inherent instability of credit. Put simply, the instability is endogenous to every financial system and is caused by the fact that credit expansion feeds into itself through the appreciation of asset prices. An upward spiral (credit expansion) and following downturn (credit crunch) is the result. This means that in crisis times the cost of credit does increasingly represent pessimistic expectations about future asset price developments and the markets for these assets become illiquid. The crucial point is that the prices of performing assets drop far below their face value, as the price discovery mechanism collapses along with the market. (Mehrling, 2010, p. 15) When acting as DOLR in the capital market channel of credit that functions through the securitisation of loans, the principle that guides its purchases (the Bagehot rule) should therefore be limited to ensuring a price floor for illiquid, but performing assets

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definitions of "simple, transparent and comparable securitisations" (Segoviano, Jones, Linder, & Blankenheim, 2015)

<sup>4</sup> Also known as market-maker of last resort.

<sup>5</sup> The fiscal effects of the DOLR function of a Central Bank are called the fiscal carve-out: "the kind of assets it can lend against; the kind of assets it can buy, in what circumstances, and whether subject to consultation with the executive government or legislature; how losses will be covered by the fiscal authority, and how communicated to government and legislature. On this view, the form of a central bank's "capital" resources is important for reasons of political economy." (Tucker, 2014, p. 35)

<sup>6</sup> "In times of crisis, lend freely, at a penalty rate and against collateral that would be good in normal times but may be impaired in times of crisis." (Buiter & Sibert, 2007)

by posting a bid-ask spread<sup>7</sup> in between that of the collapsed market but below that of normal times. In short the ECB has to drive up prices of illiquid market segments, in this case tranches of ABS. Impaired assets should be bought as well, but the ECB should price in the higher credit risk through a penalty rate, which is still above the illiquid market rate, but below nominal value. By this practice, first losses to the ECB shall be prevented, second excessive risk-taking by agents shall be prevented and third bail-outs of insolvent market actors shall be prevented. (Buiter & Sibert, 2007; Buiter, 2008) The aforementioned guidelines are however not to be treated as goals in themselves, but in relation to the overall objectives of price stability and financial stability. Therefore, if the market has reached a stage in which liquidity problems have evolved into solvency problems, the ECB may move beyond the DOLR principles to avoid an overall breakdown of the financial system. Such a practice is possible as the Euro is a fiat currency which means that money creation is not bound by some underlying asset and as a result, newly created money in the form of purchases provides a positive return to the ECB in any event. In simpler terms, even defaulting assets do not count as losses since the money used to buy them simply didn't need a previous investment on part of the ECB other than the famous 'stroke of the pen'. Nonetheless the benefits for financial stability are calculated at the losses imposed on the economy due to potential inflationary effects as a consequence of the widening of the monetary aggregates, which in further detail depends on how the assets bought influence the creation of money used for consumption and production, which in general is beneficial to the economy as a whole, or for the purchase of financial instruments of a different purpose with negative macroeconomic effects, say asset bubbles. (Lyonnet & Werner, 2012) The cost of inflation is then borne amongst holders of wealth in monetary or quasi-monetary assets, which makes it a political issue and not a systemic issue of financial stability. Therefore, a political backing by the MSs of the Eurozone is of such importance once the ECB engages in more aggressive credit easing. (Hellwig, 2015, p. 12 - 14)

The ABSPP as a Dealer of Last Resort and as Credit Easing Policy

When examining the details of the ABSPP it is noteworthy that only a monthly, but no definite overall target has been mentioned, which thus corresponds to the DOLR requirement to lend freely. (RaboTransact, 2014) The effectiveness of the ABSPP to incentivise securitisation therefore depends on the volume of the eligible ABS. This in turn depends on the ability of the ECB to identify the mispriced ABS, as the foregone discussion explained, which partly hints at the urgency with which the ECB has pursued the development of the STS standard and especially loan level data accumulation to improve its own assessment of their value. But ultimately the magnitude hinges upon the decision whether the ECB decides to target only liquidity provision, as the Bagehot principle intends, or whether it aims to actively induce lending to the real economy. As has been discussed, the latter depends on capital relief to banks, which means that the ECB has to buy risky mezzanine tranches in addition to senior tranches.

The total potential market for ABS<sup>8</sup> is ca. 1 trn Euro and the market size of ABS eligible for the ABSPP, including Mortgage Backed securities (MBS) amounts to ca. 500 bn Euro. Choosing to include MBS leads to a significantly larger effect relative to the 68bn ABS backed by loans to non-financial corporations (including SMEs) (Altomonte & Bussoli, 2014) Of these, the ECB takes the senior tranches onto its balance sheet directly, whereas it would only purchase mezzanine tranches if guaranteed by national governments. National governments could provide these guarantees directly, through national development banks or could pool their backing through the European Investment Bank (EIB). The EIB guarantee would further enhance the ABSPP's magnitude compared to national

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<sup>7</sup> The bid-ask spread represents the difference between the price at which the ECB is willing to buy (bid) and sell (ask) ABS

<sup>8</sup> based on the total available loans to be used as collateral in securitisation in the Eurozone

guarantees because it would provide for burden sharing of the potential losses and increase the credibility of the guarantee as a consequence of the larger fiscal backing. Finally, a combined effort by national governments would reduce the fragmentation of ABS markets in the Eurozone. (Gallo, Tyrell-Hendry, Tan, Popovic, & Grant, 2015) None of the above guarantee options have been supported by governments so far and instead more engagement of the private sector is supported by them.(Gaunt, 2014)As a consequence effects on capital relief and more securitised bank lending through direct ECB purchases depends to a larger degree on the portfolio rebalancing effect, which means in concrete terms that it hinges on the willingness of private investors to purchase the riskier mezzanine tranches. In the absence of political willingness to directly expose the fiscal positions of MS governments to the risk in mezzanine tranches, the magnitude of the effect of the ABSPP relies then on a beneficial regulatory treatment of ABS to make the asset class more attractive to investors to perform this function. (Bank of Montreal, 2014)The next section consequently assesses the recent efforts in this direction at the EU level.

### Policy Options for The EC in Regulatory Reform of Securitisation

In general, there is a trade-off that has dominated the discussion in regulatory circles: While It has been found that Banks are less risk averse as long as they can manage their risks by means of securitisation, which leads to an expansion of credit, it has however also been acknowledged that there is a thin red line between reduced risk aversion and imprudent lending behaviour to non-creditworthy borrowers. It is therefore the aim of regulation to achieve the former while prohibiting the latter. (Siepmann, 2011, p. 121) In drawing that line, the development of the regulatory framework focuses on the treatment of ABS in capital and liquidity requirements, on the availability of information about the underlying securitised collateral (i.e. loans to the SMEs) and an EU-wide<sup>9</sup> standardisation of the structure of ABS. (Altomonte & Bussoli, 2014, p. 9 - 11)

Securitisation as such has been identified as one major part of the shadow banking sector which received enhanced attention in the aftermath of the financial crisis. Therefore, the effort has been to reduce practices in securitisation that undermine financial stability, so that it would fulfil its function as an additional funding source for banks and a means to diversify risks to improve systemic stability. The weakness of securitisation comes from the inherent feature that it separates borrowers from lenders. At several junctures in the securitisation chain, say in the process from making the decision to lend by a bank to the decision to invest in an ABS by an institutional investor, information asymmetries can be exploited by one actor at the expense of others, typically at the benefit of the lender(Bank). (Geithner, 2011, p. 9) Specifically, on the global level, the Financial Stability Board (FSB) has identified several deficiencies in securitisation practices that undermined financial stability, namely an “overreliance on ratings; lack of due diligence by investors; inadequate pricing of risk [and] reduced incentives for originators and sponsors to conduct sufficiently rigorous due diligence of asset pools which contributed to the creation of conditions for excessive leverage in the financial system.” As a policy recommendation it focused thus on two measures, risk retention to align incentives between originators and investors; and transparency and standardisation to support investors. (International Organization of Securities Commissions, 2012, p.6) The challenge to risk retention is to ensure prudent lending decisions without constraining the formation of credit, which comes down to a trade-off between the two goals. The stricter risk retention requirements are, the

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<sup>9</sup> Justification for regulation at the EU level is of significant importance due to the fact that banks are important as originators of the underlying loans and act as sponsors to the Special Purpose Vehicles (SPVs) that hold the loans, thus bearing the risks of the SPVs. As solvency and liquidity risks of banks have shown to be coupled with the ratings of sovereigns, an EU wide approach could reduce this source of market fragmentation and potentially increase systemic stability. (Altomonte & Bussoli, 2014)

costlier issuance is for the originator which drives up credit prices and depresses issuance volumes. (Siepmann, 2011, p. 134)

### Risk Retention

The options available in deciding on a risk retention framework that counteracts the problem of misaligned incentives in the securitisation chain are the following: The most important choice in design refers to the risk that remains with the originators balance sheet. That means that either a portion of the junior (first loss) tranche, a vertical slice of each tranche or similarly a random selection of tranche portions, or lastly a combination of the junior and the mezzanine can be selected for the purpose to have “skin in the game”. Next to the first range of options comes the “thickness” factor in retention: The size of retained risk can be set as fixed or flexible, based on economic factors (i.e. economic cyclicalty or dependent on underlying collateral). Additional, less crucial, design options concern the following: The type of agent in the securitisation chain which has to retain credit risk. This typically confers responsibility either to the securitiser or the originator. Allocating responsibility with the securitiser has the advantage that it is the agent making the ultimate decision which loans to include in an ABS, which is made independent from the originators and therefore ensures monitoring of loans and risk evenly across assets and originators. Responsibility with the originator on the other hand ensures monitoring at the point where the decision to lend is originally made. Therefore, screening of borrowers is improved as lenders continue to hold part of the credit risk and the overall quality of assets(loans) improves as a consequence. (Geithner, 2011, p. 19) It is however highly difficult to achieve the goal of internalising the risks stemming from misaligned incentives through risk retention. As Fender and Mitchell (2009) show, the appropriate regulatory requirement in a simple model depends to an important extent on the type and structure of the individual securitisation and from the systemic economic factors, i.e. the credit cycle. Under the assumption of a well-performing economy, equity tranche retention incites better screening of borrowers and risk assessment by the originator, since profits are expected from the equity tranche. Otherwise, the incentivised effort of loan screening will be countered by the expectation that the retained position in the securitisation will amount to losses irrespective to screening efforts. Accordingly, socially optimal retention is better achieved by demanding retention in the mezzanine tranche or a vertical slice instead of the equity tranche as a consequence of the expectations of originators about the macroeconomic environment. Furthermore, in the option of a vertical slice under these circumstances, the size of the slice must be sufficiently large to be comparably effective as the mezzanine tranche option.<sup>10</sup>(Fender & Mitchell, 2009) Conclusively a combination of the equity and mezzanine option seems to capture most of the situations in which misaligned incentives of originators would lead to socially suboptimal securitisation practices. The effectiveness of the L-shaped form of risk retention, as it is called, depends however further on its specific design. And as it can be considered the option with highest available choice for the originators it also provides the largest potential to circumvent the regulatory aim, if not actively supervised by the regulator. Hence the increased effect on incentive alignment is counteracted by its implementation cost. Now that different options have been discussed one must lastly point out that it has to be forbidden to originators to choose the retention option by themselves to prevent regulatory arbitrage. Concerning the thickness factor in risk retention it has to be further clarified that the appropriate retention size mustn't be calculated based on the nominal value of the securitisation, but on a risk sensitive basis. (Siepmann, 2011)

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<sup>10</sup> The randomized retention approach is in principle the same as the vertical slice approach, hence the recommendation for a significantly larger size than equity/mezzanine applies as well.

## Market-Based Regulation

An alternative or complementary approach stresses the importance of the second policy measure that the FSB had identified, namely disclosure to address the information asymmetries between originator and investors. The underpinning assumption states that this market-based type of regulation is sufficient to improve incentives for originators to ensure prudent lending decisions by relying on the enhanced market discipline exercised by better informed investors. This would reduce the need to intervene in the risk transfer process through risk retention. (Siepmann, 2011, p. 163) To address these issues of overreliance on Credit Rating Agencies (CRAs), mispricing of risk and inadequate due diligence, the main area of regulation relies on transparency of ABS structures, which defines the information that must be provided to investors on the quality of the securitised loans and on the structural features of the ABS itself. By requiring transparency from the issuer on its product investors ideally should be able to assess by themselves the expected risk-return profile of the ABS they intend to buy and enables them to model their risk and compare them to other assets in a more detailed fashion than through the CRA's rating alone. The ability to assess the performance of the loans which are pooled in an ABS requires a multitude of data on the loans included and on performance of comparable loans. Additionally, data should be available on the credit history of individual borrowers and similar information typically assessed in the practice of lending. On the structuring of the ABS itself, it is amongst other aspects relevant to investors beforehand how the payments will be modelled, e.g. how the waterfall structure assigns payments amongst different tranche holders and what kind of credit enhancements are tied into the structure. (Siepmann, 2011, p. 166)

It has been argued that a significant obstacle to sufficient disclosure concerns the type of information available to investors. In the traditional way of providing loans (in traditional banking) next to hard quantifiable information, so called "soft" information is also taken into account. "Soft" information concerns experience built up over time in a close borrower-lender relationship, i.e. previous experience with the borrower or the individuals' probability of unemployment. This kind of information is impossible to include in disclosure requirements and hence in this particular area market discipline will not provide a sufficient constrain on originators lending behaviour. (Siepmann, 2011, p. 168, 171) The next problem with disclosure to enhance market discipline concerns the constraints posed by risk assessment models used by investors. The models rely on assumptions that can in certain circumstances fail to represent an adequate assessment, e.g. because of historical data of the loan pool that hides trends of deteriorating lending standards behind aggregate indicators as happened in the subprime markets. To reflect deteriorating lending standards in the models in turn would require said "soft" information, that is impossible to incorporate into the models. (Siepmann, 2011, p. 170) Due to the lack of "soft" information and as a general measure to improve confidence with investors, information intermediaries are supposed to complement role, prominently by the importance given to CRA ratings by investors which compare the relative, not absolute, risks of individual ABS to comparably constructed securitisations. While these in theory reduce information cost through standardisation of information, they too can't solve the immanent problems in disclosure. (Siepmann, 2011, p. 172 - 182)

A necessary requirement for market discipline to have its aspired constraining effect on originators is adequate due diligence by investors. The first condition for effective due diligence is that investors are obliged to perform their own risk assessment. In this risk assessment stress-tests should be included, which furthermore should include scenarios in which external assessments (CRA ratings) are downgraded. Said measures should especially reduce the reliance on external ratings. Their risk assessment should be reflected in the equity that they have to hold against these assets. As a more far reaching measure investors could be divided according to their resources into informed and

uninformed investors and a prohibition to purchase any less than purely simple ABS structures could be imposed on the latter. Due diligence requirements suffer from the fact that they are very costly to enforce, as regulators in principle would have to be informed more or equal than the supervised to actually judge compliance. Furthermore, trading in ABS goes beyond the sectors of investors which are currently regulated, banking, insurance and pensions, which limits the reach of due diligence. (Siepmann, 2011, p. 183 - 189)

The Securitisation regulation as a Market-Based Approach

The ECB clearly favours the market based approach, which was discussed above, towards regulating securitisation. It promoted its approach both on the international level of informal standard setting, as a member in the environment around the Bank for International Settlements (BIS), which developed the BCBS-IOSCO proposal for Standard, Simple and Comparable Securitisation, and separately in the joint ECB-BoE proposal. As the Head of Risk Strategy Division at the European Central Bank put it, "self-attestation by originators and a disciplined investor base are the most cost-effective way of keeping everyone honest." (European Central Bank, 2015b) The outcome on the European level was the proposals by the Commission of the STS standard and its corresponding amendment of capital requirements to make ABS more favourable to investors. (Stuchlik, 2016)

Substantially, the Commission's proposal defines criteria for (long-term) STS securitisation and additional criteria for (short-term) Asset-Backed Commercial Paper (ABCP). The standard relies on self-attestation by issuers, which only have to notify ESMA and national authorities, which then include the ABS in their STS registers. This aspect was the most hotly debated issue in the consultation procedure. Investors are responsible for approving compliance with the standard on the basis of the disclosed information and declaration that has to be provided by issuers according to the transparency requirements of the STS Regulation. Each MS has to designate supervisory authorities that have the power to supervise and sanction non-compliance of issuers. Hence, a stronger tendency towards self-regulation and coordination between MSs are the guiding principles on this part of the proposal, which is also strongly supported by the ECB. (European Central Bank, 2015b) The regulation does not increase risk retention requirements for STS securitisation, it reforms retention requirements for all securitisations. Specifically, it does not depart from existing requirements, which currently demand a 5% retention of net economic interest, but it does shift the burden from investors, which previously had to check for compliance with the requirement on part of the issuer and were also held responsible, to issuers. As regards retention options, both equity and vertical slice, but not the L-shaped option, remain open to the issuers' choice. It lastly prohibits SPVs from being the retaining agent in the securitisation chain. In sum, a more stringent regime in risk retention, that effectively prevents market failure due to the 'originate-to-distribute' model, is not the intention for STS securitisation, more emphasis is laid on widening the investor base for ABS by reducing their due diligence costs in retention. (Hache, 2015b; Ingram & Bryan, 2015) As regards the STS standard's criteria, ABS are considered simple if they pool the same type of loans, exclude hedging other than against interest rate and currency risks and exclude re-securitisation. They are standardised as long as they effectively sell the loans to an SPV to which they don't provide an explicit/implicit liquidity backstop. To ensure transparency originators have to provide data on assets similar to those included in the loan pool and external verification of an independent third party on the quality of the pooled loans shall be conducted. (Ingram & Bryan, 2015) Importantly the criteria do not exclude tranching, which shows that widening the investor base takes precedence over financial stability. Tranching still provides the ability that loans receive a better risk-return treatment due to correlation formulas and credit enhancements and foster a remaining layer of complexity. Furthermore, it conceals the risk of extreme events or systemic risks in senior tranches, which attracts uninformed investors and undermines further due diligence. As regards systemic risk, the

STS standard does not go wide enough on the matter of corresponding areas of the shadow banking sector. The use of ABS certified under the new standard for repo in wholesale markets could increase beyond the social optimum, due to an overreliance on the standard, in a similar way as previously with CRA ratings, and a misinterpretation of senior tranches as risk free. (Bavoso, 2016)

Of final importance is the reduction of capital requirements for (regulated) institutional investors and investment banks. For this purpose, the Commission proposes amendments to the Capital Requirements Regulation for both securitisation in general and specifically for STS ABS. The new prudential treatment would depart from the standardised approach, which imposes fixed risk weighting that furthermore exceed the weighting of holding an un-securitised underlying loan pool. Prudential treatment is intended to be applied according to a hierarchy of first internal model, then external model and as a last catch all option standard approach risk weighting. As a safeguard to excessively low risk weighting in the internal/external models the CRR previously imposed a weighting floor at 15%, which shall be amended to 10% for STS ABS. (Hache, 2016) The reliance on internal models to counter a build-up of excessive leverage in turn relies on market discipline on investors. This has proven as problematic in the crisis times since 2007, as internal and external models were flawed. Additionally, it undermines a level playing field in the investor base, as those with the resources to conduct internal modelling and their likely preferential risk weighting are only the largest investors. While it is true that only such informed investors should be able to participate in the ABS market, at the same time market discipline is effectively undermined and a “regulatory catch 22” arises. (Bavoso, 2016)

As the previous discussion has shown, the ECB’s purchases have a limited effect on the securitisation markets in themselves, as the program is not backed by a commitment of MSs to guarantee mezzanine tranches. Private investors will nonetheless face a more light-touch regulatory regime under the reforms proposed by the EC, which enjoy explicit support from the ECB and should significantly reduce regulatory costs of securitisation. Hence it can be legitimately suggested that private market actors’ engagement will compensate for the lack of MSs guarantees. Since the proposed reform entails an emphasis on national regulatory agencies and focuses largely on MS coordination, the intended pull-effect could be undermined. In summary, it can be affirmed that the combined effort of the ECB in the ABS markets and in regulatory reform of securitisation by the EC is sufficiently large to pull financial systems of MSs towards securitisation to the extent that it is not subverted by MS prerogatives. The findings are summarised in the following Diagram 1.

Magnitude of ECB/EC pull-effect on Financial Systems of MSs	
<b>Asset Purchases (ABSPP)</b> <ul style="list-style-type: none"> <li>•Portfolio Rebalance Effet from Senior Tranche/Low Risk ABS towards riskier ABS</li> <li>•Potentially incentivises Issuance of more ABS</li> <li>•Absence of MSs guarantees makes effect dependent on Private Investors</li> </ul>	<b>Securitisation framework</b> <ul style="list-style-type: none"> <li>•Light touch market based regulatory regime favoured</li> <li>•Reduction in regulatory cost for ABS investors</li> <li>•Enabling risk-model based capital requirements</li> </ul>

Diagram 1

While the transition to a market based financial system that fosters securitisation in the Eurozone is clearly supported by the supranational ECB and EC, both actors are dependent on the MSs' consent. As has been discussed above, the magnitude of the effect doesn't depend on monetary policy alone, but also on financial policy, which is the responsibility of the EC and the MSs, and fiscal policy, which is the responsibility of the MSs. These policies are interdependent. The monetary element provides liquidity to the low-risk part of the ABS market and concerns price stability. The fiscal element targets credit easing in the form of high risk mezzanine tranches purchased by the ECB and guaranteed by the MSs. The financial policy element targets the supervision of the ABS market and is a competency of the Commission and the MSs.

This interdependency of these policy fields depends therefore on a "permissive consensus" amongst MSs and domestic financial sectors that favours securitisation in general as a policy option and welcomes a change financial systems in the Eurozone from bank-based to market-based. (Sbragia, 2001) The incentive to support securitisation for MSs is diverging between core and periphery countries due to diverging cost/benefit distributions within their political economies. Core countries support more securitisation as it would widen the market of financial products for their transnationally oriented large banks. It is however crucial to them that no cross-border risk sharing arises from securitisation that could negatively affect their fiscal position. Therefore, they are critical towards governmental guarantees of securitisation and favour a supervisory treatment that reduces risk taking. Alternative banks in their financial sectors would not benefit from more securitisation as they have a stable funding source and lack the capacity to become active in the securitisation markets themselves and therefore core MSs insist that securitisation would not encroach on the traditional business areas of their alternative banks, local SME lending and deposit taking. In sum, core countries support the efforts of the ECB and EC to the extent that they widen the profit opportunities of their internationally oriented banks, but oppose any fiscal commitment by the MSs.

Periphery MSs support securitisation as it would ease the repair of their banking sectors balance sheets, which benefits both large internationally oriented but also smaller alternative banks. This process would also be facilitated by governmental guarantees which puts them in direct opposition towards core countries as it enhances potential negative spill-over effects through risk mutualisation. In addition to easing the delevering process, more securitisation would furthermore ease access to credit for consumption, which would compensate for the lack of aggregate demand caused by austerity policies.

In summary, a permissive consensus in favour of securitisation exists between MSs and the ECB and the EC, however the individual aspects regarding the scope of securitised products and the commitment of fiscal policy towards more securitisation, which touches MSs core competencies, create competing preferences amongst them. These preferences are influenced by the positions taken of their financial sectors, which are both bank-based, but are now facing differing pressures of adjustment as a result of the financial and sovereign debt crisis.

## Theory

### Financialisation

Shadow banking and the practice of securitisation at its core have been identified as central manifestations of the overarching process of financialisation. (Kessler & Wilhelm, 2013) The concept of financialisation describes the transformation of advanced capitalist economies from industrial to finance capitalism. Whereas in industrial capitalism the financial sector theoretically plays the role of financial intermediation that provides capital for investment for production, it becomes increasingly detached from the rest of the economy, while the productive sector and households become

increasingly dependent on the financial sector as it permeates the wider economy. (van der Zwan, 2014; van Treeck, 2009) Financialisation further entails that the financial markets, motives, actors and institutions gain influence in the economy. (Epstein, 2005) It is a process that is driven by financial and political elites which is increasingly hard to reverse as ever more parts of economy and society have become affected by financial markets. Securitisation works as an 'enabler' for financialisation as it shifts the way of financial intermediation from banks to markets. It therefore transforms the relationship between borrowers and banks from a long-term mutual commitment into an "abstract connection to the market". (Davis & Kim, 2015, p. 208) Its political dimension is best illustrated by Engelen et al. : "Despite differences, related to the path-dependent history of the cultures and institutions surrounding the financial–real estate complex [...] they all talk to the same underlying mechanism: the political economy of securitization is to a very large extent coequal with the politics of mass financialization. No better way to keep politicians and regulators away from cleaning up the Ponzi scheme that is mass financialization through debt-driven real estate appreciation than by seducing as many citizens as possible to join the scheme."(Aalbers & Engelen, 2015, p. 1604) While he is concerned with real estate as the most widespread form of securitisation, this principle holds across asset classes.

Financialisation has been a global process and has impacted advanced capital economies overall, but the process has been uneven. Initially scholars anticipated that the process would lead to a global convergence on one type of (Americanised) finance capitalism. But financialisation impacts differently on different types of capitalism. The way that the process of financialisation plays out depends on the institutional configuration of an economy. It then tilts the balance of institutions towards the use of financial markets and therefore depends on the costs and benefits that the firms affected by the institutional framework associate with their continued existence. It can therefore be assumed that different institutional frameworks provide for different trajectories of change under the influence of financialisation. (Davis & Kim, 2015, p. 216, 217)

The balance of institutions and the preferences of firms have been identified as the forces that lead to resilience or convergence of an existing institutional arrangement in different types of capitalism by the Varieties of Capitalism (VoC) approach. By using the VoC approach the heterogeneity in the Eurozone has been analysed from the viewpoint of the institutional foundations that divide the economies in Coordinated Market economies (CMEs) of the core and Mixed Market economies (MMEs) of the periphery with the argument that MMEs underperform economically compared to CMEs due to their institutional framework. (Hassel, 2014, p. 4) Both capitalisms represent counterpoints to the Liberal Market Economy (LME) associated with the United States and United Kingdom, which have utilised the financialisation of their economy for growth. But the argument followed in this thesis is that securitisation leads to an uneven trajectory of financialisation in the Eurozone towards the Liberal Market Economy (LME) model due to the CMEs' and MMEs' differences in the ability of their institutional frameworks to counteract the credit crunch that followed the financial crisis, to which the ability to provide patient capital is of central importance. The ECB's and EC's efforts to increase securitisation is identified as a driver behind the process. As the previous chapter has discussed the efforts of the ECB decidedly favour an approach in monetary and regulatory policy that is decidedly liberal. This section will discuss the VoC approach first from the wider angle before going into depth concerning the role of the differences in financial systems in the capitalist models at its heart. Lastly, the different processes of institutional change envisioned in the approach will be described.

### Varieties of Capitalism

The VoC approach focuses on firms as central actors in a national economy and the institutional framework in which they operate. On this basis the approach distinguishes between the

aforementioned CMEs and LMEs. In an economy firms rely on a set of relationships with other actors for their performance. Firms have to “raise finance”, ergo engage with financial intermediaries or financial capital, they have to “regulate wages and working conditions”, thus engage with organized labour, to “ensure workers have [...] skills” and “to secure the cooperation of their workforce”, therefore engaging with potential and current employees, “to secure access to inputs and technology” and “to compete for customers”, thus engaging with other firms. (Hall & Gingerich, 2004, p. 7) First, each of these relationships represents a coordination problem for the firm. Second, each of these relationships represents an institutional domain with a set of rules that facilitates coordination of a typical kind.

Coordination problems are solved according to two distinct modes of interaction. The first is competitive market based. Coordination takes the form of “arms-length relations and formal contracting”. (Hall & Gingerich, 2004, p. 7) Successful coordination is found based on price calculations. The process of coordination normally takes place in open markets characterised by a low degree of long term relationships amongst market participants. This form of coordination is typical of the LME. The second is based on strategic coordination. Coordination takes the form of bargains by a small set of decision makers, reaching credible commitments to the outcome. Ergo, successful coordination is dependent on the commitment of the decision makers ensured by “information sharing, monitoring, sanctioning” and (continued) “deliberation”. This form of coordination is typical of the CME. (Hall & Gingerich, 2004, p. 8)

The way in which firms choose to solve these coordination problems is dependent on the institutional framework in which they operate. Patterns of firm behaviour correspond to institutional settings that are supportive of either market based coordination or deliberation based coordination. The interplay between firms and institutions is characterized as the factor promoting a stable institutional set up within a CME or LME respectively. These institutional structures have grown historically at the national level. The performances of the institutions within a national political economy are interlinked as is described by the concept of institutional complementarities. Only certain configurations of institutions are said to provide firms with the framework that enhances national economic performance. (Hall & Gingerich, 2004, p. 6) The complementarity of institutions within an economy is of central importance. An institution that supports strategic interaction within a given domain depends on a similar type of coordination in other domains. Institutional complementarities therefore limit the possibilities of policy reforms, because deviation from the dominant mode enshrined in one institutional domain decreases the utility of institutions in other domains. (Jackson & Deeg, 2006, p. 23)

Both firms’ approaches toward coordination and the institutional structure incentivising and supporting their choices for modes of coordination form the basis for the central dichotomy of CMEs and LMEs. Firms adapt to institutional settings by shaping their profit seeking activities accordingly. They depend on the institutional stability on the one hand, on the other hand incumbent firms gain a comparative advantage compared to firms operating under different institutional frameworks.

The periphery countries can neither be classified as LMEs or CMEs, these are considered hybrid types characterised by a lack of institutional complementarities. While firms and labour are similar to CMEs in the way they are organized, they fail to be able to engage in autonomous coordination, because they lack coordination capacity. Whereas in a CMEs the coordination problems can be solved to mutual benefit, in MMEs coordination problems are solved in favour of the actors that have the power to demand state intervention. The stability that CMEs provide to firms and labour induces investment into specific assets held for long term oriented production, the threat of state intervention in the interest of particularistic groups limits investment in specific assets. Instead

economic actors invest most intensely in political power by upholding close links to political actors. The veto power, that particular economic actors hold, in turn enables them to demand compensation from the state in the form of subsidies or sectoral protection instead of increasing their own competitiveness. (Hassel, 2014, pp. 7 - 9) The two most important characteristics of MMEs for the study at hand are the fragmentation of the economy and state intervention in the firm-bank relationship. First, the economy is fragmented in a few large corporations and a vast majority of small enterprises that produce small value-added goods and compete on price instead of quality. Pressure to become more competitive is shielded from the small enterprise sector through product market regulation. Long-term patient capital from banks is ensured only by state intervention which ensures stable bank-enterprise relations. (Hancké, 2008, p. 226)

### The Varieties of Financial Capitalisms of CMEs, LMEs and MMEs

The distinguishing feature of CMEs' financial systems is that they provide more patient capital (long-term finance) than LMEs. Traditionally banks are the main providers of patient capital by channelling capital from depositors to firms in the form of bank loans. Since bank runs by depositors are normally sparse, banks can base their decisions to lend solely on the stable capital base attracted from deposits, which enables them to provide loans on the basis of economic fundamentals of the borrowers. Consequently, in this ideal scenario decisions to lend are shielded from booms and busts in financial markets. Furthermore, this type of relationship banking reduces information asymmetries, which overcomes an important obstacle to finance for firms without direct access to capital markets, such as SMEs. (Hardie, 2013; Howarth, Verdun, Maxfield, & Hardie, 2013)

The distinction between firm coordination through markets and strategic interaction, central to the VoC approach, is represented in the financial system as the distinction between two channels through which capital is allocated from savers to borrowers. The first channel constitutes financial intermediaries which are primarily banks. They have the task to combine savings, manage liquidity risks and identify investment risks, to price these risks as interest rates. Financial systems dominated by allocation of this kind are termed "bank-based", typical of CMEs. The second channel is direct exchange of capital between savers and borrowers on capital markets. These take place through the financial instruments of securities. Where these dominate one speaks of "market-based" financial systems, typical of LMEs. (Jackson & Deeg, 2006, p. 13-15)

Two factors lead to domination of financial systems of one kind or the other: First, the relationship between financial intermediaries and the non-financial sector (households, firms) and secondly financial regulation. The relationship between financial intermediaries and the non-financial sector is defined by the demand and supply of a certain kind of financial assets that is either dominantly market based (securities) or bank based (loans). Three variables distinguish these assets: "Liquidity, Risk and Return". Securities are structured financial instruments intended to be easily bought and sold on markets that ensure their liquidity through obligations on designated financial intermediaries. Transparency for investors is vital regarding their underlying collateral to ensure they are priced accordingly. Holding these assets implies higher risks because holders of securities are the last to be compensated in case of income losses. Therefore investors demand higher returns in turn for higher risk. While they are able to provide long term funding to firms in an environment of economic expansion, because of liquid markets ensuring that outflowing funds can be readily replaced by firms, once the market collapses firms will face funding difficulties. Bank loans are long-term investments implying less liquidity, because the contracts have to be renegotiated if restructuring is needed. Whereas securities comprise large and diverse amounts of underlying collateral from many sources, which increases the need to monitor for risk, bank loans involve only the bank and the borrowing firm, which decreases the monitoring and transparency needs involved in bank loans. (Vigols, 2003, p. 242 - 244) Under financialisation banks engage also on financial

markets, including institutional investors and the wholesale markets, and therefore shifts the financial system from a bank-based to a market-based system. Engagement on financial markets means banks expose their balance sheets to financial markets. On the asset side banks can sell loans directly or via securitisation. On the liabilities side they can finance themselves on wholesale markets and via bonds. The assets they hold are marked to market, which means that the value on their balance sheets is dependent on the availability of capital from investors. Banks then do become market intermediaries, where they transmit the expectations of the financial markets to the price and availability of loans. (Howarth et al., 2013, p.706 - 708)

The second factor, financial regulation, favours either banks in CMEs or capital markets in LMEs. In LMEs financial regulation focuses on reduction of information asymmetries and enforcement of contracts between market participants. Liberal regimes aim at constituting a level playing field among investors. In these systems, banks are tightly regulated to protect small depositors as these are the most vulnerable and because of their function as facilitators of payments. As assets are priced on capital markets the threat of volatile asset prices creating booms and busts in the business cycle is contained by monetary policy aimed at price stability.(Vigols, 2003, pp. 246, 248) Equally, a deregulated banking sector, e.g. enabling banks to meet capital requirements through innovative financial instruments and support of liquidity in securitisation markets, are typical of LMEs. (Howarth et al., 2013, p. 723)

In CMEs non-liberal financial regulation dominates. Regulation intends to constrain capital markets by prohibiting or restricting speculation. For this purpose, the emission and trade in volatile financial assets, such as derivative securities, is discouraged. Banks are incentivized to behave long-term oriented in their customer relationship. The motivation is a reduction of up- and downward swings of the business cycle. As a result, small investors are protected from incurring large losses. Financial regulation enables distinct banking forms that promote local economic development. Therefore not-for profit, public and cooperative banking thrive and hold significant amounts of financial assets. Regulation intended to suppress speculative finance enables the central bank to pursue additional goals to price stability, e.g. economic growth. (Vigols, 2003, pp. 246, 248)

The MME financial system is traditionally bank-based. Unlike the CME model however, state intervention in the banking sector is more widespread. However, in the process of financial liberalisation of the 1990s and 2000s in Europe the practices of banks diverged between the countries usually associated with the MME model (Spain, France, Italy and Greece). For example, Italian banks tended to remain more on the traditional bank-based model combined with a low exposure to non-domestic wholesale funding, the opposite was true for Spain. The ambiguity in the paths taken by MMEs under pressure to economic adjustment has already been addressed in more general terms with one central factor being the influence of the EU.(Hancké, 2008; Hardie, 2013; Perez & Westrup, 2010)

### Institutional Change in Financial Systems

Whereas the preceding section has described the feature of distinct models of capitalism which reproduce institutional stability that leads them to feature either market-based or bank-based financial systems, the focus of the study is whether the ECB and EC exercises a pull-effect on MSs, so that they would change their institutional models to provide for a more market based financial system. The VoC approach's argument stresses the resilience of institutional configurations to predict that even under market pressure towards financialisation, firms will continue to support the existing institutional framework. In other words, the VoC literature argues against the theory of convergence towards the LME model and emphasize that cross-national diversity will persist, unless extreme exogeneous factors lead to a new institutional framework (a new "punctuated equilibrium").

(Kalinowski, 2012, p. 475) Unconvinced by their assessment, scholars have developed a more refined view of institutional change that aims to connect “incremental change” to “transformative results”. The source of such change is the “gap” “between formal institutional and their actual implementation and enforcement”. (Streeck & Thelen, 2005, p. 5 - 9, 19) According to the authors, institutional discontinuity that takes place incrementally can be distinguished into 5 different modes.

Displacement is a mode of change that can be identified in two settings, first when several contradicting institutional arrangements exist in a political economy and one dominates the others, then actors may shift to another of the existing frameworks making it the new dominant structure. Second, when an institutional framework neither strictly prohibits nor allows some actions, actors can seek in large numbers those actions and thereby discredit the utility of the institution. The source can come from the existing variety of institutional arrangements within a political economy, in which case they are determined as endogenous change, or they can come from international or foreign institutional arrangements in which case they are exogenous. Endogenous change is termed as displacement through defection, as actors behave according to a different institutional arrangement in place and exogenous change is termed displacement through invasion. They can be part of the same process if actors within a political economy actively pursue defection to a foreign institutional arrangement. (Streeck & Thelen, 2005, p. 20 - 22)

Layering is a mode of change that is used by actors if the initial institutional design institutionalised vested interests in the continuance of the arrangement. When the exit costs from an existing arrangement are too high, actors can introduce complementary, additional and incremental new arrangements in the initial institutional design without changing its core provisions. If this triggers a differential growth, meaning that the attractiveness of the new arrangements shifts the balance of vested interests, support for the initial arrangement is slowly undermined. Therefore, the central element of this mechanism is the interaction of the core and the new arrangements. (Streeck & Thelen, 2005, p. 23, 24)

Drift is a mode of change that results from inactivity to apply the institutional arrangement to newly emerged circumstances. If the rules embedded in an institution are supposed to achieve a certain goal, failure to update the rules or implement them in new ways to cover the newly emerged circumstances undermines the functional demands the institution was supposed to supply. (Streeck & Thelen, 2005, p. 25, 26)

Conversion means the use of the existing rules to new challenges in the environment. The source of redirection may come from those responsible in the institution, policy-makers effectively, or private actors that newly emerge in the area which is regulated by the institution and are influential enough to push through a change of application for their own purposes. (Streeck & Thelen, 2005, p. 26 - 28)

Lastly, exhaustion represents a form of change in which the rules undermine their effective delivery on functional demands by their own nature. One specific form of exhaustion is the ‘ageing’ of an institution. It means that as the rules are specified further and further, it becomes impossible for the institution to effectively perform the tasks it was designed for. A related form of ‘ageing’ is the growth of an institution, in which rules apply to ever more actors and their effective application subsumes the resources needed for the institutions continuing existence. (Streeck & Thelen, 2005, p. 29)

According to the theory, the arrangements that once favoured bank-based over market-based finance in the Eurozone can be eroded gradually over time once existing arrangements come under pressure both externally and from internal actors, which want to defect. Financialisation in general is seen as the unwinding process that erodes the institutional stability of bank-based financial systems,

which includes both CMEs and MMEs, as securitisation changes the nature of banking. Previously seen as providers of patient capital, the transformation of loans into sellable securities transforms the nature of banks and undermines the long-term focus of relationship banking that was seen as an essential pillar for the viability of diverse capitalisms. (Howarth et al., 2013, p. 693, 694)

Hence, the existing institutional framework for banks and their customers is incrementally changed to enable more securitisation and displays the abovementioned 'gap' between rules and their implementation that provides the ground for incremental change. The ECB monetary and the EC regulatory efforts to increase securitisation can be interpreted as facilitating that change, as they open up the possibility to change the institutional framework through the avenue of European legislation. From the political point of view then, the impact of Securitisation on the financial system can concurrently be perceived by domestic actors in the financial sector, both private and public, either as form of competition that undermines financial stability or as an evolutionary force that improves the functioning of the financial system. (Song & Thakor, 2010, p. 1023)

The efforts of the ECB and EC depend however on their consensus with the MSs to effect a shift towards more market based finance in the form of securitisation. While the ECB and EC can be identified as an exogenous force on MSs financial systems, from the perspective of the VoC debate on the resilience of national institutional frameworks the support for change is dependent on the embeddedness of firms in their national institutional context. The trajectory and magnitude of institutional change is affected by the multi-level governance in which the ECB, EC and MSs are interdependent and domestic cohesion of financial, capital and labour interests are challenged by liberalisation. In this sense "the battle of the systems currently fought in the European political arena may therefore produce neither one-sided convergence on the liberal model nor continued coexistence of liberal and coordinated market economies but hybrid models combining elements of both." (Callaghan, 2010) Hence, what is crucial in the analysis of the effects on financial systems is how the embeddedness of financial firms in their domestic framework and how their preferences are affected by the securitisation efforts. As securitisation decreases this embeddedness by opening up new profit opportunities in securitisation, the large transnational banks are more likely to defect from the institutional framework, which applies to both MMEs and CMEs. Alternative banks are more embedded as traditional providers of patient capital and reliant on the protection of their special provisions provided by their MS's government, which lets them hesitate to embrace securitisation. Therefore, the reliance and resilience of the alternative banks on their traditional business model relative to large transnational banks determines the trajectory of further incremental institutional change. From this line of reasoning the MSs propensity to support the ECBs and ECs securitisation policy is dependent on the preference cohesion in their financial sectors. In this sense, the trajectory of incremental change should follow a path-dependent development.

## Hypothesis

According to the theory of financialisation and varieties of capitalism, securitisation fits well into LMEs and their orientation on short-term capital. (Lapavitsas & Powell, 2013, p. 364) Consequently a shift in bank-based financial systems of CMEs and MMEs should lead to further financialisation of their economies. The role of the ECB and the EC in the process is that it aims to achieve a shift towards more securitisation in the financial systems of the Eurozone by pursuing a change in the institutions away from bank-based towards market based finance through both monetary policy and regulatory reform. In concrete terms, the ECB's purchases together with the better regulatory treatment of ABS could allow Eurozone banks to access capital markets funding through securitisation and hence change the financial system from (traditional) relationship banking to market based finance. In short, the ECB's and EC's efforts create a pull-factor on national financial

systems towards market based finance in the Eurozone that accelerates the financialisation of MMEs and CMEs. However, while a general trend towards financialisation can be found in all advanced economies, its intensity varies across countries according to the “institutional, historical and political factors.” (Lapavitsas & Powell, 2013, p. 376) The consensus with the MSs is thus needed for the policy efforts at the EU level to have transformative results that enable more securitisation. The effect’s magnitude (on the markets and the institutional framework in which they are embedded) depends critically on the state that their financial systems are in. While both countries start with bank-based systems, the periphery’s banking sectors show signs of exhaustion that manifests in a credit crunch, whereas the core’s banks continue to lend to the real economy. The main factors of this difference are the weaker bank balance sheets, that entail both impaired loans on the asset side and the need to build up more capital, and the weaker economic outlook, for the former. (Al-Eyd & Berkmen, 2013) Germany’s banking system, as the archetypical CME, did experience exhaustion only in large commercial banks and Landesbanks, while it was partially shielded from a credit crunch due to “the primary cooperative and savings banks. Due to their different business model, which focuses more on the ordinary loan and deposit business, these banks were not directly hit by the financial crisis, and due to their large deposit bases, they were also less dependent on wholesale funding.” Hence, the pressure on CMEs to further financialise should be expectedly lower. (Detzer, 2014, p. 63) While the weaker economic outlook in the periphery exceeds the scope of this study, bank balance sheets relate directly to the securitisation pull effect: Securitisation aims at the asset to capital ratio of banks, helping them to offload assets to the capital markets. (Wyplosz, 2014) Based on the theory, the situation in the periphery provides a fertile ground for institutional change as both private market actors and politicians seek for new opportunities to revive economic growth, that is furthermore in line with the more general assumption about MMEs that it will show signs of convergence towards LMEs. In the terms of institutional change there exists thus already a gap between the formal institution that supports a bank-based financial system and its implementation as exhibited by the exhaustion of the banking system. Therefore, the existing equilibrium of market actors’ interests in MMEs, manifested by their coherent preferences to defect their institutional framework, will shift under the incentives that the ECB’s and EC’s efforts provides through its pull factor towards a new equilibrium in support of securitisation. In CMEs on the other hand, the original relationship lending conducted by alternative banks reduces the financial systems coherence to defect the bank-based model, which makes CME’s institutional framework more resilient.

Conclusively, one arrives at the following hypothesis:

***The shift towards more market based finance in MMEs will be stronger than in CMEs.***

As the financial systems of MMEs are less resilient under the pressure of economic adjustment, their financial sectors will show more cohesion to defect from their prevailing institutional framework. CMEs on the other hand have a more resilient institutional framework which the CMEs will aim to preserve.

## Methodology

The general research question aims at explaining the impact that the (LME type) market based policy for credit easing by the ECB’s ABSPP and the EC’s promotion of market based regulatory reform have on the financial systems of the periphery and the core of the Eurozone. The research is exploratory and draws causal inference on the comparison across the two cases. To draw causal inferences by means of a case study, two conditions must be met: First, other factors (or variables), that potentially influence the outcome must be controlled for, which is ensured through case selection. Second, the relationship between independent and dependent variables must be made clear. The independent variable is the ECB’s and EC’s pull effect on financial systems. Institutional change towards

Financialisation in the financial system is the dependent variable. (Blatter & Blume, 2008, p. 320) The research strategy will be a co-variational case study. (Blatter & Blume, 2008, p. 317) The thesis employs a multi-level analysis by treating trajectories of insitutional change as an interdependent process between different actors on the EU level (the ECB,EC) and the national level(MS governments and financial sector stakeholders).

## Case Selection

The selection of the core and the periphery, as the two blocks of countries to analyse and compare, follows the “most different systems design”. Case selection is the foundational consideration relevant to the validity of causation in this type of research. Two factors of the research are paramount, the elimination of a spurious causal relationship (controlling for confounding variables) and the orientation of the research goal. The research goal prescribes the direction of inference that the one seeks, whether it is X-centred or Y-centred. In this study one seeks to identify the effect our specific independent variable X (the ECB pull effect) has on the outcome Y (the financialisation of the financial system). The case selection proceeds accordingly: One selects cases based on the “method of difference”, which means that the cases should differ the most “with respect to the main independent variable of interest, and they must be as similar as possible with regard to variables associated with other potential explanations”, whereas the outcome is unknown at this stage.(Blatter & Haverland, 2012, p. 10; Gerring, 2016, p. 69) The core and the periphery are different on the independent variable, as the ECB/EC pull-factor is expected to be particularly stronger for the periphery financial systems, which suffer more severely from the need to deleverage and is hence proportionally more incentivised to use securitisation to achieve that. The core in turn has experienced a less severe downturn of lending to the real economy.

## Data Collection and Analysis

The sources from which Data will be collected will be policy documents, press releases, newspaper sources, working papers and stakeholder position papers. These will be collected from the ECB, national central banks and supervisory agencies, international organisations, think tanks and interest associations. These sources provide both qualitative data in the form of verbal communication and quantitative data in the form of financial statistics. One will collect data based on the unobtrusive method, which means that the data will be collected without direct interference on or interaction with the sources themselves. (Babbie, 2007) Furthermore additional data will be collected from secondary sources, scientific research. Since the VoC approach has been widely applied it provides a large array of background information.

Data analysis will be conducted first as a content analysis for the qualitative data. A content analysis can be defined first as using the subject of communication that is fixed, that means it is protocoled and can be revisited at a later point. Then it is necessary that the analysis is conducted systematically, that distinguishes it from free interpretation and follows explicit rules. Furthermore, content analysis must be led by theory, the theoretical background connects to the material by informing the questions in mind when analysing. Lastly, it does not only analyse the content of communication in an isolated fashion but takes the process of communication into account. (Mayring, 2015, p. 12) One will therefore seek for instances of securitisation in the communication and read it in its context, laying emphasis on the pros and cons that the authors associate with it and assuming the motivations behind their positions.

The use of quantitative data will be analysed by time series analysis. One will apply the interrupted time series method on a time series of securitised loans on FVC balance sheets in the Eurozone. This type of method can be associated with quasi-experiments. It uses a pre-post intervention

comparison with a series of observations of the same variable at varying time points of fixed intervals.(Helmut, 2005)

Based on the observations scores on the independent and dependent variables will be presented in a rectangular data sheet and will be analysed through inspection for co-variation. (Blatter & Haverland, 2012, p. 12)

## The Banking Diversity of the Financial Systems in Italy and Germany

Central to the extent of financialisation of the financial systems is the resilience of alternative banking forms. These perform functions central to coordinated capitalism by providing patient capital through relationship banking. They specialise in simple financial services as relationship lending and deposit taking, which is facilitated by their not-for-profit mandate. Their ability to perform their mission is ensured by keeping close ties with their borrowers and depositors that enhances soft information, which is enshrined in the territoriality principle that divides their business areas into small geographically confined regions and safeguards them from mutually competing. (Deeg & Donnelly, 2016)

The structure of the German financial system is commonly described as the “three-pillar” bank-based model of commercial, cooperative and public banks. Its structure is defined by the co-existence of privately owned banks, which are further distinguished between a small number of large internationally operating commercial banks and many small, regionally operating cooperative banks, with banks that are signified by government involvement. The latter are distinguished by large Landebanks, that operate on a national level, and regionally operating savings banks. These diverse banking forms are best summarized according to their bank business models and the purposes that they have within the German economy. The large commercial banks are typically for profit driven and engage both in financial markets and relationship lending and are engaged in cross-border financial markets. The Landesbanks provide similar services but to a lesser degree. Both are profit-oriented. The savings and cooperative banks are typical alternative banks, aimed at providing patient capital to SMEs and providing deposit services to households. Fundamental to their simple business model is their legally entrenched geographical constraint, which compartmentalises their services along regional lines. Furthermore, they are not-for-profit-oriented. (Behr & Schmidt, 2015)

The financialisation of the sector in Germany has taken place in the confines of the for-profit-oriented banks, the large commercial and Landesbanks. The large commercial banks were the first to seek profit opportunities in investment banking and capital markets and were the main proponents for more market based finance in the 1990s. At the same time, the role of EU legislation pushing for more financial liberalisation increased. Until 2002, four legislative acts were passed to increase the role of financial markets in the German financial system. This did however not gain traction amongst household investment and the impact remained low. Large banks consequently increased their exposure to foreign markets significantly moving towards market based forms of finance. The significant role of the alternative banks remained unchallenged and within this sector the institutional structure has been preserved. Their business models remain strongly based on the bank-based model. The diversity of the German banking system and the strong market share of the alternative banks has limited the extent of financialisation in the financial system. (Detzer, 2014)

According to (Deeg, 2005) the German financial system is now signified by two subregimes with separate path dependent trajectories. The large banks stand at the core of market based finance and

follow a financialisation logic.<sup>11</sup> Small banks are still embedded within their traditional roles and institutional frameworks of bank-based finance and patient capital. Their subregime remains within the traditional non-financialised path and logic.

While initially a similar “three-pillar” bank based model with a dominant role of the state and regional governments as typical for the MME model, the Italian financial system underwent more significant changes than the German due to liberalisation and privatisation since the 1990s. While initially marked by segmented banking forms with specialised narrow functions (e.g. a separation between banks for long-term and short-term lending), a large public and savings bank sector that was under the direct influence and ownership of the state, banking reforms in the 1990s (most importantly, the Amato law) led to a large transformation in the financial sector. The process of transformation was facilitated by converting all banks into joint-stock companies and desegmentation. The public savings banks’ stock was collected in trusts. These trusts however remained in the hands of the savings banks’ former municipal owners, which means they were privatized in form but not substance. Nonetheless, due to the provision that commercial banks could merge with savings banks, which led to a significant market concentration in a few large international banks. The municipal owners’ influence diminished in this process, which means that forms of direct governmental intervention were counteracted by these reforms. The Italian financial sector is now dominated by two very large banks (Unicredit, Banca Intesa Sao Paolo) which became furthermore more cross-border active. Savings Banks, albeit basically commercial banks, have almost ceased to play a role in the Italian financial system. Cooperative banks however have actually increased their market share. The reforms enacted in the 1990s did not challenge the cooperative banking model. Cooperative banking in Italy is furthermore distinguished into *Banche di Credito Cooperativo* (BBC) and *Banche Popolari* (BP). While the former concerns smaller institutions serving rural regions which have remained largely within their original business model, the latter have partially transformed. The BPs can now expand outside of their original regions and face lesser restrictions on non-traditional financial practices. They can issue shares, these don’t provide for shareholder rights in their governance. The BPs as a result have become more and more like commercial banks, also in the way that they have consolidated and concentrated into larger entities, but they retained their traditional governance structures. (Bülbül, Schmidt, & Schüwer, 2013; Deeg, 2012)

While the structure of the Italian financial system exhibits far less banking diversity than in Germany this does not suggest that market finance has significantly increased. It merely suggests that as commercial banking became the norm in Italy, which creates much more potential for cohesion around defecting the bank-based model if it cedes to provide the associated benefits. As Deeg (Deeg, 2005) argues, “in Italy the shape of a new path, or whether it is moving to a new path, is less clear.”

As regards the thesis’ hypothesis, at this point it can be stated that the prerequisite for a defection by the financial sector in Italy is provided to a larger extent than in the German financial system. As the former faces increasing pressure due to the economic decline in their domestic markets, this could provide a critical juncture to shift the preferences of the financial sector towards more securitisation. In the German financial system, however the bifurcated financial sector provides for diverging paths, for that large profit-oriented banks are seeking to expand both geographically as well as operationally. The interaction between the German and Italian governments, transnationally oriented large and domestic small alternative banks towards the ECB’s and EC’s efforts to revive securitisation will be analysed in the following chapter to see whether interests converge close enough to create a political effort sufficient for transformative institutional change.

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<sup>11</sup> Equally involved in this subregime are large corporations, which involves the changes in corporate governance. This policy area is however not within the scope of this thesis.

## Developments in Securitisation from a Periphery and Core Perspective

When it comes to the ongoing discussion of a revitalisation of the securitisation market that is currently underway, a first impression may provide that there exists little division between MSs as it seems to be universally embraced. But on closer inspection dividing lines exist between MSs from the periphery and the core. Whereas core countries are supportive of a wide and encompassing definition of securitisation, the question of supervisory authority is seen as a strong national prerogative. (Veron, 2015) When it comes to the public goals attached to more securitisation, periphery countries would prefer a more active and targeted stance in the securitisation market to aide them with the dismal state of their banking sectors. Being threatened by a credit crunch, they seek to utilise securitisation as a financing tool for ailing banks, where core countries stress the complementary nature of securitisation that should be reserved as an additional source of financing for viable firms. These differences again exemplify an actual divide of whether high-quality securitisation means securitisation of loans with little credit and default risk, as the core stresses, or whether it's 'quality' shall refer to the structure and transparency of the ABS alone, which would still leave room for distressed loans to be included, the position that is supported by the periphery. Lastly the issue arises whether or not securitisation should be seen as a viable tool for monetary stimulus for the economy through the utilisation of the ECB's monetary easing. There the position of the periphery is supportive, as MSs lean towards the idea that government guarantees of ABS that consist of non-performing, troubled loans can curtail the losses incurred by their banking sectors by selling part of it to the ECB and part to investors. Here the core countries are most strongly opposed. (Gabor, 2016)

### Regulatory Reform of Securitisation and the German position

When considering the German stance towards an increased role of securitisation in the EU, it is telling to go back to the time of the years of 2009 and 2010. The German government had only recently paved the way for a national bad bank model before the federal election in September 2009 when it became increasingly clear that the Landesbanks and other crisis-hit banks were reluctant to use the means to get rid of impaired assets put forward by the government, due to the unfavourable terms that they associated with the option. (Drost, 2009) Essentially they would have had to pay for the arising losses over a term of 20 years. (HB HAMBURG, 2009) What they preferred instead was a governmental guarantee on ABS, that would revitalise the securitisation sector. Both the association of large commercial banks, the Bundesverband deutscher Banken (BdB), and the association of public banks which included the large Landesbanks, the Verband Öffentlicher Banken (VÖB), demanded guarantees and a dedication to build up a segment of high-quality securitisation from the federal government. The essential argument was that only a revival of securitisation would prevent a credit crunch in Germany at the time. The proposal was to create a segment of High-quality securitisation based on transparency requirements, a focus on simple structures and a prohibition on including NPLs, which would then be guaranteed by the state. (Burgmaier & Hühig, 2015; Drost, Nagl, & Osman, 2009) At the same time, the savings banks (Sparkassen), which largely came out of the financial crisis unscathed and whose business model doesn't involve securitisation, and the Bundesbank strongly opposed such a move. (Köhler, 2009) These demands were met with a mixed response from the ruling coalition. In its Annual Economic Report 2010, the Federal Ministry of Economic Affairs and Technology noted that it "intends to force the pace on the standardisation of asset-backed securities. For this purpose, it will examine the possibility of adopting a Securitisation Act with the aim of creating uniform, transparent standards." On the same issue however, it insisted that it is "up to market participants to act on their own authority and revive the securitisation market." (Federal Ministry of Economics and Technology (BMWi), 2010, p. 29) There was little legislative follow-up in the direction that the commercial and Landesbanks had pointed. A

securitisation law was never developed, instead the True Sale Initiative, a private company once founded by the federal government and the large German banks to promote securitisation and the primary lobbying organisation for securitisation in Germany, developed the private standard “Securitisation – made in Germany” which has no legal relevance. (Bräunig & Hille, 2010; Drost, 2010) The German position had moved into a different direction. The critical voices in the coalition partner, the Liberal Democratic Party (FDP), and the Finance Ministry strongly opposed any state guarantees for securitisation. (Reuters, 2009) In the discussions in the Bundestag concerning the implementation of the Capital Requirements Directive, under pressure from the FDP, a compromise on risk retention for securitisation formed that would raise the minimum level of the directive to 10% retention. (Leersch, 2010; taz, 2010) In sum, the German position wasn’t responsive to the demands of the ailing commercial banks and Landesbanks, but indeed in aggregate resulted in a more restrictive regulation on securitisation than can be found in any other MSs. In fact, Volker Wissing(FDP), the rapporteur of the committee of finance in the Bundestag, explicitly demanded from the government to argue for a higher risk retention requirement at the European level and declared that a unilateral solution would be pursued irrespectively. (taz, 2010) Crucial to this outcome was that the prospect of a credit crunch as portrayed by the GBG and VöB was ambiguous. In the aftermath it became clear that such developments were overstated. While the larger banks actually reduced their lending volume and requirements, large corporations were able to switch funding to alternative sources, e.g. corporate bonds, whereas SMEs could continuously build upon their relationship with the regional banks, e.g. Sparkassen and cooperative banks. (Schmidt & Zwick, 2012)

The Credit Crunch in Southern Europe and the Re-emergence of Securitisation  
While the argument about securitisation and state guarantees was settled within Germany for the time being, on the European scale the banking landscape was constantly deteriorating in the Eurozone periphery as illustrated in Table 1 Bank non-performing loans to total Gross-loans (Worldbank). At first, this was not directly of concern for the core. Arrangements were made that intended to prevent any spill-over from the periphery to the core of the unsustainable debt levels in the private sector. While the sovereign debt crisis and the mutualisation of public debt was of primary concern in these years from 2010 to 2013, progress was made in the form of the Banking Resolution and Recapitalisation Directive (BRRD) to minimise the impact of deteriorating bank balance sheets to core countries. The BRRD essentially established a deadline at January 1<sup>st</sup>, 2016 until which periphery governments had to individually clean up NPLs (“legacy assets”) under the state aid supervision by the commission which should ensure sale of these assets would made at market price so that banks would have to bear the full losses on their assets and that no public resources are drawn upon. (Aiyar & Monaghan, 2015; Deutsche Bundesbank, 2014) Asset securitisation represents an important option for banks to consolidate in general and also explicitly when it comes to the sale of toxic assets. It is decisive in this regard, as the ECB states, that a flexible, but solid legal framework exists for securitisation. (European Central Bank, 2015c)

Table 1 Bank non-performing loans to total Gross-loans (Worldbank)

	2010	2011	2012	2013	2014	2015
Germany	3.2	3.0	2.9	2.7	2.3	..
Italy	10.0	11.7	13.7	16.5	17.3	..
Spain	4.7	6.0	7.5	9.4	8.5	7.0
Belgium	2.8	3.3	3.8	4.3	4.4	4.0
France	3.8	4.3	4.3	4.5	4.2	..
Ireland	13.0	16.1	25.0	25.7	20.7	18.8
Finland	0.6	0.5	0.5	..	..	..
Greece	9.1	14.4	23.3	31.9	33.8	34.4
Netherlands	2.8	2.7	3.1	3.2	3.1	2.9
Austria	2.8	2.7	2.8	2.9	3.5	3.5
Luxembourg	0.2	0.4	0.1	0.2	..	..

The ECB's Plans for ABS Purchases and a Gradual Shift in the German Position  
 The muted debate about ABS reignited on May 5 2013, when Mario Draghi hinted at the possibility that the ECB could start purchasing these instruments and openly calling upon the Commission for a regulatory reform to adequately price them. (Draghi, 2013) Days later, Wolfgang Schäuble criticized the ECB harshly, calling such plans "obscured state financing". In the same vein, he pointed to the possibility that it would all be a hidden plan to aid the Italian government, referring to Italian government debt to private creditors of 70 bn €. (Spiegel, 2013) Jens Weidmann, once directly involved in the construction of the German securitisation market<sup>12</sup> and at the time president of the Bundesbank, followed suit in the scaremongering by stating that the ECB would possibly buy legacy assets from periphery banks that would be overpriced, hence not priced according to the market. (Focus, 2014)

While the discussions about what would become the ABSPP dragged on throughout 2014, the discussion on "high-quality securitisation" re-emerged on the European level. Being confronted with the potential engagement of the ECB in securitisation markets, the German position shifted from a prohibitive stance to a more active role. Hence, in September 2014, shortly before the official announcement of the ABSPP, the finance ministers of Germany and France, Wolfgang Schäuble and Michel Sapin agreed on a "non-paper" in support of the revitalisation of the securitisation market. Notably the paper explicitly states that the measures should promote high-quality securitisation of SME loans and don't "have to be" intended to be bought by the ECB. (Schäfers, Frühauf, & Pennekamp, 2014) While the German position is to formally support the development of what is now known as the STS regulation of the Capital Markets Union, statements strongly emphasize the demand that securitisation mustn't impede on traditional loan finance, which implies the continuing dominance of regional savings banks in SME financing and the absence of a credit crunch in Germany. As the Bundesbank stressed in 2016, the relationship between SMEs and their "Hausbank" must remain important. (Deutsche Bundesbank, 2016) Equally, the Deutsche Sparkassen und Giroverband stated that securitisation should be seen as an "overflow chamber", hence should be used once traditional loan creation has hit its limits. (Deutscher Sparkassen und Giroverband, 2015) Finally, when it comes to supervisory authority, the original plan of the Commission to create a single supervisor for the Capital Markets Union was strongly rejected by Germany, together with France and the UK. (Fleming, 2015) Hence, the interpretation of compliance and sanctioning are supposed

<sup>12</sup> Jens Weidmann was board member of the True Sale Initiative, board member of the public IKB Deutsche Industriebank AG, which invested heavily in US Subprime ABS and had to bailed out, and responsible for the promotion of securitisation in the German Ministry of Finance. (Stegemann, 2009)

to remain at MS discretion while the ESAs are responsible for issuing guidelines. It emphasizes the priority to avoid a spillover of risks to the German financial sector.

In summary, the German position towards securitisation had shifted from one of prohibition towards the containment of debt risk spill-over and the protection of the regional banking, while allowing to a certain extent securitisation that is aimed primarily at large commercial banks as long as it conforms to a strict regulatory standard. This position can be seen as an outcome of the path dependent dual logic that persists in the German financial system, as it represents a compromise between the market oriented logic in the subregime of the large commercial and Landesbanks; and the traditional bank-based logic of the subregime of the alternative banks. It entrenches further the bifurcation that signifies the trajectory of institutional change in the German financial system.

### The Worsening Credit Crunch and the Italian Position

When it comes to Italy there has been little change in its position towards securitisation. Before the crisis, securitisation had expanded rapidly and it increasingly focused on household debt. (Affinito & Tagliaferri, 2010) After the crisis, securitisation was retained by banks and used primarily for repo financing with the ECB. (Albertazzi, Eramo, Gambacorta, & Salleo, 2011) The position towards securitisation remains favourable. Since the onset small changes have been made to the Italian securitisation framework. Of note was the Law No. 116 of 2014, which enabled Italian SPVs to directly lend to enterprises and households. In 2010 by Legislative Decree Number 141 SPV the Bank of Italy (BoI) resolved SPVs from any supervision by the BoI. (IFLR, 2010) In practice, this new type of lending works in conjunction with the bank that set up the SPV. The bank 'identifies' the borrower and has to retain part of the credit risk. (Legance, 2014)

The positive stance towards securitisation extends also to the development of the STS standard. The Italian Ministry of Finance explicitly stressed the importance of securitisation in the CMU consultation. The primary concern is to develop "this market after its drying up as a result also of the crisis and the ensuing regulatory overreaction would be instrumental in (i) extending the currently reduced capability of banks to reach out to the real economy, (ii) developing a secondary market for bank assets, (iii) disseminating risks more widely in the financial system." (Italian Ministry of the Economy and Finance, 2015) The first and second point mentioned illustrates the priority that Italy has in the CMU, namely to increase the ability of banks to repair their balance sheets. As Table 1 Bank non-performing loans to total Gross-loans (Worldbank) has exemplified, Italy's NPL problem is increasing rapidly even compared to the other periphery countries. The issue of securitisation for Italy becomes further clear in the recent efforts by the Italian government to help banks offload their toxic assets.

When it comes to the efforts to resolve Italy's bad loan problem, first of all it is noteworthy that a large class of bank bond holders are private individuals, to a large degree also retail investors, say ordinary bank customers. With the BRRD coming into full force in 2016 and therefore also its bail-in rules, the political implications are destructive as a large group of small investors would face significant write-downs. In this context on January 26, 2016 the Italian government, after a year of bargaining with the Commission on state aid rules, the Garanzia sulla Cartolarizzazione delle Sofferenze (GACS) was introduced, which provides guarantees on ABS tranches based on NPLs from Italian banks. Under the pressure of the Commission's enforcement of state aid rules, a significant emphasis is laid on market pricing of the tranches. The guarantee is restricted to the senior tranches and is conditional on a rating of at least BBB-. The most pressing problem for the Italian state and for the banks is however that there is a significant difference in what banks have already written down on these NPLs, which is significant (on average 56%), and the even more conservative market pricing of 80% of book value. In this context the securitising bank needs to both create a junior tranche

covering the expected losses on the book value of the NPLs to achieve the rating and find investors willing to invest into the junior tranche which would likely demand a very high price. (Merler & Minenna, 2016) To address this problem the Italian government has set up the Atlante fund to purchase portions of the junior tranche. The fund would be financed by the private banking sector, but predominantly by savings banks as well as the state owned Cassa Depositi e Prestiti, which original mission is to support economic development, similar to the German KfW or the EIB. It is furthermore telling that the banks under pressure are formally cooperative banks. The role of the fund is to bid up the market price of the junior tranches. The utilisation of public banks has met some opposition by Germany, which considers it state aid through the back door. (BSIC, 2016; Piller, 2016) In addition to the recent efforts, the Italian finance ministry also held talks with the ECB to include the NPL ABS in its purchase programme. While the ECB declined outright purchases, it signalled that it would be willing to accept them as collateral. In the face of German opposition, this further underlines that the equilibrium in the Eurozone tends to skew towards a more favourable equilibrium for securitisation.

In summary the Italian government is highly dependent on a revival of securitisation. Its position is characterised by a demand to further integrate and widen the market for securitisation on a European level. The important driver of this position can be directly identified in the problematic position of its banking sector, which makes it highly dependent on the marketability of its debts and the availability of investors. Unlike Germany the situation is furthermore problematic for Italy as can't rely on stable cooperative banks and savings banks. This fact is decisive with regard to financialisation in Italy, as traditional banks moved in their business model under new competitive pressure towards more market based forms of finance. After the financial crisis, most of the financial sector in turn remains dependent on the markets for securitisation. One can thus observe a reinforcing dynamic of financialisation that stresses the market conformity of bank resolution and a non-mutualisation of debt through public guarantees, notably also due to resolution rules agreed upon under the pressure of Germany.

### Interpretation of Results

The hypothesis that MMEs will further increase securitisation can be confirmed to some extent. The decisive factor is in comparison the worse state of banks in the periphery which puts more intense pressure on the government to pursue a strategy of increased securitisation compared to the core. At the same time concerns over monetary financing and the insistence on market discipline by the core hinders the periphery to pursue a 'normal' recovery associated with the clean-up and recovery of debt demand driven, financialised economies as we have seen most notably in the U.S. and the Fed's TALF program or to some extent with the Funding for Lending Scheme of the BoE. Nonetheless, the core's position on securitisation has shifted from prohibitive to limited approval under the influence of the ECB's and EC's efforts. Within the context of the cleavage that runs through the Eurozone, the efforts to increase securitisation focus primarily on the addition of comparably conservative measures such as STS and the focus on senior low risk tranches purchased under the ABSPP. In this sense, the financialisation taking place in the Eurozone as regards securitisation should be seen as a layering process in which the financial sector uses the leverage that the credit crunch possesses to forge a gradual and minimal consensus for institutional change in favour of securitisation. However, with the STS standard still in its legislative process, as negotiations between the Council and the EP still outstanding, it is arguably too early to arrive at a finite conclusion on the institutional development of securitisation in the Eurozone. In sum, taken as a whole the efforts of the ECB and EC to revive the securitisation market are not able to fully forge a consensus amongst the MSs, which remain strictly divided about the fiscal implications that MS guarantees on

securitisation tranches potentially have. Without public guarantees however on a European level, little short term effect can be expected from the ECB's asset purchase programme (see

Appendix: Effects of ABS purchases on the Securitisation Sector) as periphery MSs lack the fiscal space to provide a sufficiently large backstop to the securitisation market. The mobilisation of private capital through the STS reform nonetheless could prove significant enough that securitisation could gain traction, which will only be seen in the medium term. In conjunction, the ECB's and EC's efforts to revive securitisation in the Eurozone together with the stance taken by the MSs provide for some incremental change in Eurozone financial systems, these do not however have transformative effects that lead to a substantial increase in securitisation and thus financialisation.

## Conclusion

When it comes to the overall research question whether the ECB's efforts have led to more market based banking in the Eurozone, one has assumed that they would lead to more securitisation in the Eurozone and, more broadly, intensified financialisation of core and periphery financial systems. Whether this assumption would hold under empirical investigation was analysed through the lens of national varieties of financial systems. The empirical results concerning the growth of the securitisation sector did not provide evidence that this was indeed taking place. On the other hand a qualitative examination of developments in the core and the periphery, under the theory based assumption that the periphery would further financialise comparative to the core, did present patterns which suggested that indeed securitisation was acknowledged as a viable tool for economic policy more in the periphery. This finding in turn deserves further qualification. It has been shown that both in the core and the periphery, the balance sheet positions of banks and their decisive role for the supply of credit to the real economy has been used as leverage of the banking sector to promote their interest.

The path dependency inherent in the banking sector, which has shown financialisation of the banking sectors traditionally intended to pursue public goals preceding the financial crisis, has to be taken into account in this regard. Both the Landesbanks, institutions founded to serve public interest goals at the state level in Germany, as well as the cooperative and savings banks in Italy were exposed to competitive pressures as part of the financial integration pressures in the EU in the 1990s and early 2000, which proved devastating in review. This had progressed further in the periphery than in the core, which enabled them to withstand calls in favour of securitisation in the aftermath of the financial crisis.

With the efforts of the ECB however the overall equilibrium between core and periphery and financialised and traditional banking changed. This dynamic should be acknowledged both when considering the impact on the securitisation sector as a whole and the development of securitisation within the MSs. First, with the ECB promising to uphold the ABSPP and thereby signalling to governments and the securitisation sector alike that it will be committed to a revival of securitisation, the institution pressurises core countries to accept a EU regime that would probably lead to some expansion of securitisation. This development is however still underway and it remains to be seen where it leads. Further investigation into the development of the STS standard and the securitisation market (and the CMU in general with a special regard to developments in the area of insolvency law, which is of huge concern for the periphery countries and the pricing of NPLs) are thus suggested. Second, by not excluding in principle the monetarisation of debt by means of purchases of ABS from the periphery, including of distressed NPL loans, periphery countries gain some weight in their bargaining position towards core countries on the issue of debt mutualisation.

The analysis conducted in this thesis could not provide conclusive evidence towards Streeck and Thelen's (2005) hypothesis that within varieties of capitalism incremental institutional change can

lead to transformative results. Nonetheless the findings provide insights into the interaction between the supranational actors in the EU that drive towards integration and hence convergence towards the LME model, and their interaction with competing preferences in the MSs. Here transnational actors play a pivotal role towards liberalisation, nonetheless as it has been shown, locally embedded actors actively constrain the power of exit that the former have. The supranational actors can open up windows of policy opportunity for transnational actors, but locally embedded actors retain power of voice with their MS governments. In the end it is ultimately the bargaining positions and power of MSs that defend or undermine national varieties of capitalism institutional complementarities.

As regards further policy, the findings of this thesis hint towards the recommendation in favour of a diverse financial system with a mix of commercial, cooperative and public banks. The sectoral division between different types of banks pursuing different profit strategies furthermore suggests that financial diversity provides an additional layer of financial stability, since financial products like securitisation don't spread across the financial system. Securitisation on the other hand should be constrained however, as the beneficial effects on credit easing don't flow into sustainable real investment without governmental subsidies. Overall, the strategy of targeting growth through the channel of financial markets has limited effect if not complementary measures that increase the wage share in the macroeconomy are taken. Securitisation can actually run contrary to this, as it increases the availability of credit for consumption first, before enabling investment in firms. These recommendations are also shared by the ILO.

Lastly, one can conclude that the ECB's efforts to financialise point into an affirmative direction, but are yet inconclusive. Further research in the role of the ECB in the development of securitisation in the Eurozone, the CMU and the changing institutional framework of financial systems in the Eurozone and the EU are therefore suggested.

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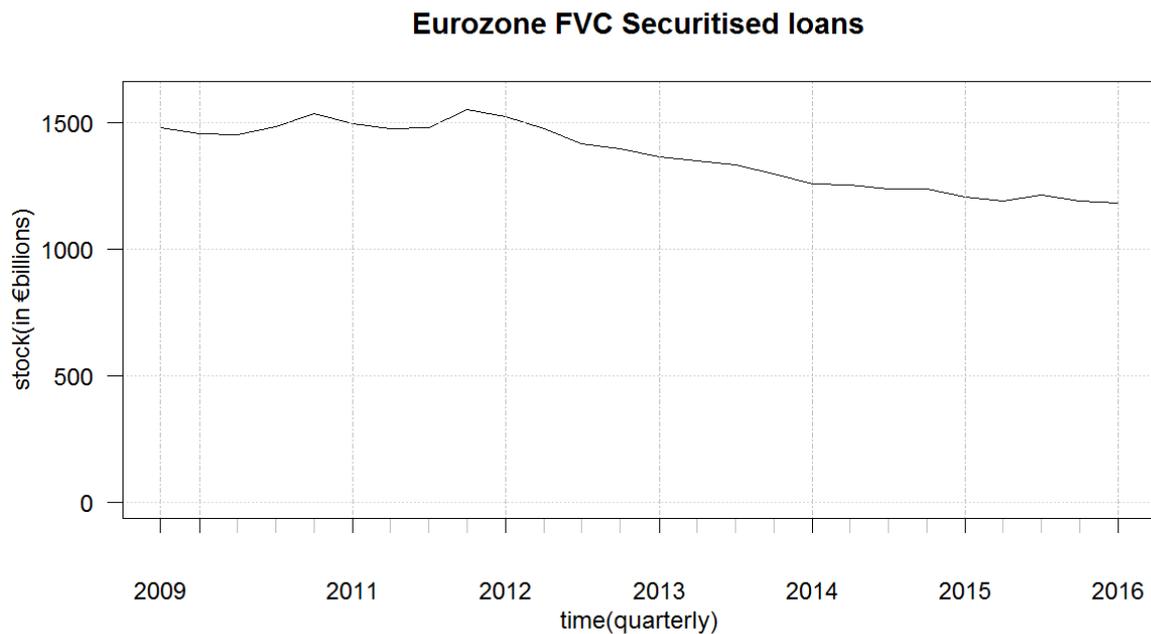
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## Appendix: Effects of ABS purchases on the Securitisation Sector

For the purpose of analysing whether the ABSPP has led to an increase of the securitisation sector one will focus on the stock of securitised loans in the balance sheets of Eurozone FVCs. **Fehler! Verweisquelle konnte nicht gefunden werden.** Graph 1 from 2009Q4 to 2016Q1. <sup>108</sup>(European Central Bank, 2016)

Graph 1



On the basis of this time series one will analyse the effect that the “Intervention” of the ECB, namely the ABSPP, which started in 2014Q4 and is ongoing, had on the development of our time series. For this purpose, the interrupted time series technique will be used. The method is an extension of the Autoregressive Integrated Moving Average (ARIMA) method. Also called intervention analysis, it is a framework to assess whether an intervention had an effect on a stochastic process that has been derived from a time series, by changing its mean function or its trend. The time series is hence divided into a pre- and postintervention segment. A linear model is not appropriate to compare the two segments as the observations (in this instance the volume of securitised loans) are not independent of each other. Simply speaking it’s reasonable to assume that a certain volume of securitised loans in one quarter was to some degree influenced to the volume of the preceding quarter(s). The method applied models both this serial dependence as the stochastic process and the intervention. In general terms this model is denoted as:

$$Y_t = N_t + I_t$$

Where  $Y_t$  denotes the observations of the volume of securitised loans on FVC balance sheets resident in the Eurozone at time  $t$ ,  $N_t$  denotes a noise component and  $I_t$  denotes an intervention component, the ABSPP. Noise in a time series refers to its trend(if a time series moves in a upward/downward direction over the long term), its seasonality(a periodic behaviour) and the error term  $e_t$  that is normally and independently distributed (an uncorrelated random error a.k.a a white noise). These

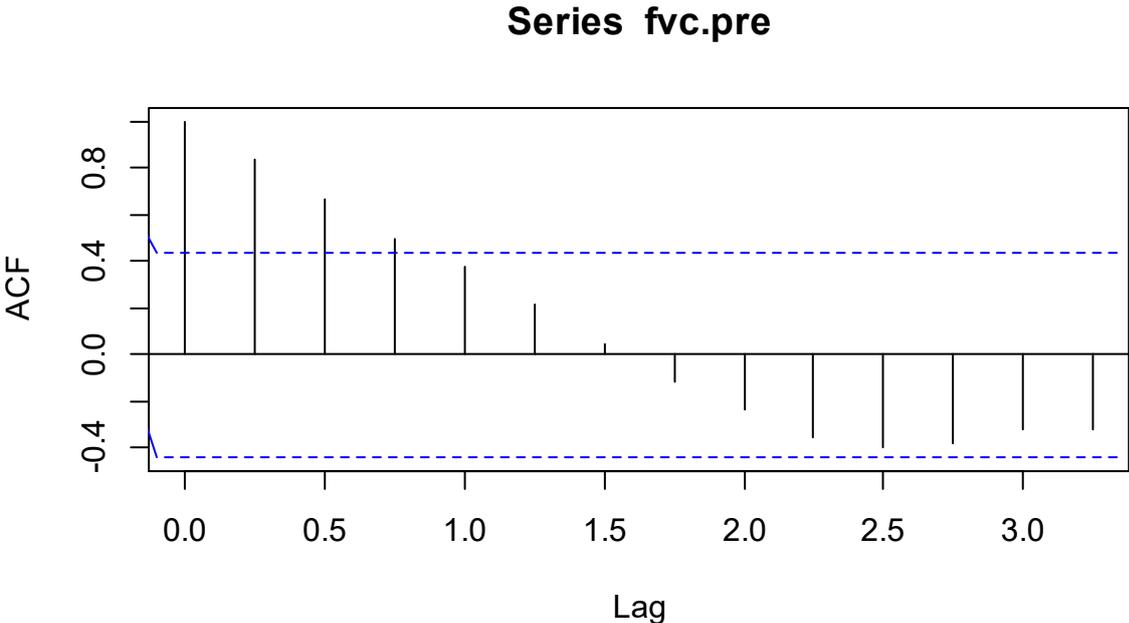
elements of a time series can be accounted for by an ARIMA model. By including the ARIMA model as  $N_t$  one thus accounts for these before estimating the impact of  $I_t$ . It also provides the null hypothesis against which the impact of  $I_t$  is tested.  $I_t$  itself takes the form of a dummy variable and its impact is denoted as a function  $f(I_t)$ . Before considering in more detail the intervention, one will first turn to the modelling of the noise component. (Cryer & Kung Sik, 2008; McDowall, 1980) Lastly,  $Y_t$  is assumed to be the realisation of a series of random shocks  $a_t$  that are fed into the model described above.

### Modelling and Estimating the Noise Component of the Time Series

The procedure of modelling the Noise component begins by fitting an ARIMA model to the pre-intervention segment of the time series. The ARIMA model is specified by the order  $(p,d,q)$  where  $p$  is the order of the autoregressive element  $AR(p)$ ,  $d$  is the order of integration a.k.a differencing, and the moving average element  $MA(q)$  of order  $q$ .  $AR(p)$  explains a single value of  $Y_t$  on the basis of its previous realisations of its stochastic process  $Y_t$ , where  $p$  determines how many past realisations of  $Y_t$  account for its current value.  $MA(q)$  explains a single realisation of  $Y_t$  on the basis of the shock  $a_t$  in addition to the number  $q$  of previous shocks  $a_t$ . The order of differencing describes the transformation of the time series to remove any trends or drifts that arise out of the random shocks  $a_t$ , when the  $mean(a_t) \neq 0$ . As the differencing is consecutively reversed by integration,  $I(d)$  denotes the order of integration.

The first consideration in modelling is to see whether the time series should be integrated to make it stationary. Stationarity assumes that the stochastic process generating the time series has a constant mean over time,  $mean(a_t) = 0$ . Therefore there should be no trend and seasonality, because their effect on  $Y_t$  is dependent on  $t$ . To identify non-stationarity one looks at the pattern of the autocorrelation function (ACF)  $r_k$ . In the plot of the ACF of the pre-intervention segment of the time series (fvc.pre) (**Fehler! Verweisquelle konnte nicht gefunden werden.**) one can see that the correlation between an observed value  $X_t$  dies out slowly, which differencing is needed to make the time series stationary.

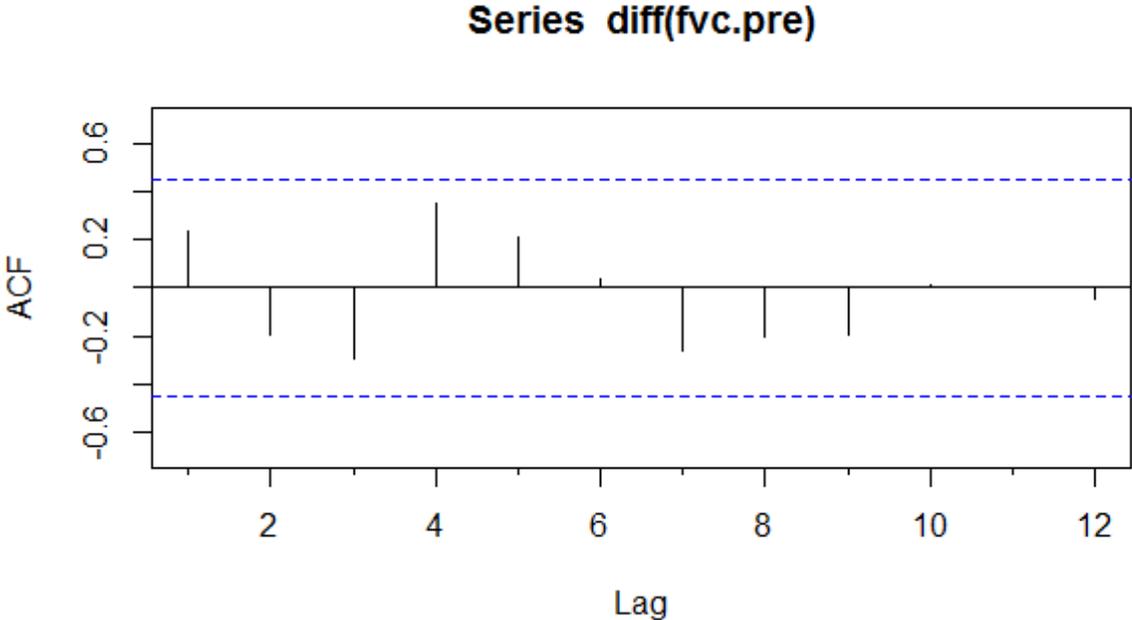
Graph 2



The ACF plot of the first difference of  $Y_t$ ,  $\nabla Y_t = Y_t - Y_{t-1}$  shows that differencing of the order 1 is

sufficient to account for stationarity. Hence one assumes an ARIMA(p,1,q) process. (Fehler! V erweisquelle konnte nicht gefunden werden.)

Graph 3



The plot of the first differenced series as well as its ACF plot still show a frequent pattern. ( ) This implies seasonality, which is included in an ARIMA model denoted as ARIMA(p,d,q)\*(P,D,Q)<sub>m</sub> with m being the number of periods per season. In the case of our quarterly time series m=4. (P,D,Q) describe the autoregressive, differencing and moving average orders of the seasonal component. Differencing seasonality would imply to subtract  $Y_t - Y_{t-4}$ , which assumes that  $Y_t$  is fully determined by  $Y_{t-4}$ . The different levels of autocorrelation at the instances however point into another direction. We therefore assume either an AR(P) or MA(Q) to account for seasonality. At this point the model is specified as ARIMA(p,1,q)\*(P,0,Q) (Hyndman & Athanasopoulos, 2014)

To specify the remaining orders of the model one will look at the ACF and the partial ACF(PACF) in conjunction. We assume a mixed seasonal ARIMA model. The seasonal component will be examined by observing the ACF and PACF at the 4<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup>, etc. lags in isolation, since we have a quarterly frequency. The non-seasonal component are observed by examining the ACF and PACF pattern of the series beginning with lag 2 and following.

Table 2 gives one the typical behaviour of AR(p) and MA(q) processes in ACF and PACF.

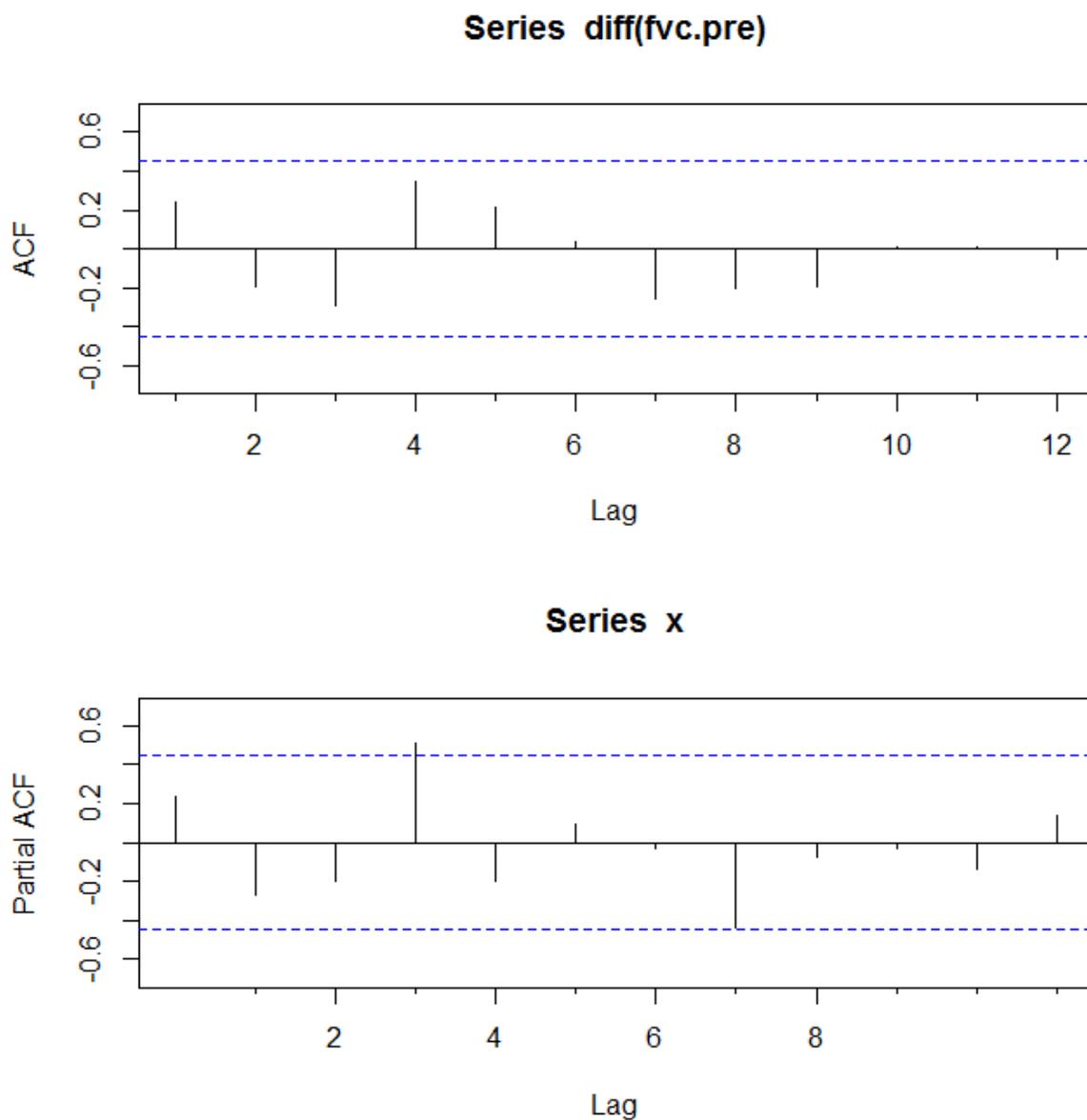
Table 2

	AR(p)	MA(q)
ACF	Dies out exponentially from lag to lag, or is sinusoidal	Has spikes at lag q, zero at lags > q
PACF	Has spikes at lag, zero at lags > p	Dies out exponentially from lag to lag, or is sinusoidal

The estimation of the model  $Y_t = \frac{\omega(B)}{\delta(B)} S_t^T + N_t$ , with T=2014Q4 is summarised in Figure 3.

T shows the ACF and PACF in conjunction. The PACF at lag 4 dies out exponentially at lag 8, which indicates an MA(1) process for the seasonal component. The ACF at lag 1 behaves sinusoidal, whereas the PACF after lag 1 cuts off (it is sharply negative). This implies an AR(1) for the non-seasonal component. One assumes hence a full model of ARIMA(1,1,0)(0,0,1)<sub>4</sub>.

Graph 4



Now that a model has been specified, the AR and MA parameters can be estimated with help from

Figure 1

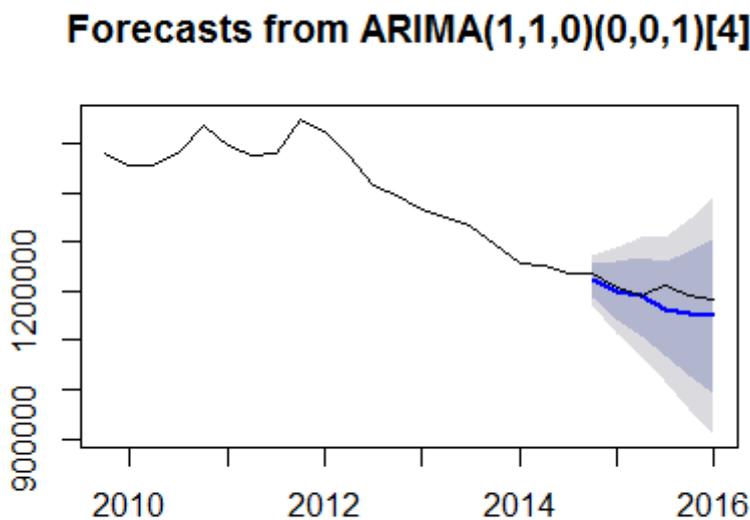
```
Arima(x = fvc.pre, order = c(1, 1, 0), seasonal = c(0, 0, 1))

Coefficients:
      ar1      sma1
    0.4048  0.8168
s.e.  0.2083  0.5356

sigma^2 estimated as 6.59e+08:  log likelihood = -220.91,  aic = 447.82
```

the R statistical software package as shown in Figure 1. The autoregressive coefficient AR(1) has been estimated as 0,4048 and the seasonal moving average component SMA(1) as 0,8168. On the basis of this model it is also possible to compare forecasted values with those of the post-intervention series, which is shown in Graph 5. As a first indication, the graph indeed exhibits a larger level of securitised loans in the phase after the ECB purchases started (as shown by the black line) compared to the forecasted values of the ARIMA model (the blue line). This will be further examined by the intervention variable  $I_t$ .

Graph 5



### Specifying and Estimating the Intervention component

The first consideration when specifying the function of the intervention component  $f(I_t)$ , is to specify whether the impact that an event has on a time series is permanent or temporary. This flows into the model by using either a step function for a permanent impact or a pulse function for a temporary impact. A step function is denoted as  $I_t = S_t$ , where

$$S_t = 0 \text{ if } t < T$$

$$S_t = 1 \text{ if } t \geq T$$

Here, T denotes the date when the intervention starts.

A pulse function  $I_t = P_t$  consequently takes the form of

$$P_t = 0 \text{ if } t \neq T$$

$$P_t = 1 \text{ if } t = T$$

It follows from the nature of our intervention, the ABSPP, that the purchases are permanent, since the ECB continuously conducts purchases. Hence a step function is chosen.

The next consideration is whether an effect is gradual or abrupt. This is specified by the numerator  $\omega$ , which determines the impact (the change in the level of the series) and denominator  $\delta$  polynomial, which determines the decay of the impact, of the intervention effects function together with a lag operator  $B$ . As a general model the full intervention component can be written as

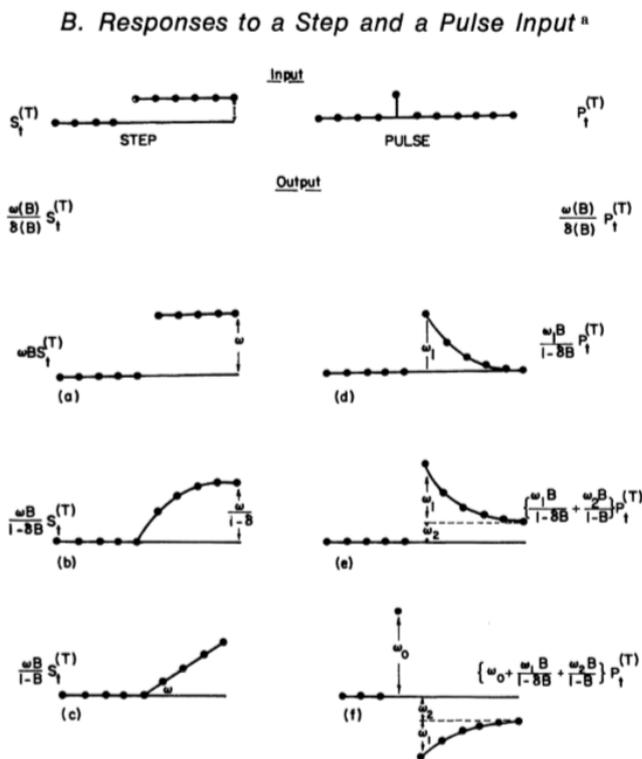
$$\delta^{-1}(B) \omega(B) B^B$$

$$\omega(B) = \omega_0 - \omega_1 B - \dots - \omega_s B^s,$$

$$\delta(B) = 1 - \delta_1 B - \dots - \delta_r B^r$$

Based on the general model, Box and Tiao (1975) described 6 typical simple models for the intervention component. (Figure 2) As we hypothesise a step function and the comparison of the forecasted and observed series in Graph 5 hints at an abrupt, permanent impact as represented by model (a), which also follows from the nature of the ABSPP as a direct intervention in the demand of ABS, with an approximately constant amount per month being purchased. Consequently, one will test this model for significance, which is done by dividing  $\omega$  by its standard error and seeing whether it is larger than 2.

Figure 2



The estimation of the model  $Y_t = \frac{\omega(B)}{\delta(B)} S_t^T + N_t$ , with T=2014Q4 is summarised in Figure 3.

Figure 3

```

arimax(x = fvc, order = c(1, 1, 0), seasonal = list(order = c(0, 0, 1),
period = 4),
xtransf = data.frame(ECBstep1 = 1 * (seq(fvc) >= 21)), transfer = list(c(0,
0)))

Coefficients:
      ar1      sma1  ECBstep1-MA0
      0.3552  0.6360      29206.27
s.e.  0.1886  0.2095      20344.13

sigma^2 estimated as 592145849:  log likelihood = -289.08,  aic = 584.15

```

The estimation shows that the ECB intervention  $ECBstep1-MA0 = \frac{\omega(B)}{\delta(B)} S_t^T$  raises the level of the time series by 29,206 bn € per quartile. However as  $\frac{29206.27}{20344.13} = 1.435612 < 2$ , one can conclude that the effect of the ABSPP is insignificant for the development of the securitisation market.

### Interpretation of the Result

As the results of the empirical analysis indicate, so far the ECB's ABS purchases have not led to an increase of the securitisation sector in the Eurozone, as the level increase in the post intervention period is not statistically significant. This should not lead one to revoke the hypothesis that the ECB's efforts lead to an increase of the securitisation sector altogether, however. While the ABSPP in its current form has not led to a significant increase of securitised loans, it presents to the market and to governments a political incentive that continually should be taken into account. First of all, the ECB has signalled to markets and governments alike that it will continue its monetary policy stance well into the future as concerns the ABS market (as part of its Expanded APP), which the governance council stated will "run until the end of September 2016, or beyond, if necessary, and, in any case, until a sustained adjustment in the path of inflation[...]" (European Central Bank, 2015a) Whereas the ECB has been highly risk averse in its purchases, which mainly explains the low volumes and the insignificant impact on the market size (Blomenkamp & Jain, 2015), explicitly the ECB also acknowledges that STS securitisations would be eligible for purchases as well and should receive a better capital regulatory treatment than compared to its underlying collateral. (European Central Bank, 2015b) After all, if the ECB purchases the low-risk segments of the market, in principle it drives investors towards riskier segments. But investors so far are not willing to follow as the current regulatory environment is too unfavourable to their preferences. Considering this, the first sub-hypothesis that the ECB's efforts to increase the size of the securitisation sector should be revoked, but with the qualifying consideration that it also upholds pressure on decision makers to install a favourable regulatory environment for securitisation.