Monetary policy of the ECB: future perspectives for the Banking Union

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<td>BIS</td>
<td>Bank of International Settlement</td>
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<tr>
<td>BM</td>
<td>Monetary Base</td>
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<td>BOE</td>
<td>Bank of England</td>
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<td>BRRD</td>
<td>Bank Recovery and Resolution Directive</td>
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<td>CB</td>
<td>Central Bank</td>
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<td>CET1</td>
<td>Common Equity Tier 1</td>
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<td>CRD IV</td>
<td>Capital Requirements Directive IV</td>
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<td>CRR</td>
<td>Capital Requirements Regulation</td>
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<td>DGS</td>
<td>Deposit Guarantee Scheme</td>
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<td>DGSD</td>
<td>Deposit Guarantee Schemes Directive</td>
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<td>EBA</td>
<td>European Banking Authority</td>
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<td>EBU</td>
<td>European Banking Union</td>
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<td>EC</td>
<td>European Commission</td>
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<td>ECB</td>
<td>European Central Bank</td>
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<td>ECSC</td>
<td>European Coal and Steel Community</td>
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<td>EEC</td>
<td>European Economic Community</td>
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<td>EFSF</td>
<td>European Financial Stability Facility</td>
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<td>EMS</td>
<td>European Monetary System</td>
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<td>EMU</td>
<td>Economic and Monetary Union</td>
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<td>EONIA</td>
<td>Euro OverNight Index Average</td>
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<td>ERM</td>
<td>Exchange Rate Mechanism</td>
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<td>ESCB</td>
<td>European System of Central Banks</td>
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<td>ESM</td>
<td>European Stability Mechanism</td>
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<td>EU</td>
<td>European Union</td>
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<td>EURIBOR</td>
<td>European Interbank Offered Rate</td>
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<td>FED</td>
<td>Federal Reserve System</td>
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<td>FSIs</td>
<td>Financial Soundness Indicators</td>
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<tr>
<td>HICP</td>
<td>Harmonised Index of Consumer Prices</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>IOU</td>
<td>I Owe You</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<td>LTRO</td>
<td>Long Term Refinancing Operation</td>
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<td>M0</td>
<td>Monetary aggregate M0</td>
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<td>Monetary aggregate M1</td>
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<td>MBC</td>
<td>Monetary Base Control</td>
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<td>MMF</td>
<td>Monet Market Fund</td>
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<td>MOU</td>
<td>Memorandum of Understanding</td>
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<td>MRO</td>
<td>Main Refinancing Operation</td>
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<td>NCBs</td>
<td>National Central Banks</td>
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<tr>
<td>OCA</td>
<td>Optimum Currency Area</td>
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<td>OMT</td>
<td>Outright Monetary Transactions</td>
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<tr>
<td>QE</td>
<td>Quantitative Easing</td>
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<td>RWAs</td>
<td>Risk-weighted assets</td>
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<td>SRB</td>
<td>Single Resolution Board</td>
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<td>SRF</td>
<td>Single Resolution Fund</td>
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<td>SRM</td>
<td>Single Resolution Mechanism</td>
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<td>SSM</td>
<td>Single Supervisory Mechanism</td>
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<tr>
<td>TFUE</td>
<td>Treaty on the Functioning of the European Union</td>
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<td>USA</td>
<td>United States of America</td>
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<tr>
<td>USD</td>
<td>United States Dollar</td>
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Introduction

After having reached in 2012 the agreement on the Single Supervisory Mechanism which will entrust the ECB of the prudential control over Europe’s largest banks, by mid-March 2014 the European Parliament and Government leaders approved the Single Resolution Mechanism in order to deal with failing or likely to fail banks. The decision was considered as an essential step towards a more effective integration between the Member countries of the European Economic and Monetary Union. The so-called Banking Union has been hoped and warmly awaited since the financial crisis and the ensuing debt crisis unveiled flaws in the system and troubles in a few European banks.

The Banking Union, however, will start functioning only slowly, and also appears to be funded quite modestly which made commentators greet it as weak, imperfect, even flawed. Bank’s bond holders will be bailed-in besides stock holders, as the Bank Recovery and Resolution Directive provides a clear “cascade of liabilities” scheme which is supposed to act as the main tool in the resolution framework. The Single Resolution Fund is set to reach only 20€ bn by 2020: too little and too late. The final amount should be 55€ bn. Besides providing limited source to back the Single Resolution Mechanism, the Banking Union appears timid in not establishing a Common Deposits Guarantee Scheme for bank depositors, which could be bailed-in during a bank failure, to a some
degree. After the agreement, national governments and tax payers are still called into question at least in part, but national banks’ supervisors are largely replaced (considering the total banks’ assets) by the European Central Bank as the top supervisor. After the agreement, the European Monetary Union, nevertheless, is a little closer to a real banking and monetary system where the existing integration is set to reduce risks, rather than amplify them.

The purpose of this work is not a comprehensive evaluation of all aspects of the Banking Union but rather to look at the new regulatory framework for the banking system and assess its potential monetary implications. This new initiative integrates the conventional and unconventional monetary measures launched by the European Central Bank since 2011 as it aims at reducing risks and thus reducing the likelihood of bank failures and the costs of bank failures.

In the work it is argued that besides breaking the dangerous link between the balance sheets of banks and their customers (governments included), the Banking Union addresses the problem of monetary fragmentation which is an issue in the two-tier monetary system wherein the European Central Bank provides the common monetary policy while the National Central Banks retain the supervision of domestic banks. Modifying the current regulatory framework and the existing European two-tier
banking system appears to be necessary to increase the soundness of the system.

In order to describe and evaluate the issue of successfully implementing a Banking Union within a Monetary Union, we analyse some of the major aspects likely to be affected by this innovation and in particular we focus on the role of money, the monetary policy, central banks’ operations as well as the new regulatory framework through which Basel III will be implemented.

In chapter 1 we start by distinguishing inside from outside money. This distinction dates back at least to seventy years ago (Kalecki, 1944 Professor Pigou on “The Classical Stationary State”, Economic Journal, Vol. 54 No. 213, April) but remained alive over the decades and central in debates about important notions such as wealth, neutrality of money ─ Kaldor (1970), Friedman (1970) ─ and endogenous money creation ─ e.g. Moore (1988) and Goodhart (1989). In this chapter we focus precisely on the money creation process about which the Bank of England has clearly taken position (BoE, 2014) by stating that: “The majority of money in the modern economy is created by commercial banks making loans”.

We then come up in chapter 2 with an extensive analysis on the European Central Bank approach regarding its monetary policy
conduction. In this regard, we start by stating its approach on the short and medium term, considering the change in the method adopted before and after the crisis since 2008. In the background there is a simple idea: before the crisis, banks have mismanaged the credit extension somewhere and the National Central Banks’ supervision has been discovered to be weak in some cases. This impaired the endogenous money creation process in the single countries and in the EMU, as the existing credit excess that some countries experienced has affected significantly the monetary aggregates. Then the ECB was well aware of the systematic excess of the level of M3 over the desired threshold, but it had only interest rate and monetary base policies at its disposal. Interestingly, some national banks were not afraid to remark this problem (e.g. Banca d’Italia, Moneta e Banche, No. 35, 2014). After that, this paper gives emphasis on the latest measures provided by the European Central Bank in order to tackle the “Eurozone crisis” started in 2009 and thus foster liquidity to the European banks to compensate the jump in the unit demand for monetary base observed in the system. The jump reflected the fall in the value of the money multiplier.

The conclusion focus is on the European Banking Union, the massive project which aims to (i) foster financial integration, (ii) limit financial instability and (iii) break the negative loop between the sovereigns and banks. We delineate the Single Rulebook and describe in great details the Single Supervisory Mechanism and its potential implication for reducing monetary fragmentation in the Euro area. We furthermore provide a
critical discussion also about the other two pillars of the *Banking Union*, the Single Resolution Mechanism and the Common Deposits Guarantee Scheme.

Finally, this work provides data on prudential ratios regarding banks settled in different countries within the European Union. A comprehensive analysis has been conducted about pros and cons of the European Banking Union project whose conclusion is that its main advantage could be the reduction of monetary fragmentation and of banks’ risks ahead rather than lower costs of banks failures.
1. Conceptions of Money

1.1. Basic conceptions of money: money as unit of account, store of value and medium of exchange

Money has a long history behind. The definition of money, namely, according to the Oxford Dictionary is “a current medium of exchange in the form of coins and banknotes”. Thus, whenever a person uses money in order to buy goods or assets, he basically exchanges one good (money) for another one (i.e. wheat, salt, anything). As a result, money – which is recognized and accepted by official authorities such as central banks – acts as a perfect medium of exchange in the global economy, for all types of transactions.

According to the standard definitions, money accomplishes three specific functions: unit of account, store of value and medium of exchange.

As already mentioned above, one primary function of money is that it acts as a medium of exchange. To be more precise, people hold money in order to swap it for something else. In other words, money is a general medium of exchange and an object which is “habitually, and without hesitation, taken by anybody in exchange for any commodity” (Wicksell, 1906; 1967: 17). At some point in time and in the absence of money, other
goods may become a regular medium of exchange as well. For instance, this has been the case with cigarettes during the Second World War, whenever even non-smokers were willing to hold cigarettes to swap them subsequently for any goods they wanted or needed (BoE, 2014). Back in time, when people were using barter to trade, the commodity used to facilitate the commerce was known as a medium of exchange and was called \textit{commodity money}\textsuperscript{1}.

Thus, the term \textit{commodity money} refers to goods or commodities which are not traded for consumption or use in production, but to further facilitate trade (Kiyotaky and Wright, 1989). Alternatively, if an object has no intrinsic value, but is nevertheless exchanged and used as medium of exchange, then it is referred to as \textit{fiat money}\textsuperscript{2}.

As stated by central banks, the main reason why \textit{fiat money} is accepted as medium of exchange even without having an intrinsic value lays on the fact that it is accepted by everyone in the economy. It is important to mention that the widespread acceptance of this type of money primarily resulted from the commerce practice\textsuperscript{3}. As \textit{fiat money} is debt issued by the central bank, the central bank can always repay the debt by issuing more \textit{fiat money}. However, even central banks have some limits regarding the amount of money that they can print. These limitations lead to the

\textsuperscript{1} According to the major central banks’ definitions, commodity money is a commodity which has an intrinsic value of its own. This was used as money because it fulfilled the main functions — such as gold coins (BoE, 2014).

\textsuperscript{2} According to the major central banks’ definitions, fiat money is irredeemable paper money — it is only a claim on further fiat money (BoE, 2014).

\textsuperscript{3} Gold didn’t operate well to smooth trade exchanges.
question of which goals and targets a central bank has to pursue. We will develop this topic in greater detail later on in this chapter.

Another function concerning money is to act as unit of account. Depending on the country or the market in which transactions take place, the different goods and services are priced in terms of unit of currency. Every unit of currency can then be valued in terms of another currency, depending on the exchange rate. The rate fluctuates on a daily basis and is influenced by many factors, such as the balance of trade, the balance of capital, inflation, to mention but a few.

As money is supposed to retain its value in a reasonably reckonable way over time, a wider function typically associated with money is that it acts as store of value (BoE, 2014). This estimation has to take into account the inflation – the average increase in the price level over one period – that is also the opportunity cost of holding cash over a period.

Thus, when inflation reaches very high levels, money tends to lose this function because of the fact that with the same amount of money people are now able to buy less, as price level increased. In such a scenario of high inflation, people could for instance decide to invest in precious metals, i.e. gold and silver. Such metals are often considered as good store of value due to fact that their intrinsic value is not easily perishable.
However, with the rise of new forms of liquid assets within the financial market, the store of value function is undoubtedly on the way out (Cecchetti, 2006: 23).

A more logical way in order to qualify this particular asset consists in defining money whatever serves as money. If that is the case, then money is not created solely by the central banks (i.e. let us think about bitcoin). Alternatively, we could define currency (which is just a portion of money) as the means of payment considered as legal tender, a means which cannot be rejected and must be accepted in order to fulfill a debt by everyone. In this case, the currency considered as legal tender can be created solely by central banks. The central bank considers money as all the amounts that can be used in order to build up reserves. However, it will be shown later in this chapter that there are many measurements it contemplates in order to refer to it.

In all these cases should be nevertheless clear that money is not a synonym for cash. As it will be described more in detail in this chapter, currency (which can be used as an alternatively word for cash) counts just as a portion of the overall aggregate considered as money by the central banks.
1.2. Two different types of money: *outside* and *inside* money

Besides defining money according to its practical uses and the impossibility to be refused\(^4\), we define it according to its source or creator. We refer to it using the following two main categories: outside money and inside money.

*Outside money* is made by the sum between currency and central bank reserves. Base money, monetary base and high-powered money are other nouns which refer to the same object. It refers to exogenous money, which is the amount which is not coming from the market and the private agents’ willingness to lend. The amount of outside money is subject to the decisions of the ultimate monetary authorities which are regulating this early stage of the stock of money.

*Currency* refers to money in circulation, flowing in the economy in the forms of banknotes and coins. It is clear debt (or IOU\(^5\)) of the central bank to the rest of the economy. Some people prefer to hold cash because they perceive it as safer to grasp a “tangible” amount instead of having electronic currency\(^6\). In short some of them feel more protected by having money in their own pockets instead of having money in their

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\(^4\) Through the “force of law”.

\(^5\) I Owe yoU means debt. It’s a situation where a person owes money to another one.

\(^6\) Electronic money, accordingly to the European Commission definition, is a digital amount of cash collected in electronic devices or in remote servers.
own bank accounts. Commercial banks also have to hold some cash reserves in order to be able to meet the deposit withdrawals that customers require every day. Currency is a “promise to pay” the bearer on demand, the nominal amount stated in the banknotes or coins. This promise has been made by the central bank (in our case, the European Central Bank). This is also the reason why currency is considered a legal tender. This means that it has to be accepted by everyone as a repayment of a debt. Because the currency is issued by central bank, it figures on the liability side of their balance sheets. Conversely for households and businesses, that as currency holders, it lays on the asset side.

Currency is used in economic transactions as a result of commercial and social convention. This fiat money works just because people decide to use it and accept it in exchanges besides the required acceptance through the “force of law”. Historically, the state plays a huge role to the expansion of currency usage (Goodhart, 1998; Wray 1998) and the fact that currency is accepted for tax payments, enabled the spread of the fiat money system. Despite the absence of a basic value, allowing people to pay their taxes with currency, lead to an increase in their confidence and trust.

7 In some paper money we can still find some expression referring to this. For instance, in the 10£ banknote we can read “Bank of England – I promise to pay the bearer on demand the sum of” ten pounds; whereas in the USD banknotes we can read “United States Federal Reserve System – This note is legal tender for all debts, public and private”.

8 The holder (or depositor) of that notes.

9 The goldsmith-bankers, by issuing notes through the storage of gold coins provided by their customers, played a role in the spreading the use of the so-called paper money. These notes, which were receipts given for gold coins, quickly began to circulate as medium of exchange.
Central bank reserves are another type of liability of the central bank. Together with currency it forms the “outside money” in the economy. These reserves are IOU of the central bank and are divided into different bank accounts for every individual bank which have these reserves at its “disposal”. With respect to these accounts, banks have to meet the specific reserve requirement for every liability they create. Nowadays the reserve requirement which is demanded by the ECB is 1%\(^\text{10}\). Every bank is thus required to have 1% of some liabilities issued in the central bank account, as a proof of liquidity. The central bank can also implement a contractionary (through an increase in the reserve requirement) or an expansionary (through a decrease in the reserve requirement) monetary policy dealing with this ratio. This is however not the main way in which central banks affect monetary policy.

A bank which holds an account at the central bank can not only its minimum reserves requirement but also the excess reserves (additional amounts over the minimum requirement of 1%) to make payments to other banks. In every case, the central bank will transfer money between these two by adjusting their respective reserves. The minimum requirement is thus a floating amount which needs to be accomplished on average during the reserve maintenance period (Biffis, 2011).

Inside money for his part refers to some bank deposits. To be more precise, it consists in the amount of credit extended by banks to

\(^{10}\) ECB [website], accessed on 8.06.2014 at <http://www.ecb.europa.eu/mopo/implement/mr/html/calc.en.html>
households, firms and governments. It is called inside money because it is money which is created inside the private sector (Lagos, 2006).

The main difference between money created outside and inside the private sector is that on one hand, outside money is issued by an authority (i.e. a central bank) and is backed by some assets. As a result, the net worth of these assets in question is not zero within the private sector. Inside money on the other hand is issued and backed by private agents (i.e. banks making loans). Because of the fact that an agent’s liability is another agent’s asset, the net worth within the economy is zero (Lagos, 2006).

Bank deposits are very important as lots of people make transactions without using currency. For instance, if a person has to pay someone and both agents hold an account in a commercial bank (not necessarily the same – can be bank \( x \) for one and bank \( y \) for the other one), the person can transfer money just through these two accounts. In case both agents hold their account at the same commercial bank, the bank simply adjusts the two different accounts. If both accounts are held in different banks, the application will be transferred to the suitable clearing house\(^{11}\) that will reduce the amount of the first person against a payment to the other person.

\(^{11}\) Clearing house: a financial institution which is in charge of the clearing of the economic monetary transactions, setting credits and debits within the participants.
Bank deposits thus act as a medium of exchange and the figurative medium of exchange “currency” accounts for just a small part of the overall money exchanged in the economy. Whenever a consumer makes a deposit of a certain amount within a bank, the exchange will be assembled by swapping a central bank IOU for a commercial bank IOU (BoE, 2014).

As banks create *inside money* (Desai, 1989), this type of *medium* must be considered as endogenous money. In order to be more precise, it is called endogenous money because it comes from the interaction between banks’ and individuals’ choices. It is nevertheless important to mention that some banks will only act as lenders if they benefit from according loans, thus only if loans are profitable. However, this occurrence and its extent rely on the behavior of the banking system as a whole, which is also determined by the well-functioning not only of the money, but also of interbank markets.
1.3. Monetary aggregates in the European Union and two different streams: horizontalists and verticalists

Formally established with the Treaty of Maastricht in 1998, the European Central Bank (ECB) actually started operating on January 1, 1999. Since 1999 it has the responsibility of providing the system with the currency (legal tender) and conduct the monetary policy. Since 2014 it is also in charge of the supervision on the banking system. Chapter 3 will cover this new challenge.

The term Euro zone refers to the European countries which allowed the ECB to conduct their monetary policy and adopted a common currency – the euro. Nowadays, this subset of the Economic and Monetary Union (EMU) of the European Union consists of the following 18 member countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia and Spain.

We will return to this subject at a later stage, when it will be described and discussed in greater detail the implementation of the European Banking Union within the European Union.
There are several measures which may be used in order to count money.
These are called monetary aggregates and are referred to in the international practice as M0 (monetary base), M1, M2, M3 (and so on, depending on the monetary system\textsuperscript{12}) , according to their degree of liquidity.

The European Central Bank, in order to define money, employs the following definitions:

- M1 as monetary base (also called narrow money);
- M2 as intermediate money;
- M3 as broad money.

In every monetary system, the rule through which it can be immediately perceive the main difference between monetary aggregates is the level of liquidity considered within each cluster. The higher the number near letter M, the lower level of liquidity will be considered into the measure. The following table gives an overview of the definitions provided by the European Central Bank\textsuperscript{13}:

\textsuperscript{12} I. e. in United States and United Kingdom it is likely to encounter also M4 ("building societies" deposits , shares and CDs) and M5 (which contains also treasury bills, banks bills and so on).
As has been reported from the European Central Bank, M1 consists of currency and overnight deposits. The latter are deposits with a maturity of only one-night. Therefore they are considered as having the same moneyness’ quality as in the case for currency (banknotes and coins).

Overnight lending typically occurs between financial institutions (mainly banks, but also mutual funds), which are willing to borrow or lend additional funds. As the borrower has to repay the loan the following business day, these funds are perceived as highly liquid assets.

The monetary aggregate M2 involves – in addition of M1 – some sorts of deposits: funds with a maturity up to 2 years and redeemable funds
with a period of notice of up to three months\textsuperscript{14}. Whereas the monetary aggregate M3 – including the M2 cluster – counts funds with a maturity of up to two years.

Special attention should be drawn on the monetary base topic, as there has been the general misconception that the central authority has the control on the quantity of money. However, the theory of the monetary base control has already been rejected multiple times in the past by many economists and the issue is well drawn in several textbook. The following part will briefly outline the main features of this argument.

Let us introduce it using the words of Charles Goodhart,

\begin{quote}
\textit{“virtually every monetary economist believes that the CB [central bank] can control the monetary base . . . Almost all those who have worked in a CB believe that this view is totally mistaken”}. \\
(Goodhart, 1994: 1424)
\end{quote}

Considering this false hypothesis, authorities would have a good control over the money stock if they denied an expansionary policy in order to fit the money demand. Within this pattern, although commercial banks’

balance sheets (individually taken) might change, these terms will not affect the aggregate balance sheet. As a consequence, the stock of money in the aggregate balance sheet will remain unchanged. In other words, if the central bank will not support the increase in lending of commercial banks, the single commercial bank’s balance sheet \((a)\) will increase due to an opposite movement in the other commercial bank’s balance sheet \((b)\).

Thus, in presence of this constraint, the cleaning of the operation will occur at the aggregate level, the lend approval (bank’s asset) shall match by means of higher liabilities, which might come from other banks’ funds (which will lose deposits and then balances).

By looking at the monetary sector as a whole however, the attempt will be self-defeating (Howells and Bain, 1990; 2007: 76) as long as the improvement in \(a\) balance sheet will succeed just because \(b\) balance sheet will deteriorate. Within this restraint, money supply is known to be \textit{exogenously} determined. In this system, money supply will result in a vertical curve \((M_s)\), which is also used to introduce the monetary policy topic in the major textbooks.

However, as Goodhart has well written, central bankers do neither apply this method, nor the so-called “\textit{Monetary base control}” theory (MBC) based on assumptions which have been rejected by central bankers themselves as well as academics.
In spite of this, the most famous mechanism (according to the macroeconomics’ manual) used in order to introduce the monetary policy’s subject is the so-called “money multiplier” concept.

Let us repeat that the monetary base can be controlled though this method only if some specific assumptions hold. These will be clarified at the end of the description.

Suppose that

\[ M = D_p + C_p \]

where \( M \) is the money supply, \( D_p \) is the deposit held by the public and \( C_p \) is the currency held by the public. Suppose also that

\[ B = D_b + C_b + C_p \]

where \( B \) stands for monetary base, \( D_b \) and \( C_b \) are respectively deposits and currency held by the banking system, and as before, \( C_p \) is the currency held by the public. Let us call the portion detained by the banking sector as \( R \), reserves. Thus:

\[ R = D_b + C_b \]

thus,

\[ B = R + C_p \]
If we defined \( a \) as \( \frac{R}{D_b} \) (the portion of reserves to deposits liabilities, also known as “reserve ratio”) and \( b \) as \( \frac{C_b}{D_b} \) (the portion of currency to deposits, also known as “cash ratio”) and if we assume that these ratios are steady, this mechanism will result in a predictable numerical definition of the quantity of money which will be related to the quantity of reserves provided. Therefore, as a result, the money multiplier can be written as follows:

\[
\frac{M}{B} = \frac{D_p + C_p}{R + C_p}
\]

Dividing all terms by the amount of bank deposits, we will obtain

\[
\frac{M}{B} = \frac{\left(\frac{D_p}{D_p}\right) + \left(\frac{C_p}{D_p}\right)}{\left(\frac{R}{D_p}\right) + \left(\frac{C_p}{D_p}\right)}
\]

Simplifying terms with the ratios before defined,

\[
\frac{M}{B} = \frac{1 + a}{a + b}
\]

And we can qualify the relationship between the quantity of money and monetary base as follows:

\[
M = \frac{(1 + b)}{(a + b)} \times B
\]
And therefore the change in M can be reformulated as:

\[ \Delta M = \frac{(1 + b)}{(a + b)} \times \Delta B \]

The term \(\frac{(1 + b)}{(a + b)}\) represents the bank deposit multiplier. As has been said before, under the assumptions of \(a\) and \(b\) steady, the quantity of money can be predicted by setting the monetary base.

Unfortunately this is plainly impossible. In the contemporary international system, trade and financial movements are totally free. Thus the balance of foreign payments which are in foreign currencies hinges on central exchange reserves, is out of control. This means that surpluses translates in base creation and vice versa.

Then in reality central banks cannot control the quantity of money \(M\), as it depends on the attitude of the public towards holding cash instead of deposits as well as on commercial banks’ perspective about the amount of reserves related to the deposits’ liabilities.

Therefore, the level of monetary base results from commercial banks’ behavior through the demand for money and from central banks’ attitude in endorsing it. However, commercial banks’ behavior can be affected by the central bank through the setting of the price of money. When a central bank set the \(i\) level, the monetary base \(B\) is endogenously defined. Furthermore, the money multiplier process had never been used to control directly the stock of money (Goodhart, 2013).
Let’s have a look to a more realistic situation: the shortage of liquidity is avoided by central banks through the supply of money at a certain interest rate.

In Euroland the lack of funds can be solved by the lending facilities provided by the European Central Bank. Banks can borrow money directly from the ECB by paying an interest for the loan, the so-called refinancing rate (also known as “refi” rate). As long as this rate constitutes the price of money in Eurozone, this rate can affect lots of other interest rates. Examples would be the interbank interest rate, the rate required to households and businesses for loans, or the rate provided in saving accounts, to mention but a few.

In this case (setting the interest rate in order to affect the demand for money), the money supply is known to be endogenously determined. In most of the monetary systems, the regulation of money supply is endogenous.

This fact lead us to the related economic debate, between verticalists and horizontalists (Moore, 1988). The former concerns a vertical curve for Ms, making implicit that the amount of money is settled by the central bank, directly. Conversely, the latter concerns a horizontal curve for Ms,
explaining that the amount of money is *endogenously* determined and the central bank is only responsible for the setting of $i$ (Palley, 2013). In this sense, the monetary base is known to be perfectly elastic (Kaldor, 1982; Moore 1988).

Regarding the concept of money, the economist Wray argued that “*money should be seen as credit money*” (Wray, 2007), which is a IOU for the issuer matched and an asset for the holder. And moreover, about the money multiplier process:

> “The notion of a simple deposit multiplier is rejected, and, indeed, reversed. Bank reserves are not treated as the “raw material” from which loans can be made; nor are bank deposits an intermediate good used in the production of loans.” (Wray, 2007)

In order to reach a conclusion to the debate between *horizontalists* and *verticalists*, it is reported the following statement of the economist Lavoie: “*loans make deposits and deposits make reserves*” (Lavoie, 1984).
1.4. How does the money creation start?

The larger part of the stock of money is created inside the private sector as bank deposits i.e. assets that individuals desire to hold in their portfolios\textsuperscript{15}. This has the very important implication that monetary base and money do not always move in the same direction an idea which is normally purported in textbooks.

This statement sometimes may not be well understood because in some economics textbooks people will easily find different definitions concerning what money is as well as the process through which is created. In particular, there are three economic descriptions which can lead to confusion in comprehending the money mechanism. These can be stated as follows:

1) Banks lend out deposits;
2) Banks lend out their reserves;
3) Central bank can fix the amount of money in circulation by its own, as the “money multiplier” process operates with central bank money.

\textsuperscript{15} Bank deposits are much strongly correlated with bank credit. More precisely, one cannot have the former without having the latter.
These three common misconceptions, as reported by the Bank of England, are well portrayed in its Quarterly Bulletin 2014 Q1, Vol. 54 No. 1.

The first can be described as a reply to the question “Where does the money come from?”. The wrong statement that banks lend out deposits originates from the naïf belief that banks act as intermediaries, collecting savings from households and businesses and lending out afterward these deposits. In reality this process operates in the opposite way. Actually, “commercial banks are the creators of deposit money” (BoE, 2014: 15) and money is endogenously credit-driven (Moore, 1988).

The entire stock of money does not consist of monetary base (M0, or rather than M1 in the European case). In the Euro area M1 accounts for 55.7\%\(^{16}\) of the overall aggregate M3, and the composition related to M3 is 9.4\%\(^{17}\) for currency and 46.3\%\(^{18}\) for overnight deposits. Accordingly, the major amount of money is made up of units of debt (IOU) arranged by commercial banks for households and businesses and not as widely believed composed of units of debt (IOU) originated from central banks.

The process of money creation begins whenever a commercial bank decides to approve a loan request. In more details, it starts exactly when

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\(^{16}\) ECB, own calculation based on Q2 2014, Statistical Data Warehouse.
an economic agent decides to use the money from a credit line. As the bank comes to this “positive choice”, it charges its bank account with an amount of deposits (liabilities) of the same size than the size of the loans (assets). In figure 1 is illustrated how the creation of money works. Some economists use the expression “fountain pen money” to refer to this process, because money has been created “at the stroke of bankers’ pens when they approve loans” (BoE, 2014: 16).

When a bank creates new loans, these will appear in the asset side of her balance sheet and will be matched immediately afterwards by an increase in new deposits on the liabilities’ side.
The second misunderstanding concerns the reserves held by commercial banks at the central banks. Commercial banks cannot lend money which is registered as reserves within the central bank account. These
“reserves” in question can only be used to accord loans in the following two cases:

(i) if they hold reserves over and above the requested minimum;
(ii) just between banks (as this type of money can only be transferred to subjects holding a reserve account at the central bank.

The last wrong assumption involves the role of the money multiplier. There is a common belief that central banks select the amount of reserves and regulate the quantity of loans and deposits in the economy through the money multiplier mechanism. This is based on the assumption that there is a steady relation between base money (M0) and broad money (M3). In this sense, the constant ratio would multiply up the amount of base money by an aforesaid amount of loans and deposits.

But as will be shown in Chapter 2, the money multiplier is not a constant number. Dealing with it requires the central bank to consider many out-of-its-control variables. In particular, the money multiplier is affected by social behaviors, such as the public’s inclination to deposit or hold cash, which in turn is affected by agents’ confidence in the banking system (Goodhart, 2008). As it will be demonstrated this is not a fixed relation; therefore central banks, in order to implement monetary policy’s goals, prefer to control the interest rates.
1.5. Ways in which banks’ and social behavior can affect monetary aggregates and destroy deposits

There are two different ways through which agents could destroy newly created purchasing power:

1) The repayment of the loan;
2) The sale of securities from the banking sector;
3) The issuance of long-term debt in the banking sector.

The first possibility lies on the people’s hands. As money can be created by fountain pen of bankers which approve loans, money can also easily be destroyed by the public through its willingness to pay back the loans. This is the distinctive feature of the debt recession experienced by Japan during the Nineties and the Noughties. In the banking sector, whenever a person wants to repay a loan, the repayment will affect both the assets and the liability side of the banks’ balance sheet. In particular, not only the banks’ assets (loans) will decrease but also their liabilities (deposits) will drop by the same amount.

This process becomes clearer in Sir Mervyn King’s speech, who had been Governor of the Bank of England from 2003 to 2013:
“What we were doing [referring to Quantitative Easing] is injecting money into the economy, and what the banking sector has been doing is destroying money [as existing loans were required to be repaid]. As they reduce the size of their balance sheet and deleverage, they’re reducing not just the size of their assets but also the size of their liabilities. And most of the money in our economy comprises liabilities of banks in the form of bank deposits. So what we were doing was partially to offset what would otherwise have been an even bigger contraction.” (Mervyn King, 25 October 2011)

Another way to destroy deposits occurs when banks sell existing assets to the markets. In this way, consumers or companies engage their money by purchasing assets and securities. Thus, purchasing power shifts from economic agents to the banking sector, destroying this amount of money that before was circulating in the economy.

Normally banks affect the overall amount of money in circulation by buying (creating) or selling (destroying) governments bonds. Government debt is used also for liquidity purposes and usually a commercial bank has some sovereign bonds at its disposal. This is due to the fact that government bonds normally are risk free. This means that the bank can be sure that in the case it has to sell some assets to meet its liquidity requirements, it has the possibility to sell these risk-free government bonds quickly and without saying that Treasury bills can be
considered simply as money. Through this action however, the bank will destroy purchasing power created before, as the public will pay for these bonds with the money at their disposal.

For the same reason, money destruction takes place when banks issue long-term debt and equity instruments. Because these represent long-term investments, public’s willingness to underwrite these bonds or equity instruments can destroy money through an exchange between deposit (money) and non-deposit (financial instruments) liabilities.

Money is an endogenous variable because private agents and commercial banks together fix its amount.
1.6. **Constraints to the money creation mechanism**

As has already been explained, lending behavior of bank and non-bank private sectors can affect the money creation mechanism. To be more precise, this process can be influenced by:

1) Profitability, risks and regulatory policy which reshape commercial banks’ behavior;

2) Households and businesses through their willingness to undertake some destroying-money actions (i.e. repaying the loan);

3) Monetary policy, which can affect some variables (such as the interest rate) that are likely to have an impact on behavior of the private sector.

The first case refers to commercial banks’ attitude in extending loans. In making this choice, a bank should consider the profitability of lending money to the market. Profitability can be measured by the interest rate (considered spread on the interbank rate or other interest rate on bank liability and fees) at which the bank will grant a loan. The price of the loan then will set the number of households and businesses that are willing to borrow money at this threshold.
There are however some limitations to this creation process for commercial banks individually contemplated.

As it was well represented in the BoE’s scheme, the choice of making a loan will be matched with an increase of deposits of the same amount for the aggregate banking sector. But if we consider an individual bank \((a)\) which is approving a loan (let’s say a mortgage loan), after charging the costumer’s account with the relative increase in deposits, it might be true that this newly created money will be transferred from the buyer’s account \((a)\) to the seller’s account \((b)\) which can be based in another commercial bank \((b)\).

If this is the case, bank \(A\) will face a situation with more assets than liabilities in its balance sheet. At that moment, bank \(A\) will transfer money to bank \(B\) through its reserves. Since banks generally approve new loans during the day, it is likely that reserves will soon run out.

In order to tackle this issue, commercial banks try to (i) attract part of this newly created money. In order to attract money, they are required to pay a high interest rate in the costumers’ deposits, and this could sometimes be impossible given that a commercial bank operates with a spread (difference between interest rates on the loans and interest rates on deposits) that is supposed to cover not only operational costs, but also the riskiness of the operations and profits. Another possible way for commercial banks that have to deal with the liquidity problem is to (ii) borrow money from other banks in the interbank market.
This is also affected by the profitability and the trust within the money market (Bagehot, 1873). As a result, the gainfulness and the competitiveness of the financial market act as a constraint or an opportunity for the money creation mechanism.

Risk acts as another important holdback.

For any new loan created, the bank is required to manage risks involved in this operation. The bank is required to have a huge basket of liabilities in order to be able to deal with some specific risks (liquidity, credit and market risks).

However, the balance sheet of a commercial bank is typically built-up with long-term assets (loans) and short-term liabilities (deposits)\textsuperscript{19}. This mismatch in maturities is why a commercial bank is likely to face liquidity problem: it is based on the traditional construction of its balance sheet which has to consider the special activity they hold inside the system. In order to deal with the so-called refinancing risk\textsuperscript{20}, banks need to match their gaps with risk management tools. Furthermore they need to attract some “long-term deposits”\textsuperscript{21} and some liquid assets\textsuperscript{22}, through which they will be able to meet cash withdrawals.

\textsuperscript{19} As deposits are redeemable on demand (sight deposits).
\textsuperscript{20} Refinancing risk: a financial institution faces this risk when it holds assets with a greater maturity compared to the liabilities’ one. The risk refers to the fact that it might borrow deposits (liabilities) at a higher rate when the agreed ones expire. I.e. a bank which holds a 5-years maturity loan funded by a 1-year deposit will deal with this issue.
\textsuperscript{21} Fixed deposits for a certain period of time (BoE, 2014)
\textsuperscript{22} Assets which can be easily convertible into cash in a very short period of time, with a small loss at maximum.
Another risk to consider when we are dealing with banks’ exposures is the credit risk. This particular risk is the risk that borrowers are unable to meet their obligations according to the agreed terms (BIS, 2000) and cannot repay their loans. According to current rules, commercial banks are required to have enough capital at their disposal in order to be able to face exposures on their loans. Banks usually tackle this problem with some measures which come from risk management tools. In order to be more precise, credit risk can be considered as a feature which affects individual loans or even the whole loan portfolio.

Referring to individual loans, in order to assess the creditworthiness of the firm, commercial banks are likely to rely on Altman’s credit scoring model (Saunders an Cornett, 1994; 2011: 339).

Otherwise if we consider the whole loan portfolio, banks need to contemplate the loan concentration risk and, taking into account also the correlation between different loans, they also need to diversify their portfolio. In this case banks are likely to measure credit risk by applying

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23 Accordingly to “Financial Institution Management” handbook (McGraw-Hill), Altman’s score is affected by five factors, which are the following:

- $X_1$: Working capital / total assets ratio;
- $X_2$: Retained earnings / total assets ratio;
- $X_3$: Earnings before interest and taxes / total assets ratio;
- $X_4$: Market value of equity / book value of long – term debt ratio;
- $X_5$: Sales / total assets ratio.
the KMV approach\textsuperscript{24}, known as \textit{Moody’s KMV Portfolio Manager Model} (Saunders an Cornett, 1994; 2011: 375).

These analyses help in evaluating credit risk and are useful also for choosing the interest rate at which the bank should approve a loan request. It typically charges an interest rate which compensates the average level of credit losses that are likely to affect the loan portfolio (BoE, 2014: 19).

Since all these risks (liquidity, credit and market risks) can strongly affect the soundness and endurance of financial institutions, banks are required to hold an appropriate capital buffer to face these exposures. In this sense, regulatory requirements can be regarded as an additional constraint to the lending development. It is however important to keep in mind that they overlay a very important function considering the specialness of the banking sector.

The second brake on money creation concerns households and companies behavior. The non-bank private sector can significantly affect the final stock of money in the economy (Tobin, 1963). Two different scenarios might occur: (i) public and companies will destroy newly

\footnotesize{\textsuperscript{24} Banks can also assess the credit risk on their loan portfolio with other approaches, such as CreditMetrics, CreditRisk+ and Credit Portfolio View from McKinsey and Company (Saunders an Cornett, 1994; 2011: 375).}
created money by paying back outstanding loans or (ii) public and companies will consume and spend, spreading money in the economy.

In the first scenario money is smashed by non-bank private subjects. This is also known as “reflux theory” from Nicholas Kaldor. When agents repay loans, the whole balance sheet of consumers will return to the initial position, so before the loan has been granted.

In the second scenario, however, money (which is always created by bank making loans’ action) continues to circulate because households and companies keep spending through their bank accounts. Then, if the public spends and passes money to people who don’t want to pay back existing debts, money will increase as every household and company will, in turn, increase their own deposits or deposits in other accounts by making other expenditures. This is also known as “hot potato effect” which, as we said before, can lead to an increase in the money stock which in turn can affect inflation.

The third constraint comes from the public will: monetary policy can act either as a holdback or as a stimulus for the money creation process. One of the main tools with which central banks affect the economic system is the interest rate. By setting the short-term interest rates, the price of money, the central bank (which has the monopoly of narrow
money) affects the choices of commercial banks, the creators of broad money (BoE, 2014).

Therefore, by setting the price of reserves, the central bank tries to influence the private sector’s behavior and also affects the amounts which will be exchanged in the money market. Through these means, monetary policy tries to impact on the creation of inside money. However, it does not always achieve that. In the euro area, for instance, the growth rate in the overall amount of money M3 almost always exceeded the target rate (4.5%) until the 2008 – 2009 crisis. Since then, the growth of M3 has always been subdued. More details and charts will be provided on Chapter 2.

In the most famous manuals this process might not be very clear, as we can easily find that central bank, through the multiplication of reserves by a steady ratio (the money multiplier) will define the quantity of money in circulation. Accordingly, these reserves will lead to a change in banks’ deposits which as a consequence will lead to an increase in lending, and so on.

However, this is not how the real process operates. This is already made clear by the mistaken belief that the money multiplier is a constant parameter.

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25 Markets in which central bank and commercial banks transfer money to each other and between financial institutions (BoE, 2014:21).
The money supply is determined by banks through reserves and currency demand, which they require in order to meet outstanding cash withdrawals, clearing operations between banks as well as liquidity requirements.

Therefore,

“The demand for base money is more likely to be a consequence rather than a cause of banks making loans and creating broad money” (BoE, 2014: 21).

So, even if the money multiplier allows us to define the ratio between broad money and monetary base in terms of two parameters, it cannot be assumed to be providing that the central bank has the capacity of changing the amount of bank deposits i.e. broad money at its will. Indeed, bank deposits are decided by individuals while credits are extended by banks and all the central bank can do is to check the conditions at which commercial banks satisfy their demand for reserves, given the decisions of households and companies. It is safe to assume that during an expansion phase, and particularly when euphoria reins markets\textsuperscript{26}, individuals like to have more credit than what they actually get from banks. During a recession, and particularly a balance sheet

\textsuperscript{26} Hyman Minsky [John Maynard Keynes, 1973, Columbia University Press] taught us that long phases of expansion easily induce market euphoria and excessive risk taking until the crisis breaks out.
recession, it is the turn of banks to be rationed by depositors and investors. Indeed, referring to the Japanese Great Recession, Richard Koo\textsuperscript{27} has argued that over – indebted households, companies and banks only want to reduce their exposure when asset prices fall. When the value of assets has fallen below the value of liabilities, balance sheets are broken and increasing debt exposure is pointless to households, companies and banks as all merely seek to reduce leverage.

\textsuperscript{27} Richard Koo [Balance Sheet Recession, 2003 John Wiley] holds the idea that Balance-sheet recession is different from both Fisher’s Debt deflation (1933) and Keynes’s Liquidity Trap (1936) and also the wrong monetary policy of Friedman-Schwartz (1963) notions. The Balance-sheet recession basically depends on the shift from profit maximization to debt minimization which simultaneously takes place among so many companies. According to him, during the Japanese long recession, the priority was debt reduction and the cash flow and bank deposits were used to reduce debt. As investment and consumption suffer, public expenditure is the only remedy. Deflation appeared only when the government in charge tried to kill the economy with fiscal consolidation.
2. Financial stability in the European Economic and Monetary Union

2.1 The European Union pattern: an historical preface

“ [...] only knowledge of the past enables us fully to understand the present, the failure to read the past correctly warps our capacity to act intelligently in the contemporary world. [...] The study of history has been believed to provide a guide not simply to passive understanding of the world, but to active political and moral action within it.”

(Howard, 1991)

The project of a Banking Union traces its origins from the past. Some of the intellectuals and founding fathers which outlined this stately common project were aware of the future developments that the European Union would have to face. The EU started to build its institutions after the tragedy of the World War II in order to escape from the horrors which arose from nationalisms that had ruined our continent. It lays its background in the words of Winston Churchill, who stated in 1946 “we must re-create the European family” in order to avoid the recurrence of past atrocities. Again, with the words of Robert Schuman,
"World peace cannot be safeguarded without the making of creative efforts proportionate to the dangers which threaten it. […] Europe will not be made all at once, or according to a single plan. It will be built through concrete achievements which first create a de facto solidarity.” (Schuman, 1950)

However, the construction of Europe began already well before. In fact, during the Middle Age, the developments of relationships between merchants and writers became even greater and contributed to the construction of an European consciousness (Rossi, 2014).

Linking that to the above mentioned arguments of Churchill and Schuman, the social construction of the European society can be said to have occurred in two different forms. Depending on the degree of the relationships: (i) it has been built from people, by increasing commerce practices, travels, cultural exchanges, knowledge sharing among the countries or (ii) it has been created by the building of some common institutions, rules and governance entities.

The European Union lays its fundamentals in the European Coal and Steel Community (ECSC) and the European Economic Community (EEC) which had been established by France, Italy, West Germany and
Benelux (Belgium, Luxemburg and the Netherlands)\textsuperscript{28} in 1951 and 1957, respectively. The EU was based on agreements which involved coal and steel\textsuperscript{29}. As stated by Schuman, it was important to found the European project on an economic purpose, and to declare better the importance to avoid wars.

The Union as we know it today however arises from the signing of the Treaty of Maastricht, in 1992. At this date, the expression European Community shifted in European Union. It entered into force in 1993 and laid down the foundations for the creation of the single currency, the euro. Thus, in order to be able to join the third stage of the Economic and Monetary Union (EMU) namely the *Euro Zone* and to adopt the single currency, the countries are required to meet the specific *convergence criteria*.

The five criteria, as reported by the European Commission, are the following five:

\textsuperscript{28} The so – called “Inner six”.
\textsuperscript{29} Two materials, coal and steel, which were fundamental for the reconstruction of the nations: they were vital for energy production (coal) and the industry (steel). However, they were really basic also for the construction of weapons.
What is measured: | Price stability | Sound public finances | Sustainable public finances | Durability of convergence | Exchange rate stability
---|---|---|---|---|---
How it is measured: | Consumer price inflation rate | Government deficit as % of GDP | Government debt as % of GDP | Long-term interest rate | Deviation from a central rate
Convergence criteria: | Not more than 1.5 percentage points above the rate of the three best performing Member States | Reference value: not more than 3% | Reference value: not more than 60% | Not more than 2 percentage points above the rate of the three best performing Member States in terms of price stability | Participation in ERM II for at least 2 years without severe tensions

Fig. 3: The convergence criteria (EC, 2014)

The common currency constituted a huge challenge for the countries which were and are willing to join. Within the adoption of it, they will entrust the European Central Bank – an independent decision-making body of the European institutions established in 1998 – in charge of the conduction of their own monetary policy in conjunction with other countries.

This means that they will not be able to compensate their internal fiscal shocks through monetary policies’ measures. Since the European Union is not yet a fiscal union, the feature of having the same currency (and
furthermore the fulfilment of fiscal constraints) can lead countries to tackle many issues and to face asymmetric shocks. Asymmetric shocks have been defined by economists as unexpected changes in the aggregate supply and/or demand in one country which do not hit and affect the one of its main trading partners (Blanchard, Amighini and Giavazzi 2010; 2013: 432). To illustrate this, consider for instance, a shock which might occur in the wine demand in France (i.e. a deep decrease). Such a shock is unlikely to have an influence on the aggregate demand in Ireland. As French aggregate demand will fall whereas the Irish one will be untouched by this circumstance, this is called asymmetric shock.

It has been already argued whether the Economic and Monetary Union can be qualified as an Optimal Currency Area (Mundell, 1961), by assessing and evaluating the types of shocks that might occur within countries which found the European Economic and Monetary Union. There is a wide range of opinions regarding the answer to this question and the conclusion is still not straightforward. In analysing benefits within the European Union, some economists define those as reduced uncertainty, a drop in transaction costs, an increase in price transparency, a shared anti-inflationary reputation (regarding the case of forming a Union with a country which holds a good reputation with respect to maintaining inflation at a low level), benefits from being an international currency\textsuperscript{30} and some positive trade-effects\textsuperscript{31} (De Grauwe, 2000).

\textsuperscript{30} The good reputation of a currency might lead to an increase of the demand for it, and the currency area could benefit as the shares of the currency in the global reserves rise.
Costs, as we have already delineated, are mostly the result of asymmetric shocks which hit the member countries and cannot be solved by changing the exchange rate (the issue is even more pronounced in the presence of wage and price rigidity). Shocks which occur differently among countries might need different stabilisation policies (Mundell, 1963). A further cost, not entirely expected in 1992 when average inflation was above 2%, is the difficulty of a un-competitive country B to increase its competitiveness against a competitive country A by increasing its real exchange rate when the latter (country A) is near deflation. This problem is currently troubling the Eurozone.

The labour mobility is an important condition which might be able to deal with these shocks. Getting back to the example mentioned above, whenever a shock in the aggregate demand affects France instead of Ireland, labour force should migrate to Ireland. If this is the case, France will likely deal with a drop in its natural level of output whereas in the meantime Ireland will likely face an increase in the same variable. As a consequence, the equilibrium will be re-established without changing the real exchange rate (Blanchard, Amighini and Giavazzi 2010; 2013: 433) although the flexibility of the real exchange rate obviously is more easy to obtain than the flexibility of work force location. In a deflationary situation as the current one, even the flexibility of the real exchange rate

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31 There are some studies which state that a Monetary Union might have positive effects for trade transactions within the member countries. It has been declared that the euro has increase the intra – euro area trade by 5 to 10% on average (Blanchard, Amighini and Giavazzi 2010; 2013).
becomes difficult. Efforts to increase competitiveness impair the capacity of the central bank to bring the inflation rate up i.e. towards 2%.

Another argument which could likely tackle asymmetric shocks is the fiscal integration: large “federal” expenditures at regional and local level. In other words, the lack of flexibility in the exchange rate might be settled with budgetary policies which can “deal with the stubborn pockets of unemployment” (Kenen, 1969).

Considering the presence of asymmetric shocks, limited cross-border labour mobility within the European Union as well as an unwillingness to make up common fiscal policies (Krugman, 2012), it becomes difficult to argue that the Economic and Monetary Union (EMU) is an Optimal Currency Area (OCA).

It is nevertheless important to mention that “optimal definitions” might not be well suited to describe an imperfect real world. Most of the time objects are not easy to define and state of affairs cannot be settled by theories, even though enchanting. When it comes to defining areas and unifications of nations, history and political issues need to be taken into account.
2.2 The establishment of the European Central Bank

As stated in the first chapter, the European Central Bank is the entrusted institution in charge of the conduction of the monetary policy within the European Economic and Monetary Union. It represents its centrepiece. The conduction of the monetary policy is decided by the ECB for all the countries which adopted the single currency. The implementation of the monetary policy is however carried out at a decentralised national level, through the National Central Banks. The National Central Banks (NCBs of countries which adopted the euro) and the European Central Bank (ECB) form the European System of Central Banks (ESCB), which the treaty mainly refers to.

ECB has been established in 1998 and began its activity on the 1st January 1999, thus in the third stage of EMU. This also corresponds to the date at which the euro currency has been introduced within the member countries. Its main tasks, as mentioned in the Article 127 of the Treaty on the Functioning of the European Union, are the following:

\[\begin{align*}
  i. & \quad \textit{the definition and implementation of monetary policy for the euro area;} \\
  ii. & \quad \textit{the conduct of foreign exchange operations;} \\
  iii. & \quad \textit{the holding and management of the official foreign reserves of the euro area countries (portfolio management);}
\end{align*}\]
iv. the promotion of the smooth operation of payment systems.

(Treaty on the Functioning of the European Union, Article 127)

Furthermore other tasks carried out by the ECB can be defined as the follows:

i. Being the issuer of the euro currency;
ii. Data collection and statistics publication;
iii. Financial stability and supervision, which will constitute even more an important task within the implementation of the European Banking Union;
iv. Maintenance of a well-functioning cooperation with international and European relevant institutions.

To better describe the main goal pursued by the ECB, we need to consider the fact that one of the most important reasons resulting in the willingness to establish a common currency under a common central bank has been the need of a stable exchange rate within the European currencies\textsuperscript{32}.

\textsuperscript{32} Currencies such as the German mark, the French franc, the Italian lira and the Spanish peseta, to mention but a few.
In 1978, after the collapse of the Bretton Woods system\textsuperscript{33}, the European Monetary System – in which each European currency had been anchored to the German mark – had been established\textsuperscript{34}. It had been set fluctuations of ±2.25% (narrow bands) and ±6% (wide bands) in order to establish a range around a central rate within the different currencies had to accomplish with (De Grauwe, 2003). Again, severe fluctuations outside the bands and incompatible monetary policy goals across countries forced some nations (i.e. Italy and United Kingdom) to be forced out of the European Monetary System (Wyplosz, 1997). After having raised the bands at ±15% in August 1993, the system ceased to exist on the 1\textsuperscript{st} of January 1999, when the euro has been implemented.

The non-alignment of the European currencies to the above-mentioned fluctuation bands led the countries to face much devaluation against the mark. This state of affairs in combination to the willingness to develop the internal market convinced the European Economic and Monetary Union to set the price stability as a priority for the new currency.

\textsuperscript{33} Which had been the monetary system from 1940 to 1971, establishing a peg between every currency and the US dollar. This had resulted into a fluctuation band of ±1.50% around a central rate, stating that every currency should had not deviate from the dollar by more than ±0.75%.

\textsuperscript{34} The mark (DM) started to fill the position and act as a role player in assessing the value of other currencies (as dollar used to do it during Bretton Woods' period).
Unlike the FED\textsuperscript{35} that has adopted a dual mandate taking into account both inflation and employment, the ECB has chosen a more hierarchical mandate and has stated to pursue the following objective:

“The primary objective of the European System of Central Banks [...] shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union. The ESCB shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources, and in compliance with the principles set out in Article 119.”

(Treaty on the Functioning of the European Union, article 127)

Thus even though the ECB has to contribute to the achievement of the Union’s objectives (which includes an economic growth, a sustainable development and the improvement of a competitive social market), the primary goal that the ECB is required to pursue is price stability\textsuperscript{36}.

\textsuperscript{35} Central Bank of U.S.A.

\textsuperscript{36} Heightened also by the second sentence, which starts with the statement “Without prejudice to the objective of price stability […]” (Treaty on the Functioning of the European Union, Article 127).
Price stability has been defined by the ECB as “a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%” (The ECB’s Governing Council). In addition, the pursued rate of inflation has also been clarified more in greater detail by stating that the aim is to maintain the above-mentioned rate “below, but close to 2%, over the medium term”. Through the definition of this objective, the ECB has also made clear that a potential deflation is against its goal. However, inflation rates occurring at a national level within each member state may still be different. The accomplishment of the ECB’s target in the short term is thus not a straightforward task to do. The following figure highlights the deviations from the target rate regarding some different countries before and after the establishment of the single currency:

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37 It is interesting to mention that the word “inflation”, which is generally explained as an increase of the price level, is also defined as a decrease in the value of money by some dictionaries (i.e. Longman).
A stable inflation rate within the EMU can be achieved whenever it is consistent with domestic inflation preferences (Mundell, 1997). The latter is nevertheless affected by the expected inflation $\pi^*$ that agents will forecast according to the output of the country (Debrun, 2001). The common monetary policy goal will then be influenced by the different inflationary biases (Barro and Gordon, 1983) occurring within the countries.
By analysing the previous graph on inflation rates, we can find a rate for the Eurozone from 1999 until now of 1.98%. We need nevertheless to mention that the Harmonized Index of Consumer Prices (HICP) measures the inflation rate within a specified basket of goods and services\textsuperscript{38} which does not take into account asset prices (or if contemplated, the assigned weight is known to be too small). Goodhart blames this to be the cause of “bubble and bust” in many instances (Goodhart, 2001). Theoretical arguments in favour of including the volatility of assets prices have been underlined by Alchian and Klein. In their work “On a correct measure of inflation” they highlighted the risks that inappropriate measures would have in pursuing the monetary policy goals. Furthermore, they argue that the failure in considering futures and assets prices can lead to a severe bias in the measure of the price level (Alchian and Klein, 1973).

Even though one might agree on many of the arguments discussed in the academic literature, there are nevertheless practical issues which let us conclude that an implementation is difficult to achieve. The main causes seem to be the difficulty in finding an appropriate weight for asset prices in the index (Goodhart, 2001) as well as an adequate discount rate to link to the above-mentioned weight (Cecchetti, 2000).

\textsuperscript{38} Which can be found at <https://www.ecb.europa.eu/stats/prices/hicp/html/hicp_coicop_inw_2014.en.html>
2.3 Two – pillars approach and monetary policy tools of the European Central Bank

Even though the Bank of England has stated that the monetary aggregates do not play a clear role in the monetary policy conduction (King, 2002), and despite the fact that the FED agrees with this statement\(^3\) (Meyer, 2001), the method which has been selected by the ECB disagrees with other central banks’ pattern. Conversely to them, it underlines the prominent role of monetary aggregates in the conduct of monetary policy (Issing, 2006).

The ECB adopts a range of monetary policy tools in order to transmit its monetary policy choices to the financial institutions and to accomplish its above-mentioned main objective. The instruments at its disposal are the following:

1. *Open market operations*;
2. *Standing facilities*;
3. *Minimum reserve requirements for credit institutions*.

The following overview provided by the ECB describes in a more detailed manner the open market operations and the standing facilities

\(^3\) “Money plays no explicit role in today’s consensus macro model, and it plays virtually no role in the conduct monetary policy.” (Meyer, 2001).
tools, regarding the description of the transactions, the maturities, the frequencies and the procedures adopted:

<table>
<thead>
<tr>
<th>Monetary policy operations</th>
<th>Types of transactions</th>
<th>Maturity</th>
<th>Frequency</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Liquidity-providing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPEN MARKET OPERATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Main refinancing operations</strong></td>
<td>Reverse transactions</td>
<td>One week</td>
<td>Weekly</td>
<td>Standard tenders</td>
</tr>
<tr>
<td><strong>Longer-term refinancing operations</strong></td>
<td>Reverse transactions</td>
<td>Three months</td>
<td>Monthly</td>
<td>Standard tenders</td>
</tr>
<tr>
<td><strong>Fine-tuning operations</strong></td>
<td>Reverse transactions</td>
<td>Non-standardised</td>
<td>Non-regular</td>
<td>Quick tenders</td>
</tr>
<tr>
<td><strong>Structural operations</strong></td>
<td>Reverse transactions</td>
<td>Foreign exchange swaps</td>
<td>Standardised/ non-standardised</td>
<td>Standard tenders</td>
</tr>
<tr>
<td></td>
<td>Collection of fixed-term deposits</td>
<td></td>
<td></td>
<td>Bilateral Procedures</td>
</tr>
<tr>
<td></td>
<td>Foreign exchange swaps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STANDING FACILITIES</strong></td>
<td>Issuance of debt certificates</td>
<td></td>
<td></td>
<td>Standard tenders</td>
</tr>
<tr>
<td></td>
<td>Outright purchases</td>
<td>Overnight</td>
<td>Non-regular</td>
<td>Bilateral Procedures</td>
</tr>
<tr>
<td></td>
<td>Outright sales</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 5: Eurosystem open market operations and standing facilities (ECB, 2014)

The minimum reserve requirement is requested by the ECB from their counterparties in order to control the credit expansions of banks’ balance sheets. The minimum requirement has to be hold by every credit institution within its own account at the national central bank (NCB). The ratio has dropped to 1% from 18 January 2012\(^\text{40}\) (ECB, 2013) in order to contribute to the expansionary monetary policy which has been

\(^{40}\) Previously was set at 2%.
adopted as a tool after the financial crisis (Deutsche Bank, 2014). According to Friedman and Schwarz’s “Monetary theory” (1963), thus in line with the ECB strategy, the ECB didn’t act as the FED after the crisis of 1929, who rose the reserve requirements prematurely and drove the financial system into an even greater depression (Goodhart, 2013).

Every instrument of the monetary policy conduction however has to be implemented under the two – pillars approach which aim to achieve price stability.

A two – pillar approach has been chosen by the ECB in order to implement the monetary policy within the EMU. This strategy is in charge of the assessment of the ECB’s main goal: the price stability. Accordingly, the evaluations conducted by the ECB consist of:

   i) An economic analysis;
   ii) A monetary analysis.

The economic analysis is focused on short and medium term variables which are likely to affect the price level. This research aims to find the right relation between real activities and price developments. In order to achieve this goal, the ECB analyses some variables within the Euroland, such as outputs, labour market conditions, fiscal policies, balance of payments and costs indicators, to mention but a few (ECB, 2014).
The monetary analysis focuses more on the long run. The supervision of the growth of monetary aggregates in order to assess the risks for the price stability finds its reasons on the famous dictum of Milton Friedman that “inflation is always and everywhere a monetary phenomenon” (Friedman, 1992) and in the assumptions behind its well – known “quantity theory of money” which for his part in line is based on the equation of Irving Fisher. In order to conduct this comprehensive monetary analysis, the ECB takes into account a wide panel of instruments which is continuously developed and improved. However, as this strategy is based on the long – run neutrality of money theory\textsuperscript{41} and on the fact that there is an high correlation between inflation and the monetary aggregates, this is one of the most controversial and discussed elements of the ECB’s approach.

The core of this research is nevertheless the previously defined monetary aggregate M3. In order to achieve the price stability and meet the convergence criteria signed into the Maastricht agreement, the target growth for M3 has been set at a steady rate of 4.5%. The following graphs show that this objective basically has never been reached neither before nor after the financial crisis in 2008. An additional record of this unsuccessful approach (based on a target growth rate on M3, a variable that is out-of-the-control of the central bank) can be descripted as the

\textsuperscript{41} Which states that, in the long run, an increase in the money supply always turns into an increase in the price level.
fact that immediately after the early stage of the Euroland, this rate has been taken out of the official publications of the ECB itself.

In conclusion, the M3 growth cannot be considered as steady. Furthermore, every country within the Euroland contributes in different shares of the M3 growth (as reported by fig. 5-6), making it even more difficult to achieve a European target related to the M3 growth.

That graph indeed shows us that M3 growth fluctuates very differently from country to country. In Germany for instance, M3 has been steadily increasing from 1999 to 2014, whereas in Greece it rose significantly before 2009, and then dropped from 2009 to 2012. The most substantial rise however has been awarded to Spain, a country which encounters a sharp growth of the aggregate from 1999 to 2008, and then faced a slow decrease until 2014.
Fig. 6: M3 growth rate in the Euro area (own calculation, Thomson Reuters dataset)
Fig. 7: M3 total amounts in some Euro countries (own calculation, Thomson Reuters dataset)
Fig. 8: M3 in some Euro countries, index 1999 (own calculation, Thomson Reuters dataset)
2.4 The European Central Bank weapons

After the outbreak of the Eurozone crisis at the early stages of 2009, the European Central Bank has established and developed some mechanisms destined to lower the risk premium of some southern Member countries (Shambaugh, Reis and Rey, 2012) and to foster financial stability across the European banking system. We will briefly discuss these measures here below, considering them as part of the greater aim in developing the financial stability within the European outline.

Even though the following measures are promoted for the same aim as the one stated above, we can contemplate them into two different (but undoubtedly interconnected) sections:

i) Tools focus on the governmental side;

ii) Tools focus on the banking system side.

Despite the fact that they have been arranged in order to break the vicious cycle between banks and sovereigns, we could state that:

i) Long – term refinancing operations, balance sheet increases and interest rate policies are addressed by the banking system;

ii) Outright Monetary Transactions and European Stability Mechanism had been designed for governmental purposes.
As a consequence, the weakening of the banking system due also to the sovereign debt crisis has had negative impacts on the real growth of the Euro zone. The relation among the above-mentioned three sectors find an explanation on the following figure provided by Shambaugh (2012) in his “The Euro’s three crisis” paper:

![Figure 9: The Euro’s three crisis (Shambaugh, 2012)](image_url)

Besides confirming the existence of the vicious cycle between banks and sovereigns (European Commission, 2014), which the European Banking Union is aiming to break, it provides evidence on how the relationship banks and sovereigns can impact growth and competitiveness, through
reducing lending to businesses and companies (Shambaugh, Reis and Rey, 2012).

The relation among banks and sovereigns has nevertheless been described as a “diabolical loop” by the Euro-nomics group⁴² and this connection reflects heavily on austerity or future growth conditions (Eichengreen, 2012), as banks are unable to extend credit due to fact that they cannot expose their already weakened balance sheets to additional risks. Moreover, the austerity conditions have a negative impact on the capability of the private sector to pay back loans. This is indeed responsible for the loop, as mentioned before.

⁴² A group formed by nine academic economists from several Euro members. More detail on their proposal can be found at the following link: <http://euronomics.princeton.edu/eb/>. 
2.4.1 Long–Term Refinancing Operations

With the acronym LTROs we refer to two operations built up by the European Central Bank in order to provide liquidity for the money market activity and to enhance bank lending. By these measures, the ECB provided credit with a long maturity (3 years) at the refinancing rate\(^{43}\) and lowered the quality required for collateral\(^{44}\). It set up these transactions in December 2011 and in February 2012, and provided liquidity for nearly 490 and 530 billion euros, respectively.

The ECB opted for this “weapon” after having noticed that trust faded inside the interbank market and that as a consequence, banks were unable to borrow money from their counterparts. The ECB still continues to adopt these measures as a tool of monetary policy, even after these two extraordinary cases.

However, as has been argued by some economists (Baglioni, 2012), even though the ECB provided the two above mentioned lending facilities, banks which held these loans increased the use of the deposit facility\(^{45}\)

\(^{43}\) which was 1%.

\(^{44}\) More details can be found at the following link: \(<\text{http://www.ecb.europa.eu/press/pr/date/2011/html/pr111208_1.en.html}>\)

\(^{45}\) Deposit facility: a standing facility where counterparties of Eurosystem can deposit money overnight, at a certain interest rate to National Central Banks (NCBs). It is also a method through which banks avoid to put their additional liabilities into the interbank market and can still have a financial return from it (but not in this time, as long as ECB set a negative interest rate on the deposit facility, in order to take action against the “credit crunch” behavior of banks due to the lack of trust.)
instead of using these amounts to lend to other banks in the interbank channel. Research conducted by BIS in April 2012 shows that the countries which massively used the deposit facility were Finland, Germany and Luxembourg.

This financial behaviour, which is affected significantly by the confidence within the system (Bagehot, 1873), taught us that even if the main financial institution (i.e. the central bank) boosts the economy by providing lending of huge amounts to an injured system, this is no guarantee to turn the economy and the financial sector into a well-functioning system. The latter can be affected exclusively by banks and relies on their own behaviour. The goal will not be achieved whenever banks hoard cash.
Fig. 10: LTROs and deposit facility use (own calculation, Bloomberg dataset)

Fig. 11: Deposit facility use (own calculation, Bloomberg dataset)
2.4.2 ECB’s balance sheet and the monetary aggregates evolution

The latest developments of the ECB’s balance sheet outline the boost in liquidity it provided within the financial market over the past months. On the following figures we will provide evidence on the willingness of the ECB to smooth financial operations. The ECB, in order to tackle the lack of liquidity and the credit crunch, has adopted a wide range of operations (i.e. Long Term Refinancing Operations and Eurosystem Securities Market Program) being part of an expansionary monetary policy. However, as we described in the first chapter, commercial banks – through the accordance of loans – have the power in the money creation process. Accordingly, an increase in the monetary base does not always result in a rise of the money stock (De Grauwe, 2011), and moreover, during periods of panic within the financial markets, these two measures tend to follow two different paths.

As will be shown by one of the following graphs, setting the year 1999 as 100 (index), it will be clear that increases of the monetary base (BM) have not always resulted into increases of the broader monetary aggregate (M3).
Fig. 12: Assets of the European Central Bank (own calculation, Bloomberg dataset)

Fig. 13: Monetary base of the European Central Bank (own calculation, Bloomberg dataset)
According to fig. 10, the ECB’s balance sheet has been subjected to a substantial increase during the period 2011 – 2012. That increase has been the result of an extraordinary expansionary monetary policy, portrayed by fig. 11, which represents an increase of the monetary base by almost 800 billion euro.

However, even though the monetary base has been subject to a significant increase, that did not lead to a consequential rise in the monetary aggregate M3, as shown by fig. 12. In other words, the monetary aggregates do not respond coherently to changes in the monetary base. Supported by fig. 13, we can state that monetary aggregates move slowly during financial crises even if boosted by the central bank’s action.
Monetary Base and M3 in the Euro area
1999=100

Fig. 14: Monetary base and M3 in the Euro area (own calculation, Bloomberg dataset)

Monetary aggregates in the Euro area

Fig. 15: Monetary aggregates in the Euro area (own calculation, Bloomberg dataset)
Furthermore, the monetary aggregates’ annual growth (Year over Year) represented in fig. 14 show a huge drop of the aggregates M2 and M3. To be more precise, M3 growth fell from a value of 12.4 in 2007 to a value of -0.4 in 2010. After reaching this negative growth minimum, M3 rose again until 2012, when it achieved a growth rate of 3.8%. After the peak, the aggregate has suffered another drop which is still on going. The data for M3 has been reported until May 2014 with a final percentage of 1.2.

![Monetary aggregates growth in the Euro area](image)

Fig. 16: Monetary aggregates growth (own calculation, Bloomberg dataset)
Taking into account the remarks made in the first chapter, fig. 15 represents an assessment of the money multiplier, a variable treated inherently as steady by central banks implementing a monetary targeting strategy. According to fig. 15, after having reached a spike of 13.16 in 2002, the M3 money multiplier decreased to 10.1 in 2008.

Following 2008, the multiplier has witnessed unsteady fluctuations, dropping to a value of 5.5 in 2012, figuring a financial turmoil within the system. Since the cash ratio (chosen by the public) and the reserve ratio (chosen by banks) play a large role in determining the level, the variable is seriously affected by the confidence within the banking system. The current value for the M3 money multiplier is nevertheless 8.50.
Money multipliers in the Euro area

Fig. 17: Money multipliers in the Euro area (own calculation, Bloomberg dataset)
2.4.3 Interest rate policy

The interest rate policy represents an important tool for the implementation of the monetary policy and could predict the features of the financial market.

The three interest rates set by the ECB within the Euro zone can be described as follows:

i) Refinancing rate: also called “refi rate”, is the main interest rate within the Union. It replaced the discount rate. It represents the cost of money on the main refinancing operations (MROs) which provide a huge amount of liquidity in the banking sector (ECB, 2014). It serves as a benchmark for the EONIA rate\(^{46}\) which fluctuates around it. It represents the centre of the interest rate corridor.

ii) Marginal lending rate: this is a provider of overnight liquidity to the banking system. As this interest rate represents the ceiling of the interest rate corridor, it is not very beneficial for banks to call credit through this channel. Thus, the use of this facility to apply for

\(^{46}\) EONIA: Euro OverNight Index Average.
liquidity may show significant failures within the interbank and financial system.

iii) The deposit facility rate: this is a standing facility (window) on which banks can hold overnight deposits within the Eurosystem. As it represents the floor of the interest rate corridor, it is never convenient for banks to hold their excess liquidity through this facility. Excess liquidity can be more rewarded in the interbank market, through the EONIA rate. Thus, the unconventional use of this window (as we state previously for the marginal lending facility) is a signal of the failure within the financial system.

Conversely, the EONIA rate is the weighted average of the overnight rates on the lending operations within the interbank market. The major banks provide liquidity to themselves through deposit and lending behaviour at the EONIA rate (or at the EURIBOR rate for funding at longer maturity). It fluctuates around the refinancing rate set by the ECB. The spread between the EONIA and the interest rate policy can be a significant indicator of the existent pressure and uncertainty within the banking system (Linzer and Schmidt, 2008) and may thus predict financial turmoil (Soares, 2011).
The graph shows us the interest rate policy undertaken by the ECB from January 1999 to June 2014. The current rates\(^{47}\) are the following: a refinancing rate of 0.05\%, a marginal lending rate of 0.30\% and a deposit facility rate of -0.20\%.

The ECB has implemented the so-called interest rate lower bound policy in order to conduct a monetary policy accommodation (Woodford, 2012). Moreover, it set the negative rate for the deposit facility, stating that a cash hoarding behaviour through the facilities provided by the ECB is not in line with the ECB’s transmission mechanism scheme. Thus, if the banking system prefers to deposit excess liquidity at their central bank’s accounts instead of providing loans through the interbank market (at the EONIA or EURIBOR interest rates), they will be penalized by this choice.

Some reasons of this unconventional choice are provided by the ECB itself. The above-mentioned path of the interest rates has been influenced by the behaviour of banks which previously anchored their excess liquidity to the deposit facility previously (ECB\(^{a}\), 2014).

The negative interest rate has been chosen to sustain growth in the Euro zone and thus to “ensure price stability over the medium term” (ECB\(^{b}\), 2014).

As stated by the ECB itself, commercial banks which hold excess liquidity and are not willing to lend to other commercial banks have two different options: to hold liquidity at their own central bank account or to hold it as cash. Both these strategies are not costless as for the former, commercial banks have to pay an interest rate on the deposit window (reward rate at -0.10%) and for the latter method they have to find a safe storage for banknotes. In both cases, additional costs are the inflation as well as the opportunity costs (ECB, 2014).

Moreover, this interest rate policy has been implemented in order to facilitate the substitution between the Eurosystem’s refinancing operations to the interbank funding. As the official interest rates affect all the other rates set by banks, a lower bound policy aims to ease and smooth operations within the private sector.
Fig. 18: Interest rate policy at the ECB (own calculation, Bloomberg dataset)
2.4.4 Outright Monetary Transactions

The Outright Monetary Transactions (OMT), as reported by the ECB, are one of the many measures undertaken to face the European sovereign and banking crisis. These transactions are governmental bonds’ purchasing operations, set in the secondary market in favour of countries which are dealing with liquidity concerns and are willing to underwrite a severe agreement (i.e. an European Financial Stability Facility programme previously or an European Stability Mechanism programme currently) involving not only the ECB and the countries concerned, but also the International Monetary Fund (IMF).

The main reasons behind the establishment of this measure has been the safeguard of the monetary policy transmission mechanism, which has been seriously affected by the tight connection between sovereigns’ and banks’ balance sheets and the stress occurred in the governmental bonds and the interest rate requested by the market.

Through these operations, the ECB is allowed to buy governmental bonds with a maturity reaching from one year up to three years within the secondary market. This however fosters a large discontent within the countries worried about the ECB to become a “Lender of Last Resort”48 and to break the rule stated at the Article 123 of the Lisbon Treaty. This prohibits the ECB to “overdraft facilities or any other type of credit facility” to

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any of the European bodies, institutional agencies, central, regional and local governments.

The instrument has been launched by Mario Draghi with his famous quote “Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough” (Draghi, 2012). These might be considered as substitutes of the quantitative easing (QE) policy carried out by almost every other central banks, such as for instance the Federal Reserve System, the Bank of England and the Bank of Japan, to mention but a few. However, even though OMTs have no limits beforehand (ECB, 2013), the parallelism between OMTs and QE might be affected by the presence of the following criteria which match the above described operations:

i) The strict conditions which the countries need to meet before receiving the financial assistance;

ii) the liquidity provided through these measures will be fully sterilised.

However, even though OMTs have been set in order to reduce the funding costs for central governments, the presence of the agreement which has to be signed in addition to the assistance request (requiring fiscal adjustments and austerity programmes within the countries) acts as
an important constraint for the moral hazard consistent with this type of tool.

But precisely because of these facts, such operations might not support the countries which are facing troubles in a considerable manner. Moreover, the application made by one country for the OMT's impacts severely the chance to get any funds from the private capital market (El-Erian, 2012), making it even more difficult for governments to request financial assistance or in any case, making the countries consider this opportunity too late (Ip, 2012).
2.5 The European Stability Mechanism

In order to resolve the debt crisis which has been threatening for long the Euro zone and to restore the financial stability within the banking sector, the European legislator decided to turn the temporary bail-out European Financial Stability Facility (EFSF) fund into the permanent rescue European Stability Mechanism (ESM). The latter became effective on October 2012.<sup>49</sup>

The procedure has been created by the Euro zone member countries, in line with the decisions made within the Ecofin Council which established the EFSF. Since the ESM is an intergovernmental institution, the main decision-making body within the ESM is the board of governors, which is composed by the Ministers of Finance of every member country.<sup>50</sup>

This bailout mechanism has been created because of the political willingness to lower the interest rates some member countries were required to pay and to end the sovereign debt crisis (Gocaj and Meunier, 2013). Another key reason has been the need to assure the financial stability. This stability has been threatened since the banking system has been required to recapitalise the balance sheets and to prevent losses or limitations within the private market due to the vicious cycle between


sovereigns’ debt and banks’ portfolios (Gros, 2011). The impact of an eventual sovereign insolvency on the banking system has been defined as the main channel of contagion within the financial system (Micossi, Carmassi and Peirce, 2011). Through the above mentioned fund the European Union is allowed to underwrite sovereign debt from the primary and the secondary market.

In order to require financial assistance through the ESM, however, the countries are required to sign a Memorandum of Understanding (MoU), which usually includes a set of fiscal adjustments and economic reforms set to lower government debt. This agreement also involves the instalment of the so-called Troika, namely, the European Central Bank (ECB), the European Commission (EC) and the International Monetary Fund (IMF). The balance between the moral hazard prevention and the effectiveness of the above described measure is however not clear cut. Many economists had opposing views about the austerity implications which are outlined by this mechanism (Krugman, 2012) and the fact that a call for assistance will probably end access to the private market of the not performing member states. This nevertheless seriously affects the willingness and the timing of the member countries’ call.

Another limitation of this mechanism has been found in the limited resources that the fund carries. This constitutes a big constraint on the

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effectiveness of the measure and does not assure the credibility in the market (De Grauwe, 2013). For this reason, the limitless OMTs are regarded to be more robust measures to tackle the crisis than the ESM financial assistance against the crisis. OMTs are very likely to gain credibility within the market due to this “no limits beforehand” condition.

In order to set the differences between ESM and OMT, we could state that the major one is that through the former the EU can legally buy government bonds at the debt issuance whereas through the latter the ECB can purchase government bonds only on the secondary market. In addition, it is also important to mention that the institutions in charge of carrying out these operations are different. Again, this constitutes the basis for the wall which arose between the central governments and the ECB.

Despite the fact, that many consider that through OMTs operations the ECB would became a de facto Lender of Last Resort (De Grauwe, 2013), not allowing the ECB to buy sovereign bonds at issuance, limits its capability to act as such a lender for the government bonds’ market (Bagehot, 1873).

The wide range of the previously outlined measures which have been set up for the purpose of prompting the financial stability constitutes a
proof of the willingness of the ECB to “preserve the euro, whatever it takes” (Draghi, 2012). The difficulties arise mostly whenever the member countries struggle and deal with dissimilar economic situations. In an attempt to combat this issue, the European Banking Union – whose aim is it to set common rules, common rescue plans and a common deposit guarantee scheme in the banking system – constitutes a huge step forward (ECB, 2014). The final chapter will be entirely dedicated to this challenge.
3. The Banking Union as a regulatory response to the financial crisis and expected outcomes in the monetary system

3.1 An overview of the new regulatory framework

The European Banking Union has been defined an outstanding project by the European Commission (EC, 2012), whose aim is it to establish a Banking Union within the EMU and strengthen prudential ratios (by increasing the amount and the quality of capital) of the credit institutions. It will be established within the those eighteen countries which currently are in the third stage of the EMU and set the possibility for the ECB to widen this supervisory role to countries, which demand to join on it. It has been defined a mammoth project by Buch (Buch, 2014) as the new regulatory framework has been implemented with an incredible speed.

In a speech given in February 2014, Mario Draghi emphasized the important positive consequences, which the project is most likely to induce. According to the ECB Chairman, the main advantage of the EBU will be the reduction of the financial fragmentation. Furthermore, he remarked that financial integration is crucial for an effective monetary union as well as that “we can see the importance of financial integration all the more in its absence” (Draghi, 2014).
The financial integration can result in the following positive outcomes:

i) **Increased portfolio diversification**: whenever banks and investors become more diversified across the countries, they reduce the risk to incur in domestic shocks. Lowering this risk exposure can be reflected in increasing income and consumption risk sharing (Demyanyk, Ostergaard and Bent, 2008). Diversification might also increase risks of contagion. The ECB supervision however will have a strong control over those risks. A diversified portfolio across the countries will also be crucial to the achievement of one of the major goals proposed by the European Commission. To be more precise, it will help to break the vicious circle between banks and sovereigns (EC, 2014).

ii) **Increased capital allocation efficiency**: large cross-border banks under the same supervision, resolution and deposit guarantee mechanisms are likely to allocate and channel capital and guide credit to the most efficient firms, regardless of the countries in which companies are settled. Whenever this works, the project will likely lead to a substantial reduction of the mispricing of investment risk (Giannetti and Ongena, 2009). However we should also mention that whenever
the project will not achieve the goal stated above, credit and market risks will not be reduced but simply spread among European banks.\(^5\)

iii) **Economic growth**: Funds would be allocated to the most efficient and competitive firms, even if established in less developed regions of Europe. In this sense, financial integration will head to a better overall economic performance.

iv) **Market scale and bank size**: last but not least, the fundamental advantage of the single market is to make the market larger and thus firms bigger to allow them to exploit increased returns to scale. To compete in the global financial arena, EU needs global banks, and a way to get this result is to offer to the existing national banks a larger integrated single market to reach the desired scale. Unfortunately, we discovered that banks’ bigness is a danger as banks can become “too big to fail” and thus must be helped by taxpayers. Latest studies however illustrate that the major risk described in the quote “too big to fail” should be switched to “too interconnected to fail” (Sordi and Vercelli, 2012).

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\(^5\) For instance, with cross-border integration, German (foreign) banks are substituted for Italian ones. Thus, credit and market risks are not reduced but simply spread out among Italian and German banks. In 2012, risk perception increased and German banks quickly dumped the Italian sovereign bonds they had. This nevertheless worsened the crisis and was exactly what short sellers had planned and wished. The opinion is shared, inter alia, by Alan Blinder on his *“After the music stopped: The financial crisis, the response, and the work ahead”*, The Penguin Press (2013), p. 420.
On the other hand however, financial integration, might also have some negative drawbacks. Indeed, issues may arise due to the *asymmetric information* that could trigger excessive cross-border risk-taking behaviour for banks. In addition, another crucial question in a more integrated financial world will be the assessment of the *contagion risk* (Draghi, 2014).

In light of the previously mentioned pitfalls however, it is important to mention that although before the crisis erupted some were believing that expected benefits of increased financial integration could offset expected costs (e.g. Fecht, Grüner and Hartmann, 2007), the view is currently under debate, to say the least. In 2008, the global, interconnected and complex contemporary financial system has discovered to be very fragile.

In fig. 1, the cross-border interbank lending behaviour across banks set in the Euro area has been outlined. After reaching a peak on the first and second quarter of 2008, the trend has been reversed and started to decrease in August 2008. The European Banking Union, as has been argued by Mario Draghi in the speech given in February 2014, aims to establish a sound financial integration across the countries, which will generate the above-mentioned benefits.
Cross-border interbank lending in the Euro area (own calculation, SDW dataset)
3.2 Banking Union and financial stability

Standardizing the supervision, resolution and guarantee schemes should help the European Union to achieve the goal stated by the European Commission, namely reestablishment of financial stability within the Euro area (EC, 2014). The main supporting argument is that the new regulatory framework will help to break the vicious circle, described in Chapter 2. The main reasons outlined by the Commission why precisely the EBU will be able to restore financial stability by breaking the negative links between banks and sovereigns are the following:

i) **Stronger banks will be more immune to shocks**: in order to face risks, the common supervision will enforce banks to hold capital and liquidity requirements more effectively (as Basel III will be implemented and supervision will be given to the ECB).

ii) **Bank resolution will minimize the intervention of taxpayer money**: the resolution of a bank will be funded by a scheme bailing-in shareholders and creditors first. Banks should thus not be resolved through public finances. We will discuss this on the special section dedicated to the SRM.
iii) Banks will no longer be “European in life, but national in death”: the new regulatory framework, through the implementation of the SRM and the Common Deposit Guarantee Scheme, will dramatically change this current approach. Any failure and the corresponding procedure will be managed at a European level.

In the next section we will expand this point issues stated by the European Commission by considering the Financial Trilemma outlined by Schoenmaker. Furthermore, the following section will also include a report on Minsky’s financial instability hypothesis.
3.3 The Financial Trilemma

An academic foundation for the financial stability matter can be found in the “Triangle of incompatibility” built up by Schoenmaker (2005) and Thygesen (2003). Financial stability can be described as a public good: it is clearly a non-excludable and non-rival good (Schoenmarker, 2011). It is a public good because nobody can be excluded from the consumption and the benefits of it (1) and the consumption of one person does not affect another’s consumption (2). They argue that a single government no longer can deliver stability within a global interconnected financial world. They came up with the Financial Trilemma theory, which states that the following three objectives are incompatible. In order to achieve two of them, the regulator thus has to sacrifice one for the sake of the others (Avgouleas and Arner, 2013). The trilemma, which replicates the old Mundellian open economy’s trilemma, is so defined in fig. 2.

![Diagram of the Financial Trilemma](Schoenmaker, 2011)

Fig. 20: The Financial Trilemma (Schoenmaker, 2011)
The *triangle of incompatibility* states that financial stability and financial integration cannot be pursued simultaneously while maintaining a national financial regulation. These three objectives are incompatible. Fig 1 already demonstrated that cross – border lending has decreased from 2008, leading to increased financial fragmentation under a national regulation policy.

Financial stability has been defined by Schoenmaker as taking into account the externalities a bank failure could provoke. The author pointed out that the national governments will not be affected by negative externalities caused by a failure of an international bank. Moreover, national governments will be focusing exclusively on domestic effects. The territorial jurisdiction cannot provide comprehensive solutions within an international integrated financial contest. Additional difficulties might still arise whenever the failing bank is too large to be saved by a single nation.

Explaining the trilemma with a mathematical game, Schoenmaker argues that countries will arrive at a noncooperative Nash equilibrium (Schoenmaker, 2013), characterized by a situation in which the single nation will not contribute to the recapitalization the failing international bank. This results holds even though cooperation is made more efficient and coherent with public policy goals. Setting the banks under the same regulatory framework and taking policy decisions at the European level
will likely make integration and stability more compatible pursuits, not only enable the achievement of financial stability but also of financial integration.

The Banking Union is a step towards the issue of financial instability raising from the interaction of debt and confidence remains. The problem was investigated by Minsky since the 1970s. Within the economic system there are three types of borrowers: hedge, speculative and Ponzi firms (Minsky, 1992). These three types of finance units borrow money from banks and markets.

According to the theory, stability is destabilizing as protracted stability turns euphoria, soon or later. An euphoric lending environment reaches a peak after which the excessive debt built up by firms will negatively feed back on trust. The mechanism can be described as follows:

![Image of the instability mechanism](image)

Fig. 21: The instability mechanism (own figure, according to Minsky's theory)
Confidence can be described as the key variable in this framework. Whenever there is a lack of confidence, credit expansion and leverage will stop. This in turn, will negatively affect investments, which are closely related to the production and income of firms. The interest rate \((r)\) will rise, which leads banks to ask an higher price for the attribution of loans \((P)\). Meanwhile, the price that banks are willing to pay (the price that thus reflects the expected value of the future profits) in order to increase the production will drop \((P^d)\). The increase of \(r\) will furthermore depress credit and investments even more. After having reached this critical point, the negative feed-back will trigger an insolvency crisis for firms, which will negatively affect the banks’ balance sheets.

According to Minsky’s theory, there will never be a steady equilibrium. The irrational exuberance or *animal spirits* (Akerlof and Shiller, 2009) will create a system on which phases of growth and downturns alternate within the economic cycles.

This is the reason why creating a common banking regulatory framework and allowing the European Central Bank to oversee the entire system could likely decrease instability among a more integrated, complex and dangerous environment.
The Princeton’s Professor Alan Blinder recently humorously wrote that “self-regulations in financial markets is an oxymoron, maybe even a cruel deception. *We need a real regulation, zookeepers watching over the animals*” (Blinder, 2013: 434). In this sense, the European Central Bank, through the adoption of the single rulebook (that will provide common prudential rules for banks and will force them in implementing the capital requirements stated on Basel III) might have an impact on the adverse effects of the bankers’ behavior with respect to over-lending (Goldsmith and Darity, 1992).
The European Banking Union relies on the Single Rulebook, a common regulatory patchwork for the banking sector. The Rulebook aims to implement the prudential capital ratios set in Basel III\(^53\). Within the European Union, the European Commission chose to develop the regulatory framework through a Directive and a Regulation. Each tool differs from the other through the law’s implementation process. As is well known, a EU regulation is a binding legislative act (EU, 2014), while a directive sets the common goals but leaves countries the possibility of freely choosing the implementation processes most suitable for them.

Through the implementation of a common capital adequate ratio, the Single Rulebook aims to close the existing regulatory loopholes (EC, 2013), which pose regulatory arbitrage risks. Furthermore it will restrict the possibility of gold-plating, a phenomenon which occurs within the EU whenever a national government exceeds the terms of implementation of a EU directive in order to achieve competitive advantages (OECD, 2010). Common banking rules will be set through the Capital Requirements Regulation (CRR) and the Capital Requirements Directive (CRD IV). These two will transpose Basel III into the European law.

\(^{53}\) BIS, [online], 2013, accessed on the 09.15.2014 at <http://www.bis.org/bcbs/basel3.htm>
Little operational space however will be left to individual countries. To be more precise, Member countries will only retain the chance to set higher capital ratios in order to face unsynchronized or idiosyncratic economic and fiscal shocks most effectively. Some useful flexibility while ensuring the maintenance of a minimum level of regulatory capital will be thus allowed (EBA, 2014). Stricter requirements however need to be justified by national circumstances and must contribute to financial stability with respect to the country’s or the bank’s balance sheet (EC, 2013).

The goals outlined by Basel III which have been incorporated in the EBU regulation aim at making banks stronger (EC, 2013). This will be obtained through:

1) an increase in the quality and quantity of the capital: in order to be able to absorb losses during stress times, capital needs to be adequate with respect to the both above mentioned characteristics;

2) a balanced liquidity: new rules and ratios need to be implemented in order to facilitate bankers to face cash flow mismatches and to guarantee the market that they will have
enough cash (or liquidity reserves) to meet creditors’ withdrawals\textsuperscript{54};

3) a leverage backstop: as already been reported in relation to the Minsky’s theory, leverage can not only reinforce the economic cycle but even induce financial instability. Common rules will set prudential limits on the growth of the banks’ balance sheets compared to own funds;

4) capital requirements for counterparty risk;

5) capital buffers.

Furthermore, CRD IV will also have an impact on supervisory reviews, disclosures as well as large exposure limits. Despite the fact that solvency ratios have strengthened since 2010 (Quignon, 2013), the implementation of Basel III will reinforce the prudential ratios and create higher quality as well as safer aggregates.

As the Single Rulebook will be applicable for all financial institutions covered by the Single Market, the common regulatory framework is likely to provide an harmonized prudential regulation across countries. This in turn will foster the achievement of the financial integration (Draghi, 2014).

\textsuperscript{54} as is well known that a Bagehot lender is not currently made available to European banks.
3.5 **Three pillars approach**

The European Banking Union can be considered a mechanism based on the following three strategic pillars: Single Supervisory Mechanism, Single Resolution Mechanism and a Common System of Deposit Protection (Cœuré, 2013). The Single Rulebook containing the Capital Requirements Regulation (CRR), the Capital Requirements Directive (CRD IV), the Bank Recovery and Resolution Directive (BRRD) and the common Deposit Guarantee Scheme (DGSD), will ensure the implementation of all three pillars of the strategy as well as a consistent and efficient supervision of all banks. The following sections will be dedicated to describe the building blocks in greater detail, whereas the last section will be focused on a critical discussion of the advantages and disadvantages, setting a balance on the new common regulatory framework.
3.5.1 The Single Supervisory Mechanism

The Single Supervisory Mechanism constitutes the first pillar of the Banking Union (Cœuré, 2013). The role of the regulator will be attributed to the European Central Bank, which will thus be responsible for both the financial stability as well as the maintenance of the soundness of the financial system within the Euro area. Supervision roles will in consequence be upgraded to a centralized level and therefore the regulation will be shifted over from National Central Banks (NCBs) to the ECB. Supervision encounters a lot of functions and, according to the literature, the ECB will be entrusted of the following functions (Recine, 2013):

i) Authorization and withdrawal of authorizations of credit institutions;
ii) Assessment of applications for mergers and acquisitions;
iii) Assessment of qualified holdings;
iv) Ensuring the compliance to prudential ratios and the adequacy of capital;
v) Supervisory reviews on single banks;
vi) Consolidated supervision of banks;

In order to be able to assess the soundness of a credit institution, the ECB will furthermore carry out tasks such as investigation and on-site
inspection conductions, sanction applications, early intervention tools applications, to mention but a few (Recine, 2013).

It is important to underline that not all the European banks will be under the SSM, creating a risk of a two-tier system. As a matter of fact National Central Banks will retain the supervisory role for banks which do not pose systemic problems within the Euro area (Pisani-Ferry and Wolff, 2012). According to the criteria stated in Article 6(4) of the SSM regulation (ECB, 2013), the banks that will be subjected of the ECB’s supervision need to meet one of the following three features:

- Total assets exceeding €30 billion or – unless the value of total assets is below €5 billion – exceeding the 20% of its national GDP;
- Being one of the three largest banks within the member state concerned;
- Requesting or granting financial assistance from EFSF or ESM.

Whenever a financial institution accomplish to one of these criteria, it is clarified “significant” (Deutsche Bank, 2013). Around 130 banks will be directly supervised from the ECB, leaving to the national supervisors approximately 6,000 smaller banks. However, the significant banks will account for almost the 85% of the aggregate bank assets within the Euro area (Maldonado, 2014).
It has been argued that leaving a considerable number of institutions to the national authorities might pose a risk of a two-tier banking system creation (Speyer, 2013). In order to be able to cope with the potential issues raised by such a two-tier system, the ECB retains the ability to directly supervise any “non-significant” banks whenever justified by the retention of financial stability. Furthermore, the ECB, on its own initiative, can classify a cross-border institution as significant even if it does not meet the above mentioned criteria (Deutsche Bank, 2013). Moreover, EU members which are not part of the EMU can join the SSM through a close supervisory cooperation (EC, 2013).

Maldonado argued that a two-tier approach to supervision has both practical and political reasons (Maldonado, 2014). Firstly, it has been unmanageable for the ECB to handle all EMU banks in such an extraordinary speed at which the Banking Union project is carried out. This can be defined as a timing issue. Secondly, national authorities have acquired extensive qualified supervision skills, which assure an efficient performance of the supervisory task. Thirdly, some countries actually prefer to retain the supervision of the so-called “non-significant” banks. This statement is based on the assumption that smaller banks do not pose systemic risks. This assumption however strongly depends on the bank’s portfolio and can ultimately turn out to be incorrect.
Recine (2013) nonetheless argued that, as the ECB will issue regulations, guidelines and instructions to the NCBs – and furthermore could exercise direct supervision of any bank by its own initiative – that cannot be classified as a two-tier system. The supervision furthermore is based on an unique approach, although with different degrees of centralization (Maldonado, 2014). As authorities will be different, even if under the same common rules, we cannot know whether the same common rules will be inclusive enough in order to create a single system.

At this stage, the comprehensive assessment reports a list of the European significant banks (ECB, 2013)\(^{55}\) that will be placed under the ECB’s supervision. We report below the list of Italian banks that meet the above mentioned criteria:

**Italy**

<table>
<thead>
<tr>
<th>Bank Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banca Carige S.P.A. – Cassa di Risparmio di Genova e Imperia</td>
</tr>
<tr>
<td>Banca Monte dei Paschi di Siena S.p.A.</td>
</tr>
<tr>
<td>Banca Piccolo Credito Valtellinese, Società Cooperativa</td>
</tr>
<tr>
<td>Banca Popolare Dell'Emilia Romagna – Società Cooperativa</td>
</tr>
<tr>
<td>Banca Popolare Di Milano – Società Cooperativa A Responsabilità Limitata</td>
</tr>
<tr>
<td>Banca Popolare di Sondrio, Società Cooperativa per Azioni</td>
</tr>
<tr>
<td>Banca Popolare di Vicenza – Società Cooperativa per Azioni</td>
</tr>
<tr>
<td>Banco Popolare – Società Cooperativa</td>
</tr>
<tr>
<td>Credito Emiliano S.p.A.</td>
</tr>
<tr>
<td>Iccrea Holding S.p.A</td>
</tr>
<tr>
<td>Intesa Sanpaolo S.p.A.</td>
</tr>
<tr>
<td>Mediobanca – Banca di Credito Finanziario S.p.A.</td>
</tr>
<tr>
<td>UniCredit S.p.A.</td>
</tr>
<tr>
<td>Unione Di Banche Italiane Società Cooperativa Per Azioni</td>
</tr>
<tr>
<td>Veneto Banca S.C.P.A.</td>
</tr>
</tbody>
</table>

Fig. 22: Italian banks under the SSM (own figure according to ECB 2013)
3.5.2 The Single Resolution Mechanism

The Single Resolution Mechanism (SRM) constitutes the second pillar of the Banking Union (Barbagallo, 2014). It is the logical complement to the SSM (Speyer, 2013): whenever the SSR fail to prevent banks’ failures, the SRM has to take place. The Single Resolution Board will be entrusted of being the decision-making body of the recovery rather than the resolution of a bank that is failing or likely to fail (EC, 2014).

The independent EU agency delegated for the resolution mechanism will be the European Resolution Authority. This EU agency will work in close cooperation with its national “sisters”. In order to comprehend the resolution regime that will be operational within the Banking Union, the SRM constitutes just one part of the resolution method thought to fit the European framework. In addition to the SRM, the Bank Recovery and Resolution Directive provides arrangements about the resolution funding. Nonetheless the proceedings a bank needs to fulfil (Speyer, 2013) when facing financial trouble are still not clear-cut.

Even though there is still a bit of uncertainty about the final resolution scheme, guidelines have been shared and the SRM constitutes a big step forward regarding the achievement of an increased financial integration. This is especially true if we consider that some countries within the EU did not even have explicit bank resolution arrangements prior to this
mechanism (Pisani-Ferri, Wolff, 2012). Thus, according to the Financial Trilemma theory, the SRM will help to define European decision-bodies as well as responsibilities and in case of cross-border banks’ failures (Schoenmaker, 2013). In fact the current regulatory framework is not apt to handle the complexity of the financial system as we see it now (Avgouleas and Arner, 2013). What is more, it has been argued that “without a strong SRM complementing the SSM, the credibility and effectiveness of the Banking Union would be jeopardized” (IMF, 2013).

Let us now imagine two different situations: (1) a recovery and (2) a resolution, both faced by the Single Resolution Board.

1) **Recovery**: in order to go through this path, the concerned bank must be (i) systematically relevant and (ii) have exhausted all the other disposable financial tools. In particular it has to implement firstly a bail-in strategy and secondly request financial support to national mechanisms (Avgouleas and Arner, 2013). The ESM, through the provision of financial assistance to countries on which are based failing banks, can play a non-negligible role at this stage. Furthermore, it has been discussed if the ESM should be entrusted of the direct recapitalization of the banks within the Euro area (Véron, 2014). This proposal has however been seen as a kind of mutualization of banks’ crisis and Members will not

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56 However, we mentioned previously some critics about this tool.
consider this event seriously unless the SSR will be established and effective. In the case of a recovery, if all other funding methods are exhausted, the SRM will be composed of the Single Resolution Fund (SRF), which will have a €55 billion capability. The amount will be formed through the imposition of a levy on those credit institutions referred to by the SSR (Wolfers, Glos and Raffan, 2014). The fund is predicted to reach its final volume in a 8 years time-horizon. Moreover, the fund will have to reach at least 1% of the deposits of all the banks concerned.

2) Resolution: the Single Resolution Board can request a resolution planning for all the banks under the SSM.

As has been outlined previously, the decision is solely based on the systematic importance of the bank. In addition, the Single Resolution Board is able to call banks for organizational changes and exposures’ reductions. In any case, financial support will not be given to ailing banks (Speyer, 2013), and under Bagehot’s Dictum of 1873, the European tools will take place only in case of liquidity crisis (Quignon, 2012).

The Bank Recovery and Resolution Directive need is the backbone of the Single Resolution Mechanism (Wolfers, Glos and Raffan, 2014). The
Directive has been approved on April 2014 and sets common rules for all the 28 EU Members. It contains the common guidelines each EU bank has to follow in terms of resolution procedures, financial restructuring, bail-in tools, to mention but a few. It furthermore comprehends arrangements for dealing with a failing bank, whenever the failure is supposed to be critical at a national level or at a cross-border level (EC, 2014). The Directive relies on a network of national authorities and resolution funds, which can act as groups in case of necessity. This chance has however been seen as a “won’t” by the some economists (Speyer, 2013). Moreover the BRRD sets rules which aim to keep the financial responsibilities of a bank failure at a national level, involving firstly national funds, shareholders, creditors and depositors (considering the amounts > €100.000) to resolve the bank.

There are numerous arrangements, which can help in managing a bank crisis. To be more precise, the BRRD sets the following tools in order to deal with a bank crisis (Avgouleas and Arner, 2013):

1) the sale of business: selling the bank or part of the failing bank without having the shareholders’ approval;

2) the bridge bank constitution: identifying good assets and the essential part of the bank and constituting the new bank (the bridge – ); afterwards the bridge bank will be sold to
another different entity and the ruins of it will be liquidated under the normal insolvency regime;

3) the separation of the assets: dividing good from bad (toxic) assets and transformation of the latter into asset management vehicles; this tool thus is able to relieve the bank’s balance sheet;

4) the bail-in: recapitalizing the bank through shareholders and creditors values.

The main tool is the so called “bail-in” tool. Through this one the bank is allowed to (i) wipe out or dilute shareholders’ stocks or (ii) reduce claims or convert debt into equity for creditors. Furthermore, the bail-in tool will involve depositors for those amounts exceeding the €100.000 threshold for insured deposits. This could significantly affect:

- the cost of funding: as the bail-in tools become likely to be implemented once the bank is facing problems, funding cost for the bank should arise (Speyer, 2013) in order to compensate the risk for investors to be involved in this tool;

- the inclination of depositors: as depositors will be part of the bail-in procedure to resolve the bank, the rule could
impair the willingness to hold cash as deposits. The money multiplier could in consequence drop even more after the Banking Union will be effective.

The presence of a clear “cascade of liabilities” could however, act conversely to these costs. In fact, the reduction of uncertainty might lower the risk premia requested by investors. The following figure (fig. 6) illustrates the different procedures which have taken place during the financial crisis in the absence of a common resolution scheme:

<table>
<thead>
<tr>
<th></th>
<th>Spain</th>
<th>Ireland</th>
<th>Cyprus</th>
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<tbody>
<tr>
<td>Equity</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hybrids / preferred stock</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Subordinated debt</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Senior debt</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Uninsured deposits</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Insured deposits</td>
<td></td>
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</tbody>
</table>

Fig. 23: Bail-in in different resolution procedures (own figure according to Speyer 2013)

The European Commission and the EU Council will be responsible for the final decision regarding the recovery rather than the resolution of the concerned bank, meaning that political issues will be included on the final decision as a matter of facts. Whereas the Single Resolution Board will be responsible of the resolution process of banks supervised by the
ECB and of cross-border groups, national resolution authorities will have the responsibilities for those which are not entitled as “significant” (EC, 2014).

The Single Resolution Board, the competent resolution authority for all the credit institutions within the SSM framework (Micossi, Bruzzone and Carmassi, 2013) will be nevertheless composed differently in case of plenary or an execution meeting. In the latter case, thus on a crisis time frame, the board will be composed by the executive director, the vice executive director and four members entitled by the Council on a Commission’s proposal. The members will represent the Member state concerned by a particular resolution decision (EC Council, 2013), meaning that even though the resolution decision is shifted at a European level, national reasons will not be left out from the decision. In light of the above reported information, fig. 6 represents the Single Resolution Mechanism.
Fig. 24: The Single Resolution Mechanism (own figure according to European Commission 2014)
3.5.3 The Common Deposit Guarantee Scheme

The Common Deposit Guarantee Scheme traces its origins back to the first process of harmonization in 1994 under the EU Directive 94/19/EC (IMF, 2013). The Deposit Guarantee Scheme however has been significantly improved in 2010, when, due to the effects of the US financial crisis, the Scheme provided a minimum level of harmonization within the EMU Member States. In fact, at the end of 2010 the coverage has been raised to €100,000 per depositor per bank and a maximum payout period has been set to 20 working days (IMF, 2013).

Before the harmonization was implemented in 2010, the coverage diverged significantly across the countries (Ehrmann, Gambacorta and Martinez, 2001). In 2000 for instance the deposit guarantee was established at:

- €15,000 in Portugal;
- €20,000 in Spain, Greece, Ireland, Austria, Netherland and Belgium;
- €25,000 in Finland;
- €76,000 in France;
- €103,000 in Italy;
- Practically complete in Germany.
Within the EU only two countries did not guarantee deposits, in two different cases: Iceland broke the promises on insured deposits whereas Cyprus imposed losses on uninsured deposits (Demirgüç-Kunt, Kane and Laeven, 2014).

Then existing differences of insurance furthered cross-country capital flows during stress periods for banks or sovereigns, as the national deposits funds benefit from at least an implicit government guarantee (Quignon, 2013). This mechanism thus highlighted even more the negative loop between banks and sovereigns, which the Banking Union aims to break. In the presence of regulatory arbitrage possibilities, the differences in guaranteed amounts provoked severe capital flights from countries with lower DGS levels to those with upper levels.

By insuring deposits, the legislator aims to reduce bank runs as well as to spur trust and confidence across the system, in order to reduce the likelihood of the former. The DGS thus intends “to protect depositors against the unavailability of their deposits”, which could be the unlucky and the inevitable consequence of a bank’s failure or a systemic crisis (Chesini and Giaretta, 2014).
Establishing a Common Deposit Guarantee Scheme, within the Banking Union framework, will help in assuring people that “a euro in a bank deposit in one banking union Member State is just as good as a euro in a bank deposit in another banking union Member State” (Huertas, 2013), which probably is not commonly believed. The pan-European scheme of common insurance however will operate once the national funds have been used up (Quignon, 2013). As a consequence, the insurance will remain largely at a national level.

The credit institutions within the Banking Union framework with respect to their risk profiles will fund the Common DGS. The scheme directs as a goal the guarantee of repayments of the deposits in the event of an insolvency crisis of a bank based on each Member country. The proposed scheme should significantly reduce any taxpayers’ contribution in case of a bank failure (D’Addio et al., 2014). The latest developments of the DGS are illustrated on fig. 7.

While the Common DGS should be seen as one of the main features of the European Banking Union, a clear priority has nevertheless been given to the SSR and the SRM (IMF, 2013). Even though some countries are strictly opposed to the Common DGS, some economists argued that the pan-European fund should have been established before the SSR and the SRM. If the implementation will take too long, diverging the time horizons of the other two pillars, the effectiveness of the
Banking Union could be significantly affected (Schoenmaker, 2013). Whether implemented efficiently, the scheme will nonetheless enhance the depositors’ level of insurance and act to foster the financial stability within the Euro area.

Fig. 25: Deposits Guarantee Scheme process (own figure according to European Union, 2013)
3.6 Advantages, disadvantages and risks

The European Banking Union aims to further financial integration and financial stability within the Euro area and break the vicious cycle between banks and sovereigns (EC, 2014). If we should set a balance regarding the goals pursued by the ECB under the governance of Mario Draghi and by the EC, then:

- setting common rules through the Single Rulebook,
- directly supervising significant banks through the SSR,
- establishing a common regime for the management of a bank crisis through the SRM,
- laying the foundations for a pan-European DGS,

the regulatory draft goes in the right direction in order to reach the goals stated above.

The Single Rulebook, by establishing common rules for all the credit institutions\(^{57}\) will limit the regulatory arbitrages that threatened the financial integration. All banks will be forced to operate under the Basel III prudential ratios and the CRD IV, which will strengthen capital requirements aiming to prompt the financial stability within the economy. As banks can approve loans whenever they hold enough capital to face the risks they are assuming with them, capital

\(^{57}\) which will be implemented even though the bank is not under the ECB’s supervision.
requirements have a limiting capping regulatory impact on the money creation process. The twist is supposed to be positive, and even if an higher capital obviously allows a proportional and potential higher amount of loans, *ceteris paribus*, the new requirements should avoid the cases of excessive credit creation seen in the past. Implementing both CRD IV and CRR means that quite a few banks need to recapitalize themselves in order to accomplish the common prudential law. Furthermore, imposing common ratios might help in equalizing the money creation process and reducing the financial fragmentation. Italian banks however are moving towards the future prudential requirements. Figure 1 shows this exactly. The Common Equity Tier 1 of the banks increased significantly from 2010 (Banca d’Italia, 2013).

<table>
<thead>
<tr>
<th></th>
<th>Dec 2010</th>
<th>June 2011</th>
<th>Dec 2011</th>
<th>June 2012</th>
<th>Δ (from Dec 2010 to June 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 major banks</td>
<td>51.0</td>
<td>63.7</td>
<td>71.2</td>
<td>83.3</td>
<td>63%</td>
</tr>
<tr>
<td>Others</td>
<td>11.0</td>
<td>12.2</td>
<td>12.3</td>
<td>14.2</td>
<td>29%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>62.1</td>
<td>75.9</td>
<td>83.5</td>
<td>97.5</td>
<td>57%</td>
</tr>
</tbody>
</table>

Fig. 26: Common Equity Tier 1 of Italian banks, in bn (own figure according to Banca d’Italia 2013)

Italian banks are clearly enhancing their solvency profile in order to operate under Basel III requirements. However it seems significant the difference between behavior of the 5 major Italian banks and the others. Even though it appears that Italian banks increased their capital buffers
(Banca d’Italia, 2013), the European framework is not yet levelled and harmonized.

In this sub-chapter we will show some graphs which will prove that (IMF, 2013) and highlight significant differences regarding the Financial Soundness Indicators (FSIs) between Member countries. Before that, we need nevertheless to define prudential ratios outlined by the BIS and state the capital requirements that banks need to accomplish with.

Let us clarify what counts as capital for Basel III Regulation, thus for the CRD IV and the CRR of the European law. The regulatory capital is composed by the algebraic sum of (BIS, 2011):

1) Tier 1 Capital (which in turn is made by the Common Equity Tier 1 and the Additional Tier 1);

2) Tier 2 Capital.

The BIS has defined clearly the above mentioned capital requirements in its “Basel III: A global regulatory framework for more resilient banks and banking systems”, revised in June 2011. According to that, the following figure illustrates the different components (BIS, 2011). Other criteria have to be met and they will be considered below.
The Common Equity Tier 1 is the sum of the following elements (BIS, 2011):

- *Common shares issued by the bank that meet the criteria for classification as common shares for regulatory purposes (or the equivalent for non-joint stock companies);*
- *Stock surplus (share premium) resulting from the issue of instruments included Common Equity Tier 1;*
- *Retained earnings;*
- *Accumulated other comprehensive income and other disclosed reserves;*
- *Common shares issued by consolidated subsidiaries of the bank and held by third parties (i.e. minority interest) that meet the criteria for inclusion in Common Equity Tier 1 capital;*
- *Regulatory adjustments applied in the calculation of Common Equity Tier 1.*
The qualitative criteria that instruments need to meet in order to be qualified as Common Equity Tier 1 are reported on the CRR (EU, 2013). To be more precise, instruments in CET 1 need to be:

a) Issued directly by the institution;
b) Paid up and their purchase is not funded by the institution itself;
c) Classified as equity under accounting standards;
d) Clearly and separately disclosed on the balance sheet;
e) Perpetual;
f) Principal not to be repaid except in cases of liquidation or reduction of capital (consent of authority required);
g) No incentive to be repaid or reduced except in liquidation;
h) Distributions only from distributable items and with no restrictions or preferential rights, non-payment is not event of default;
i) Instruments absorb the first a proportionately greatest share of losses;
j) Instruments rank below all other claims;
k) Not secured or guaranteed;
l) No arrangements that enhance seniority;
m) Special regulations for the instruments issued by mutual, cooperative societies and similar institution.

(Regulation EU No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms)

The Additional Tier 1 is therefore composed by (BIS, 2011):
• Instruments issued by the bank that meet the criteria for inclusion in Additional Tier 1 capital (and are not included in Common Equity Tier 1);

• Stock surplus (share premium) resulting from the issue of instruments included in Additional Tier 1 capital;

• Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Additional Tier 1 capital and are not included in Common Equity Tier 1;

• Regulatory adjustments applied in the calculation of Additional Tier 1 Capital.

The qualitative criteria that instruments need to meet in order to be qualified as Additional Tier 1 are reported on the CRR (EU, 2013). To be more precise, instruments need to be:

a) Issued and paid up;

b) Not purchased by subsidiaries or participations > 20%;

c) Purchase of instruments not funded by the institution;

d) Rank below Tier 2 instruments in the event of insolvency;

e) Not secured or guaranteed;

f) No arrangements that enhance seniority;

g) Perpetual and no incentive to redeem;

h) Options only to be exercised at the sole discretion of the issuer;

i) Callable, redeemed or repurchased > 5 years after issuance;
j) No indication that the authority would consent to a request to call, redeem or repurchase;
k) Distributed only out of distributable items and with no restrictions, cancellation of distributions does not constitute an event of default;
l) No considered as liabilities under a test of insolvency;
m) Written down or converted to CET upon the occurrence of a trigger event;
n) No feature to hinder the recapitalization of the institution;
o) Where the instruments are not issued directly by an institution, the proceeds are immediately available to the institution without limitation.

(Regulation EU No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms)

Whereas the Tier 2 Capital is the sum of the following elements (BIS, 2011):

- **Instruments and subordinated loans issued by the bank that meet the criteria for inclusion in Tier 2 capital (and are not included in Tier 1 capital);**
- **Stock surplus (share premium) resulting from the issue of instruments included in Tier 2 capital;**
• **Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Tier 2 capital and are not included in Tier 1 capital;**

• **Certain loan loss provisions as specified in Basel regulation;**

• **Regulatory adjustments applied in the calculation of Tier 2 Capital.**

Also in the Tier 2 Capital, instruments need to meet several criteria. We report them as follows (EU, 2013):

a) **Issued and paid up;**

b) **Not purchased by subsidiaries or participations > 20%,**

c) **No direct or indirect funding by the institution;**

d) **Totally subordinated to claims of all non-subordinated creditors;**

e) **No secured or covered by guarantees of the issuer;**

f) **No enhancement of seniority of the claim;**

g) **Minimum maturity of five years;**

h) **No incentive to redeem;**

i) **Call options only to be exercised at the sole discretion of the issuer;**

j) **Callable after a minimum of five years (conditions apply);**

k) **No indication for early repurchase;**

l) **No rights for the investor to accelerate the repayment;**

m) **No credit sensitive dividend feature;**

n) **Where the instruments are not issued directly by the institution, the proceeds are immediately available to the institution without limitation.**
(Regulation EU No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms)

The above reported criteria will make the banks stronger as the different types of capital will increase in quality. Furthermore, new and higher capital requirements will be compulsory for banks. According to Basel III regulation (BIS, 2010), the minimum prudential ratios will increase:

- from 2% to 4.5% for the Common Equity Tier 1 / RWAs;
- from 4% to 6% for the Tier 1 Capital / RWAs.

The Regulatory Capital to RWAs conversely remains steady at 8%, this however need to be complied at all times. All these ratios nevertheless will rise even further because a “capital conservation buffer” of 2.5% of RWAs will be introduced in addition to the CET 1 requirement in order to enable the bank to absorb losses at any time, especially in stressed periods. Prudential ratios thus, considering the above mentioned buffer, will increase up to 7%, 8.5% and 10.5%, respectively.
Moreover, a *countercyclical capital buffer* can be set by each Member State in order to achieve the broader macro-prudential goal and thus to face the boom-bust evolution in the credit growth which threatens the financial stability (IMF, 2011). Basel III allows nations to establish a ratio which ranges between 0% and 2.5%. In order to accomplish its function, the countercyclical capital buffer will be gathered during periods of credit growth whereas will be released during periods of economic downturns.

Average current prudential ratios in the different countries are ordered in fig. 28. Even though countries are far above the minimum requirements to face unexpected decreases in the quality of their assets, there are large differences not only across countries but also across banks.
A very important, although only potential, implication for the money creation process and monetary policy is discernible in the adoption of the new higher and uniform capital requirements. By ensuring compliance with capital requirements and giving the supervision to the ECB throughout the Single Supervisory Mechanism might provide to help the central bank in having a more effective direct supervision on the money creation process, which is always endogenous in the banking system as a whole.
Thus, monitoring the quantitative requirements (ECB, 2014), the ECB has the chance to set higher prudential ratios in singular cases and thus to adopt the above mentioned requirements to the risk profile of the credit institution (Quignon, 2012). This gives nevertheless the opportunity to the ECB to oversee the lending behavior of banks effectively. As banks can extend credit only if they have enough capital to face the risks, by holding an *information advantage* regarding the regulatory capital the ECB has in a much clearer view and control about the money process within the Euro area. The following figure illustrates the ratio between the Regulatory Tier 1 Capital and the Regulatory Capital.
Although Tier 2 Capital could be at maximum equal to the Tier 1 Capital in order to compose the Capital ratio required, the regulatory capital has been made up differently within the countries. Most of them hold almost (or above) the 90% of Tier 1 Capital in their Regulatory Capital, whereas Hungary, Germany, Netherlands and Italy detain the lower ratios. According to the graph, Italian banks compose their Regulatory Capital with the lowest ratio of Tier 1 Capital, accounting for just the 77%.

It is a little surprising that Greece, which has a decent regulatory capital on RWAs (fig. 27), holds the highest ratio (99%). We need nonetheless to mention that even if Hungary, Germany, Netherlands and Italy hold
the lower percentages, the former three retain their Regulatory Capital far above the minimum required, whereas Italy holds the lower Tier 1 Capital to RWAs within the countries (10.6%) and a total Regulatory Capital to RWAs of just 13.7%.

Another key indicator comes from the dataset made available by the World Bank. It reports the Bank capital to assets ratio (%) for every country in the world. The ratio does not account for any prudential requirement, but it is nonetheless interesting as it gives a precise information on the relation between the total bank capital (comprising the Regulatory Capital, thus Tier 1 and Tier 2 Capitals) and the total assets, including all financial and nonfinancial assets.

Figure 29 illustrates the Bank capital to assets ratios. The graph shows that Netherlands, Finland, Italy, Germany and France are holding the lower coefficients. However, we cannot state whether this is due to the liability or to the asset side, or to both of them. In any case, assets in fig. 29 are not risk-weighted. Thus, the context on which Germany and Italy are holding the same Bank capital to assets ratio, both 5.5%, whereas diverging in terms of Regulatory capital ratio, 19.2% for the former and 13.7% for the latter, might be for the weights that characterize the

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59 “Capital and reserves include funds contributed by owners, retained earnings, general and special reserves, provisions, and valuation adjustments” (The World Bank).
different types of assets which in turn rely on risks and losses the bank should face.

* Slovenia has not been reported as data for the latest years were not available.

Fig. 30: Bank capital to assets ratio (own calculation, The World Bank dataset)
The previous graphs show that even though Italian banks – mostly the main 5 – are moving and increasing their capitals towards the new standards stated on Basel III and thus rising the eligibility of the Common Equity Tier 1 instruments (Banca d’Italia, 2013), prudential ratios are still in a relatively lower rank compared to the others. Since throughout the Single Supervisory Mechanism the ECB will be entrusted of the supervisory role of the so-called significant banks, the European Banking Union could thus modify this situation. In the following figure we report the key prudential ratios referring to 63 Italian banks, which are on the move from 2007 (IMF, 2013)

<table>
<thead>
<tr>
<th>Financial Soundness Indicators for 63 Italian banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>2008</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>2011</td>
</tr>
<tr>
<td>2012</td>
</tr>
<tr>
<td>2013</td>
</tr>
</tbody>
</table>

* The ratios have been taken from another dataset (IMF) in order to give an indication regarding the prudential ratios in 2013. They are not referred to the above mentioned 63 banks;

** Aggregate data missing.

Fig. 31: Financial Soundness Indicators (own figure according to IMF 2013)

Through the SSM the ECB will have the direct supervision on 130 European banks, accounting for about the 85% of banks’ total assets. This will reduce significantly the so-called “supervisory home bias” by reducing the incentive that currently exists for a national central bank to be lenient with national banks out of national concerns (Deutsche Bundesbank, 2013). This in line could result in an enhanced financial integration as banks will operate under a common regulatory framework and then will be supervised by the same over-national-interests institution. Prompting the financial integration might furthermore positively affect cross-border transactions, which have experienced a significant drop after the crisis in 2008.

Another advantage comes out from the “Triangle of incompatibility” already discussed. Thygesen and Schoenmaker basically assume that financial integration and financial stability are impossible in the existing decentralized supervisory approach (Thygesen, 2003). Empirical studies in USA (Aggraval et al., 2012) furthermore shows that the greater proximity between supervisors and the supervised make the former less alert (Quignon, 2012). In this sense, the European Banking Union aims at increasing stability by creating a more effective supervision within the banking system.

The legal basis of the Single Supervisory Mechanism have been often debated. In fact, the mechanism has been established within the scope of
the Art. 127 TFUE which states that the Council can “confer specific tasks upon the European Central Bank concerning policies relating to the prudential supervision of credit institutions and other financial institutions with the exception of insurance undertakings” (Art. 127 (6), TFUE). Entrusting the ECB for the supervisory role is thus in line with the above mentioned Article which gives the Eurosystem the responsibility to “the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system” (Art. 127 (5), TFUE). The legal foundations however have been criticized because of the restricted coverage stated in the above mentioned Article.

Concerns furthermore have been expressed about the fact that the ECB is going to add banking supervision to monetary policy conduction. It has also been argued the context in which a rise in interest rates would be suitable for the achievement of the price stability but might bring some banks to failures as they cannot afford the interest rate required for further liquidity (Quignon, 2013).

There might be thus a conflict of interests between the two function attributed to the ECB. The supervision however has been designed to be independent from the monetary policy conduction, with the creation of distinct administrative divisions and structures that will carry out the new task (EC, 2012). The legal basis of the European Banking Union

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61 risks of failure would increase after an hypothetical CB’s rate hike.
nevertheless make clear that the primary goal for the ECB is price stability. Every further objective, even though stated on the TFUE, is supposed to be subordinated to the achievement of the primary goal, although we have tried to argue that by reducing fragmentation, the ECD could improve its management of liquidity. Indeed it would be inappropriate to subordinate price stability common good to the interest of any single national “too big to fail” bank shareholders’ interests.

If the new regulatory framework will be able to foster the soundness of the banking system creating a more effective transmission mechanism of the monetary policy, the Banking Union will have a positive impact on the monetary policy conduction. The ECB could thus benefit from the information advantage regarding its new role of Supervisor. This furthermore will allow the ECB to improve its supervision on the money creation process, which will always rely on commercial banks’ lending decisions. Monitoring from a vantage point of view gives the ECB invaluable insights regarding the monetary policy actions that are required to be implemented and supposed to fit better the European framework.
Conclusion

This work aimed at guessing whether the supervisory project proposed by the European Commission in 2012 – the *European Banking Union* – and the Single Supervisory Mechanism agreed in March 2014 could improve the monetary policy conduction within the Euro area. The current monetary fragmentation, i.e. structural differences in the excess/rationing of credit in the Member countries, demonstrates that some space for improvement certainly exists. To prove this, we started recalling how money is endogenously created by the banking systems within the Euro area and how the public by tuning cash reserve ratios modulate the multiplier and the demand for monetary base. The money multiplier has fluctuated between 13.16 in 2002 and 5.5 in 2012 in relation to wildly different situations such as lack of confidence, liquidity shortage, excess liquidity, inflation or deflation expectations, exchange instability, non-conventional monetary policies, to mention but a few.

We conducted an analysis on the latest measures undertaken by the ECB in order to face the crisis arose in 2009 within the EMU III area. What is more, we reported some evidence regarding its expansionary measures (an extraordinary increase on the monetary base) which however did not resolve in an increase of the money stock. Indeed, it is well known that the ECB has not been able to keep the stock of money (M3) sufficiently
close to the target rate of 4.5%, neither in the aggregate Monetary Union nor in the single Members countries.

We moreover analysed the weapons developed by the ECB to face the crisis and divided the different tools into two sections: in the first section we described instruments which are likely to tackle governmental issues whereas in the second section we focused more on tools which are likely to affect the banking system. We described and reported empirical data related to: Long – Term Refinancing Operations, Outright Monetary Transactions which all increase the size of the CB’s balance sheet, and the interest rate policy likely to affect the banking system. We defined furthermore the European Stability Mechanism, established by the European Council, supposed to increase funding possibilities for the Member countries.

Completing the extraordinary aid framework provided by the ECB, in Chapter 3 we focused on the European Banking Union project which will be established within the eighteen countries which are currently in EMU III. The European Banking Union will entrust the ECB of the supervision of 130 so-called significant credit institutions which will account for approximately 85% of the total assets within the Euro area. The chapter regarding this “mammoth project” has been developed considering a “three pillars approach” based on the Single Rulebook. The Single Supervisory Mechanism, the Single Resolution Mechanism and
the Common Deposits Guarantee Scheme constitute the three different pillars.

These pillars are intended to: (i) foster financial stability ensuring the soundness of the banking system, (ii) restore financial integration after having experienced a significant drop after 2008 and (iii) break the vicious circle between sovereigns and banks; but we argued that by forcing the implementation of prudential rules stated on Basel III they perhaps could bear upon the money creation process positively. By reducing differences across countries, centralized regulation could hopefully stem excesses or deficiencies on the credit creation.

Regarding the goals stated by the European Commission and the Chairman of the ECB, financial integration has been argued through the cross-border interbank lending whereas financial stability has been debated through the Financial Trilemma developed by Schoenmaker (2005) and Thygesen (2003) keeping in mind the lectures made by Minsky about the intrinsic presence of financial instability within the economy, indagated by himself since the 1970s.

Creating a common banking regulatory framework and allowing the European Central Bank to oversee the entire system could likely decrease the intrinsic instability in a more integrated and complex
environment. In this sense the European Central Bank, through the adoption of the Single Rulebook (providing thus the common prudential rules stated on Basel III and implementing the capital requirements throughout the CRD IV and the CRR) might have an impact on the adverse effects of the bankers’ behaviour with respect to over-lending. The leverage of firms indeed significantly affect the confidence. The latter acts as the key variable in the boom-bust evolution of the credit growth.

After having discussed critically the Single Supervisory Mechanism, the Single Resolution Mechanism and the Common Deposits Guarantee Scheme we focused on the section which will likely affect the monetary policy conduction: the Single Supervisory Mechanism. We reported furthermore the new rules and capital ratios stated on Basel III. By monitoring the prudential requirements, the ECB has the chance to set higher capital ratios in singular cases and thus adopt them to the risk profile of the credit institution. This gives nevertheless the opportunity to the ECB to affect the lending behaviour of banks. As banks can extend credit only if they have enough capital to face the risks, holding the information advantage regarding the regulatory capital might confer the ECB in a much clearer view about the money process within the EMU III area.
In conclusion, the money creation process relies on “the stroke of bankers’ pens when they approve loans” (BoE, 2014). Inside money, described in the first Chapter, is created by the banking system and this has been the reason why the stock of money significantly differed within the Member countries. The chief Economics commentator at the Financial Time has forcefully argued in his recent work (Martin Wolf (2014), The shifts and the shocks – What we have learned and have still to learn from the financial crisis, Penguin Books, London) that instead of adding macro prudential policies to the traditional policies aimed at price stability a radical reform is needed. His proposal is really radical and certainly hard to swallow for bankers. Hyman Minsky could have subscribed it, I believe.

“A system that is based, as today, on the ability of profit-seeking institutions to create money as a byproduct of often grotesquely irresponsible lending is irretrievably unstable.” (Wolf, 2014: 350)

His recipe clashes with the one used by the European Union. As bankers have understood that their debts are senior vis-à-vis public debt, money creation should no longer be left to irresponsible bankers (and tax-payers should not be asked to foot the outcome of such exuberant lending behaviour).
In my opinion, the money creation process is mostly affected by: (i) the profitability pursued by the bank in approving the loans, (ii) the money multiplier which in turn relies on the confidence within the banking system and the perceived conditions about the soundness of it (it nevertheless drops after a bank run) and (iii) the regulatory framework.

In order to be more precise, we stated above that banks can approve loans only if they hold enough capital to face risks and potential losses arising with them. Setting common rules and higher capital requirements (through the CRD IV and the CRR) and giving the ECB the chance to set higher capital ratios (only if that is required to the achievement of the financial stability goal) could thus have an impact on a variable which can likely affect the lending behaviour of banks.

If the new regulatory framework will be able to foster the soundness of the banking system creating a more effective transmission mechanism of the monetary policy, the European Banking Union will have a specific impact on the monetary policy conduction. The ECB could thus benefit from the information advantage regarding its new role of Supervisor. This furthermore will allow the ECB to improve its supervision on the money creation process, which relies on commercial banks’ lending decisions. Monitoring from a vantage point of view gives the ECB invaluable insights regarding the monetary policy actions that are required to be implemented and supposed to fit better the European framework.
Bibliography


[34] Coeuré, B. (2013), The Single Resolution Mechanism: Why it is needed, speech at the ICMA Annual General Meeting and Conference 2013, Copenhagen, 23 May 2013.


<http://europa.eu/about-eu/basic-information/symbols/europe-day/schuman-declaration/index_en.htm>


[196] World Bank, The (2014), [online], *Bank capital to assets ratio*.


E-library and Databases

[1] Banca d'Italia – Statistical Database
<https://infostat.bancaditalia.it/inquiry/#eNorSazI1y%2FLEnNT9dPTsxJzUvRy2w8nG2dfXTcfULs%2FVcQ6JsHXxdHPTBwB51Q6%2F>

[2] Bloomberg
<http://www.bloomberg.com/>

<http://sdw.ecb.europa.eu/>

[4] IMF e-library
<http://www.elibrary.imf.org/>

[5] Thomson Reuters Eikon

<http://data.worldbank.org/>