The Implemented Monetary Policy within the Euro-System: Before and After the Current Economic Crisis and Conventional and Unconventional Measures of ECB

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Abstract

The aim of this essay is to study the intervention measures of ECB within the Euro system. In the beginning, we will present the conventional monetary measures and then we will describe the unconventional measures, which were considered necessary by the ECB in order to secure the stability and performance of the financial system within Europe and at the same time, to support the real economy to overpass recession. As it is well-known, the current crisis started as sovereign debt crisis that is closely linked with the complications in the financial system. In this sense, the role of ECB is considered to be important for both the Euro System and European economy.

1. Introduction

Banking and financial sector is believed to the most important sector for a state since it is responsible for affecting its economy substantially. A stable, strong and robust system can improve economic conditions, increases employment and decreases unemployment, improves standard of living and helps in developing other sectors such as construction sector, oil and energy sector and telecommunication sector. In the year 1999, 11 European nations had undertaken the decision to adopt a single currency known as the Euro, which would be a substitute for the home-country currencies [1]. The "Euro System" had been founded in order to improve financial stability and economic condition of European Union and therefore, it comprised of European Central Bank (ECB) as the main governing body with 11 central banks of the countries, who had participated in the creation of Euro-System, as members [1]. These banks were responsible for modifying, enhancing and managing monetary policies in 11 of the member states. Since 2011, the Euro-System or better known as Eurozone, had expanded itself and includes 17 countries including Austria, Belgium, Cyprus, France, Germany, Greece, Italy, Netherlands and Spain [2]. While the Euro-System focused on adopting a single currency in all member states, the European Central Bank (ECB) had been establish to design monetary policies that would help in improving the economic conditions [3]. The ECB had designed conventional measures before the global financial crisis, whereas after the crisis, it adopted unconventional monetary policy to combat inflation. The goal of this paper is to

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analyze ECB's conventional and non-conventional monetary policy, before and after the financial crisis, in the lights of broad and diverse academic resources.

2. Literature Review

2.1 Conventional Monetary Measures of ECB

ECB has been identified as an important component of the Euro-Zone or Euro-System, since it was recognized as a legal body, whose responsibility was to oversee monetary policy. The Euro system had been introduced in the Euro Zone to improve price stability in member states and to provide support to economic policies in the region. The monetary policy adopted clearly demonstrates that price stability is the main objective of the ECB [1, 3]. Before the global financial crisis, the ECB's monetary policy was based on two fundamentals: monetary policy strategy and operational framework. The monetary price strategy had been identified to determine the interest rate that would be needed to promote price stability with respect to time [1]. The operational framework had been identified to identify the steps and variables it will use to achieve the targeted interest rate [2].

2.2 The ECB's Monetary Policy Strategy

The first aspect of the ECB's conventional monetary policy is the strategy it used. The strategy adopted by ECB revolved around risk analysis of Euro-one to promote price stability and to use various channels, which help in improving economy in the member states. To achieve this, ECB had defined two fundamentals: Price stability quantitative definition and economic and monetary analysis [1,5,6].

Figure 1: ECB Monetary Policy Objectives [1]

- **Price Stability:** Price stability has been identified as the main goal of the Euro-zone, its definition has not been clearly identified in Treaties on the Statute of the European System of Central Banks (ESCB) [1]. ECB has given a quantitative definition of the term. Price stability, under ECB, is defined as the "a year- on-year increase in the Harmonised Index of Consumer Prices (HICP)13 for the euro area of below 2%" [5, p.157]. The definition of price inflation is further narrowed down by asserting that inflation rates need to equal or below 2 percent. The definition of price stability provided by ECB had increased the credibility, validity and transparency of ECB's monetary policy [2].

- **Economic and Monetary Analysis:** The second aspect of ECB's monetary policy is the economic and monetary analysis it conducts since its decisions are based on it. Both economic and monetary analyses are dependent on another and are conducted to identify short term and long term risks respectively [3]. Both analyses are instrumental in identifying errors, which can be overlooked if used individually [1,2]. Economic analysis conducted by ECB in terms of its monetary policy, focuses on analyzing the economic and financial conditions in the Euro-zone and identifying the short-medium term risks, which have affect price stability [4]. Economic analysis focuses on identifying economic shocks, their nature and their impact on costs and prices [1]. Variables that are used in the economic analysis include labor market conditions, global economy trends and conditions, exchange rates and conditions of financial sector [6]. Monetary analysis on the other hand is done to provide detailed analysis of monetary and credit trends, over medium to long term. Variables used for monetary analysis include short term deposits, long term deposits, and debt securities with maturity of 2 years and circulation of currency. The impact of these variables on economic growth and recession are analyzed to reach to conclusions.

2.3 Transmission Channels for Monetary Policy

The ECB's monetary policy has various transmission channels, which have been adopted by the ECB to influence the economic conditions of Euro-Zone and maintaining price stability (Refer to Figure 2) [7]. The conventional monetary policy transmission is achieved in 2 steps. During the first step, the changes made by ECB related to interest rate policy have direct impact on the asset prices, interest rates identified by the market and exchange rates [8]. Consequently, these changes affect the demand of investment as well as credit. During the second step, the policy changes affect household spending, organizations that have direct impact on the demand and the price stability. Monetary policy affects money-market rates and therefore, it can have significant on nominal market interest rates [9]. Since ECB has control over money-market rates, it has significant control over other channels of transmissions including firms and household spending. Finally, it has complete control over prices. Another medium of channel is changing the official rate, which is done by the ECB. The official rate is moved with the help of financial market to influence financial market rates and short term rates. Financial market rates include temporary loans, temporary securities and repurchase agreements. Short term rates include deposits made within the bank.

The change in interest rates can affect banks in positive or negative manner, depending on the cash flow, which is adjusted through their own interest rates that they have identified for loans and deposits. Changes in interest rate can affect the ability of the borrower to repay the loan [15]. Money market rates are responsible for influencing the exchange rates channel since increase in the rates of currency can significantly attract investors and improve economic conditions. Asset prices are also influenced by money market rates since changes in the interest rate can allow corporate bodies to invest in new ventures [16]. Interest rates and bond prices have inverse relationships. Rise in interest rates decreases bond prices, decrease in interest rates increases bond prices [11, 12, 15].

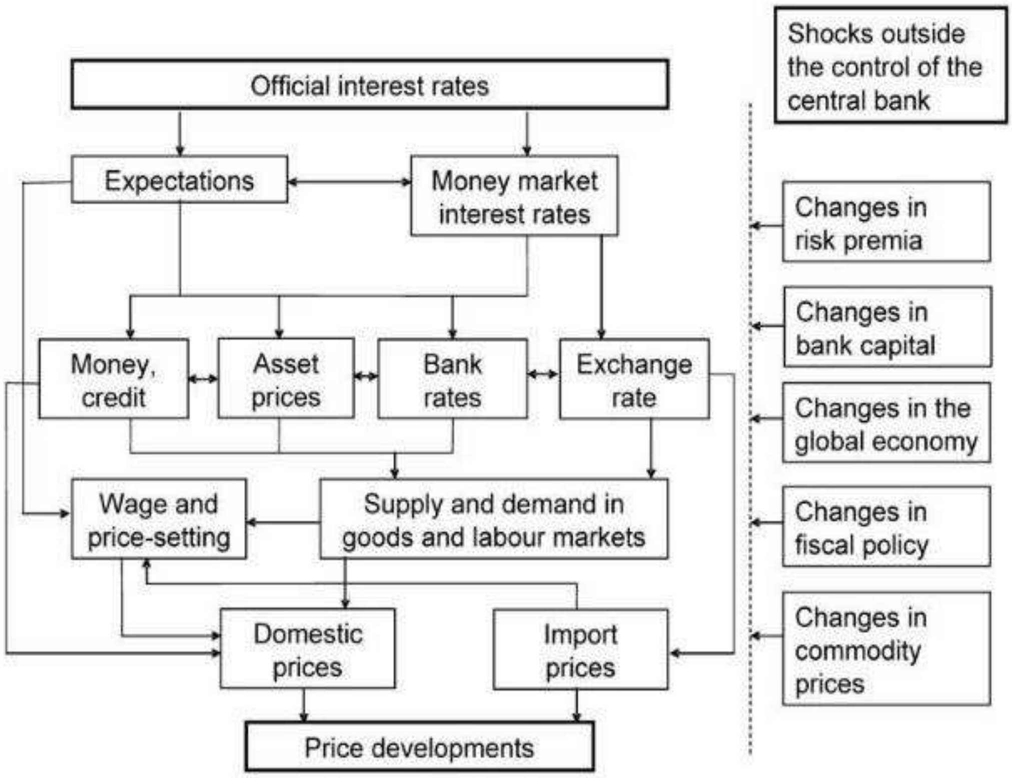

Figure 2: Monetary Policy Transmission Channels [3]

2.4 ECB's Operational Framework

The second aspect of ECB's monetary policy is operational framework, which comprises of policies and procedures adopted by the Euro-Zone to influence interest rates, liquidity management in the money market and indicate changes in monetary policies. Under this category, there are 3 main elements: considerations of open market operations, standing facilities and minimum criteria for reserves.

- **Considerations of Open Market Operations:** ECB's monetary policy aims at liquidity management. Under this category, the important functions are managing main refinancing operations (MROs), analyzing and planning for long-term refinancing operations (LROs), managing and improving operations and improving the overall structure of the operations of ECB in the Euro-Zone or Euro-System [10]. Open market operations are done by ECB through reverse transactions, where repurchase agreements are used to purchase or sell assets or using collaterals for taking credit operations. These transactions are primarily used for main refinancing operations and long-term refinancing operations [11].

- **Standing Facilities:** The second aspect of the operational framework of conventional monetary policy adopted by ECB focus on "providing and absorbing overnight liquidity and signal monetary policy perspective" [12, 768]. For this purpose, two facilities have been assigned: Marginal Lending Facility and Deposit Facility. The former is responsible for permitting banks to take funds from the national central banks they are affiliated with immediately [5]. The latter allows banks to make deposits to their affiliated national banks instantly. Both facilities are responsible for providing an immediate, "overnight" rate to the financial market [13].
- **Minimum Criteria for Reserves:** All of the banks in the Euro-Zone are required to keep minimum amount of reserves on current accounts [14]. This allows the banks to provide stability to the interest rates of the financial market since institutes are given the opportunity to reduce the impact of liquidity fluctuations, which are temporary in nature [12, 13]. Furthermore, it also helps in the creation of shortage of structural liquidity, which allows ECB to influence the rates of the financial market by considering the open market operations [11].

2.5 Global Financial Crisis (GFC) of 2007-2008, Euro-Zone and ECB's Unconventional Measures

The financial system of the Euro-Zone is considered to be different from that of United States since the majority of the financers are banks. Since the structure is primarily driven by banks, it affects the monetary policy implemented significantly [10]. The collapse of Lehman Brothers in the year 2008 was responsible for affecting the financial sector of Europe. Financial institutions in United Kingdom, Belgium, Germany, France, Ireland and Spain were severely affected by Lehman Brother's collapse. The first consequence of the collapse that was evident was the collapse of the interbank market, which compelled the ECB to "provide extra liquidity on massive scale" [11].Furthermore, the government debt increased since they focused on providing support to banks in order to stabilize interest rates and to fight inflation. To control the effects of the crisis, ECB non-monetary policy aimed at refinancing operations strategy, which is the opposite of the strategy adopted by the US Federal Reserve System [12]. The first approach adopted by the ECB was to protect the banks by providing them sufficient funds. From October 2008 to May 2009, ECB significantly reduced its interest rates [13]. It also adopted temporary policies to avert the crisis and to fortify and stabilize banks.

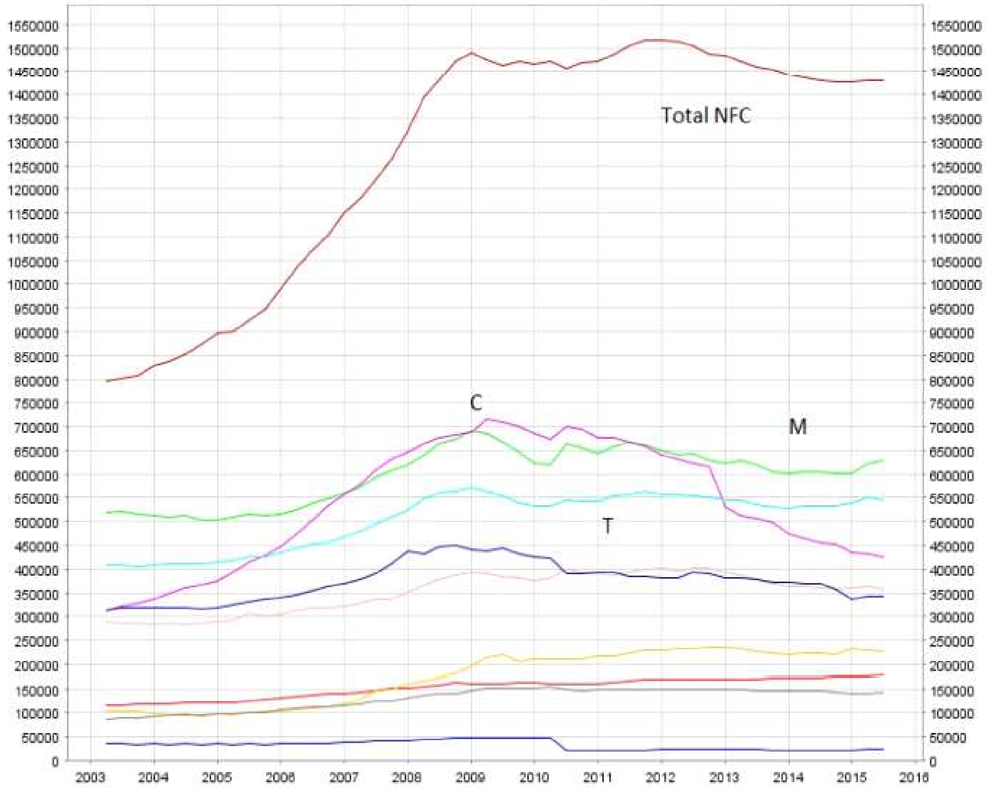

Figure 3: Outstanding Loans in Millions of Euros, Identified by Industry: C is for Construction, M is for Manufacturing and T represents Trade and other sectors from 2003 to 2016 [22]

Along with providing financial assistance to Banks, the ECB took the following unconventional measures to fight off GFC 2007-2008 that are discussed as follows:

- **Maturity of Liquidity Provision Extension:** For long-term refinancing operations (LTROs), the maturation period had been extended by ECB from three months to a year [14]. The main objective of this approach was to ensure that the interest rates of the money markets are minimized significantly in order to reduce market uncertainty. Furthermore, this move had been taken by the ECB to offer liquidity planning for banks to ensure that the process interbank lending and bank loans operate efficiently [15].
- **Currency Swap Agreements:** Another strategy taken by the ECB to improve its monetary policy was to promote currency swap agreements [11, 12, 13]. Thus, the US dollars were used by the Euro-Zone as a strategy to provide liquidity expressed in foreign currency. The Euro-system focused on adopting a currency system that was reciprocal in nature and collaborated with the Federal Reserve System to provide funds in the foreign currency, i.e, the US dollar with fixed interest rates and several maturity periods, which helped ECB to reduce market uncertainty substantially [12, 14, 15].
- **Collateral Requirements:** The ECB pursued eligible collateral requirements in order to ensure that the banks have access to wide ranging assets, which could be used by them to improve the central bank liquidity [11]. The eligible

collaterals had been compatible with the Euro-system refinancing operations and they also included asset backed securities [14].

- **First Covered Bond Purchase Program:** Another policy adopted by the ECB was the adoption of First Covered Bond Purchase Program [15]. The goal of this program was to revive the covered bond market, which is considered to be the main source of fund for the European banks [17]. This program had been undertaken since the bonds market had been exhausted significantly from liquidity and issuance perspective [22].

	Support to funding of banks											
Measure	Outright purchases of						Asset swaps	Lending operations				
	Liabilities			Assets held by banks								
	Covered bonds	Commercial Paper, other securities	Equity	Debt securities	Other securities	Equity holdings	Securities against illiquid assets	**Collateral/ counter-party eligibility**	**LTRO**	**FX swap lines**	Non-recourse loans	Funding for lending
Balance sheet risk	full risk						tail risk	counterparty risk				

						Other interventions, in						
	Acting on non-bank financial intermediaries					non-financial sector					sovereign bond markets	
Measure	Outright purchases		Asset swaps	Lending		Lending	Outright purchases		Asset swaps		Outright purchases	
	Mortgage-Backed Securities	Equity	ABS and other	to targeted interme-diaries (e.g. non-recourse)	Money Market Funds	Lending to targeted sectors	Com-mercial paper, trade credit	Asset-Backed Commercial paper	Corporate bonds	Other	Large-scale, in primary market	**Sterilised, in secondary market**
Balance sheet risk	full risk			counterparty risk		counterparty risk	full risk		tail risk		full risk	
Note: The ECB's non-standard measures are represented in the greyed areas in the spectrum of the main types of measures (and associated assets) considered or undertaken by central banks during the financial crisis.												

Figure 4: ECB's Unconventional Monetary Policy after the Crisis [20]

2.6 ECB Monetary Policy and European Sovereign Debt Crisis

In the year 2010, the European money and financial market were hit by debt crisis. Countries that were affected include Ireland, Portugal, Spain and Italy [20]. Spain and Ireland were affected by the housing crisis that was the direct outcome to the financial crisis, whereas Portugal was affected by the high debt to GDP ratio. Italy had been affected by high debt [21]. Consequently, government bonds started to exhaust. These events were responsible for impairing the Euro-Zone's monetary market through various channels of transmission: price channel, liquidity channel and balance sheet channel. The price channel was important since government price bonds and asset prices and borrower's costs were directly linked to one another [14]. The liquidity channel was important since government bonds were linked with repurchase deals [15]. The balance sheet channel was important since price of the government bonds had significant influence on the balance sheets of the banking institutes [16, 22].

The sovereign debt crisis was responsible for affecting the ECB's monetary policy framework since bailouts and monetary funding by the ECB were forbidden. Consequently, ECB's had severe restrictions [14]. In order to alleviate these restrictions, it adopted the Securities Markets Program in the year 2010 [12,16] . Under this program, ECB had the ability to purchase sovereign bonds from the secondary markets. This program allowed the Euro-Zone to buy both private and public bonds. Bonds that were purchased under this program were restricted to secondary markets only [17]. The goal of this program was to improve monetary policy diffusion and providing support to the debt-securities market of the Euro-system [18]. In some financial segments, the conditions became worse and tensions associated with the bond market owned by the government. These tensions reached to different countries in the Euro-system and therefore, measures that supported credit were revived and reintroduced or prolonged. During this time, the collateral lists were issued by the Irish, Portugal and Greek governments [19].

2.7 Worsening of Sovereign Debt Crisis from 2011 to 2012 and Additional Actions Undertaken

In the year 2011-2012, the Euro-system had been severely affected by the debt crisis. The Securities Markets Program was not sufficient enough to combat the crisis since its intensity had increased significantly [20]. The Euro-sovereign bonds declined and the European economy experienced a decline. Consequently, this gave rise to market uncertainty and therefore, governments of Euro-system had experienced intense pressured in terms of debt and financial assistance [17]. In the fall of 2011, viability of the government bonds and the national banking systems were questioned and therefore, intermarket banking processes and procedures were affected in negative manner [19]. The conditions worsened and therefore, the European Banking Authority reached to a proposal that “banks had to increase their capital buffers at a level of 9% Core Tier 1 capital” [21, p 38]. The goal of this strategy was to establish a short-term and efficient “capital buffer” to alleviate market conditions related to sovereign risk [21, 39]. The goal was to provide reassurance to the stakeholders to demonstrate that the banks were strong and robust to withstand risks and shocks and had the ability to maintain sufficient capital even in recession [21]. However, this temporary strategy demonstrated that the banks in the Euro-Zone needed €115 billion to withstand market turbulence and to perform at optimum efficiency.

In this regard, the ECB pursued a policy to provide liquidity support to the banks in order to ensure that they could reach the intended capital requirement, needed to perform at the time of recession [22]. ECB had undertaken several actions. Firstly, it identified two LTROs with maturity period of 3 years and the total amount provided to the banks was € 1 trillion [24]. This step had been undertaken by the ECB to improve bank liquidity for all types of banks including medium and small size banks, which provide finance to small and medium sized organizations [24].

ECB had taken another step to control the debt crisis [25]. It reduced the minimum reserve ratio requirement to 1 percent in order to minimize liquidity requirements for banks and to increase collaterals that would needed for their growth during inflation [26]. Another policy undertaken was increasing collaterals since ECB allowed NCBs to approve the claims of extra credit, more specifically bank loans, as collaterals [27, 28]. Loans allowed banks to refinance after using credit claims to improve their lending activity [28].

3. Conclusion

The goal of ECB was to provide monetary stability in the Euro-zone with consisted of 17 member states, by identifying a single currency and improving financial sector. Before, the crisis, the ECB's monetary policy was based on price stability, which is needed to improve the efficiency and effectiveness of the money market. Before the crisis, the ECB's monetary policy was solely based on MROs and LTROs activities. After the GFC 2007-2008, the Euro-Zone had been affected in negative way. It was fully affected after the collapse of Lehman Brothers. Strategies adopted by ECB included maturity of liquidity provision extension, currency swap agreements, collateral requirements and first covered bond purchase program. During the sovereign debt crisis, ECB introduced it adopted the Securities Markets Program in the year 2010, which allowed it buy sovereign bonds from the secondary markets. From 2011 to 2012, additional actions were taken to control the sovereign debt crisis. Strategies adopted included providing liquidity support to the banks, identifying LTROS with maturity periods over 3 years, reducing the minimum reserve ratio requirement and increasing collaterals.

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