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Unconventional monetary policy – is there a call for unconventional statistics?¹

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¹ This paper was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

Unconventional monetary policy – is there a call for unconventional statistics? ¹

Filipa Lima and Sónia Mota

Central banks across the world have been progressively adopting “unconventional” monetary policy measures which include, among others, zero or negative reference rates and expanded assets purchase programmes, aimed at pursuing price stability, easing the funding conditions for households and firms and ultimately promoting economic growth. In order to monitor the impacts from these measures it is essential the provision of good quality and timely statistics. In light of the current international statistical data requirements, namely in terms of the banks’ balance-sheets and interest rates, financial accounts and public debt data, we will assess if these “conventional” statistics are fit for that purpose.

Keywords: unconventional monetary policy; central-bank balance sheet; credit aggregates; public debt.

JEL classification: E52; E58; G21; H63

¹ The opinions expressed here are those of the authors and not necessarily those of Banco de Portugal or the Eurosystem. Any errors and omissions are the sole responsibility of the authors. The authors are thankful to the comments and suggestions provided by André Dias, Lígia Nunes and Sérgio Branco.

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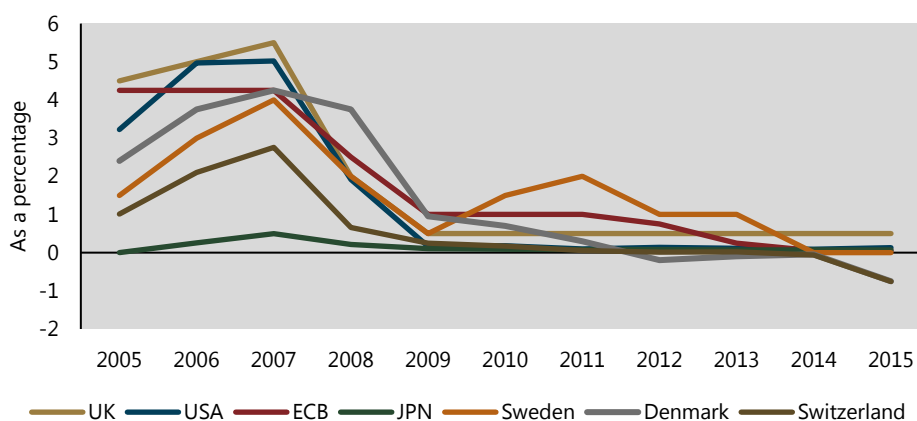
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1. Introduction

Central banks conduct monetary policy to achieve the goals they are mandated to by means of an attempt to influence broad financial and macroeconomic conditions. One of the most traditional ways to do this is through the injection of reserves into the banking system according to the banks' demand in order to indirectly steer the interbank interest rate. Throughout the financial crisis that started in 2007-2008 this traditional tool proved to be insufficient to provide additional monetary policy accommodation in light of the combined effect of: i) liquidity shortages and market impairments, resulting from elevated liquidity and credit risk premia, which impeded the transmission of the intended monetary policy stance; and ii) a further easing of the stance was needed at times when short-term nominal interest rates were at their effective lower bound. Reference interest rates declined sharply from 2007-2008, becoming progressively very close to zero or even negative; indeed, at the end of 2015, reference interest rates in Switzerland and Denmark were negative (Graph 1).

Graph 1 | Reference interest rates



Source: European Central Bank; Bank of England; Board of Governors of the Federal Reserve System; Bank of Japan; Riksbank; Danmarks Nationalbank; Swiss National Bank and Swiss Exchange.

Central banks around the world moved thus beyond their traditional operating framework to make use of their balance sheets as a monetary policy tool. According to the ECB (2015), faced with the strains and risks of the financial crisis, central banks began using their balance sheets taking one or more of the following actions:

- increasing liquidity provision to their banking systems elastically, i.e. accommodating banks' increased demand for liquidity, and modifying the modalities of liquidity provision to give funding reassurance, in some cases by also providing term lending;
- launching direct lending operations for the non-bank private sector or purchasing private sector assets;
- starting to purchase medium and long-dated public sector securities, or securities guaranteed by governments, on a large scale;
- offering explicit verbal guidance on the evolution of policy in the future, including indications about the future use of the central bank balance sheet if specific developments materialise.

As the ECB (2015) puts it, the provision of term funding combines liquidity support and credit easing. The idea is that by lowering banks' funding costs and credit spreads it will translate into looser financing conditions for final borrowers in the economy. This is also often referred to as quantitative easing (QE).

Accommodating the banking system's increased demand for liquidity and providing term funding will result in a larger central bank balance sheet. In the case of central bank interventions targeted at credit easing, it is the composition of the balance sheet's asset side that is of primary importance, in the sense that the assets on the balance sheet reflect the monetary authority's intention to ease conditions in specific markets. To do so, the monetary authority makes more active use of its balance sheet to improve upon or substitute for private financial intermediation, as well as to enable or enhance the transmission of the intended degree of accommodation. Credit easing measures are targeted at market segments that are closely linked to private non-financial sector borrowing conditions. This link may be direct – for example in the case of interventions that ease conditions in commercial paper markets – or indirect, where the central bank's action influences market prices of assets that, in turn, affect the price applied to the underlying credit – as in the case of interventions in markets for products securitised on loans to households or companies. The measures taken by the central bank will depend on the specific characteristics of the impairment and the idiosyncrasies of the markets targeted, as well as more broadly on the financial structure of the economy and the set of tools available to the central bank.

In the words of Ms. Sabine Lautenschläger, Member of the Executive Board of the ECB and Vice-Chair of the Supervisory Board of the Single Supervisory Mechanism, at the Eighth ECB Statistics Conference, Frankfurt am Main, 5 July 2016, "conducting this kind of unconventional monetary policy is rather difficult when decisions have to be taken on the basis of conventional data, i.e. traditional aggregate statistics. Mitigating systemic risk in very turbulent times on that same basis is equally difficult." She added that "(...) even when policy decisions are taken on the basis of aggregate statistics, as is usually the case, moving towards granular data offers the big advantage of timeliness and flexibility: raw information can be organised and aggregated in different ways depending on the specific policy question at hand."

There is thus a call from monetary policy makers for unconventional data, which is not aggregate but granular, i.e., micro data. In fact, on the same occasion, Mr. Yannis Stournaras, Governor of the Bank of Greece, argued that "micro data firstly improve our understanding of the transmission mechanism of monetary policy and secondly allow us to better understand the aggregate data and thus better forecast their evolution." and that "having a richer set of granular data can help internalize the impact of monetary policy actions on wealth distribution and ultimately lead to a more precise modelling of the transmission mechanism."

In this paper, we start by looking at the evolution of central banks' balance sheets, using information available on the Bank of Japan, Bank of England, the Federal Reserve of the United States (Fed), the Eurosystem and Banco de Portugal. We will complement this analysis with statistical data concerning: new business interest rates, corresponding credit amounts and credit growth rates granted to households and non-financial corporations. Additionally, we will use financial accounts and public debt data, in order to assess the impact of these QE measures on the public debt holder structure. The case of Banco de Portugal will serve to illustrate the multiple uses of micro data given the variety of databases managed by the Statistics Department as documented by Drumond and Lima (2016).

2. Unconventional monetary policy around the globe

Japan was a front-runner of unconventional monetary policy actions, embarking on a policy of quantitative easing in 2001, nowadays followed by major industrialized countries to tackle the recessionary turbulence after the recent global financial crisis (Kimura and Nakajima, 2013). Japan adopted quantitative easing measures in March 2001, in order to control deflation (Shirakawa, 2002). The central bank set the reference interest rate close to zero and increased liquidity in the financial system, purchasing government bonds and asset-backed securities (Pelin Berkmen, 2012), aiming at encouraging the banks to grant loans to the private sector.

In the United States, according to the Federal Reserve Monetary Policy Releases, there were essentially three unconventional monetary policy programmes: the first, which started in November 2008, was the purchase of agency debt, agency mortgage-backed securities and long-term Treasury securities; the second consisted in additional purchases of long-term Treasury bonds (November 2010, as announcement date) and the third comprised a purchasing programme of agency mortgage-backed securities and long-term Treasury securities (September 2012, as announcement date) (Rosengren, 2015). Similarly, these measures have been taken while interest rates were kept close to zero. When the economy showed signs of improvement the Fed decided to decelerate the quantitative easing programmes, in terms of purchasing assets, while maintaining low interest rates. At its December 2015 meeting, the Federal Open Market Committee (FOMC), the Federal Reserve's monetary policy committee, raised its target range for the federal funds rate by 25 basis points, marking the end of an extraordinary seven-year period during which the federal funds target range was held near zero to support the recovery of the U.S. economy from the worst financial crisis and recession since the Great Depression.

In the United Kingdom, the Bank of England decided, in March 2009, to lower interest rates to levels close to 0.5% in order to stimulate the economy. Since this reduction did not have the desired results, it was further created an asset purchase programme, specifically of public debt securities. Through this programme, the Bank of England succeeded in reducing the yields on government bonds and encouraged investment by investors to whom the central bank had acquired the securities (Joyce et al., 2011).

In the case of the European Central Bank (ECB) and the Eurosystem, three types of unconventional monetary policies have been carried out: LTRO (longer-term refinancing operations), TLTRO (longer-term refinancing operations targeted) and APP (Asset Purchase Programme). The APP includes the following programmes: Covered Bond Purchase Programme (CBPP – securitized bonds of mortgage loans and of the public sector), Asset-Backed Securities Purchase Programme (ABSPP – securitized bonds of loans granted to non-financial corporations), Public Sector Purchase Programme (PSPP for bonds issued by governments and international or supranational institutions located in the euro area) and, introduced in June 2016, the corporate sector purchase programme (CSPP). This programme aims at consolidating the pass-through effects of asset purchases to the real economy. In March 2016, before pursuing this new programme, the ECB announced a new series of targeted long-term refinancing operations (TLTRO II). The ECB decided to keep these programmes with progressive reductions in interest rates, cutting the benchmark interest rate to a new record in 2016, namely, to levels close to or at zero.

Monetary policies known as LTROs and TLTRO are open market operations, in which the ECB lends money to banks, requiring assets as collateral. The aim is to

encourage banks to facilitate lending to the private sector. According to DeMertzis and Wolff (2016), on a study on the effectiveness of the ECB's asset purchase programme, the LTRO programmes have been successful, while the TLTRO programme did not have the expected success, constraining the ECB to adopt new quantitative easing programmes in particular the APP. Since the creation of the APP, national central banks of the euro area and the ECB significantly increased the weight of public debt on their balance sheets (see Chapter 3).

3. Evidence from statistical data

3.1 Central banks's balance sheet

Accommodating the banking system's increased demand for liquidity and providing term funding has resulted in larger central banks' balance sheet. In the case of central bank interventions targeted at easing the credit conditions, it is the composition of the balance sheet's asset side that is of primary importance, in the sense that the assets on the balance sheet reflect the monetary authority's intention to ease conditions in specific markets. In this section we analyse the evolution and the impact of these measures in the balance sheets of the selected monetary authorities involved in setting this new type of monetary policy. Graph 2 illustrates the evolution of the assets, between 2005 and 2015, for the Bank of Japan, the Fed, the Bank of England and the Eurosystem.

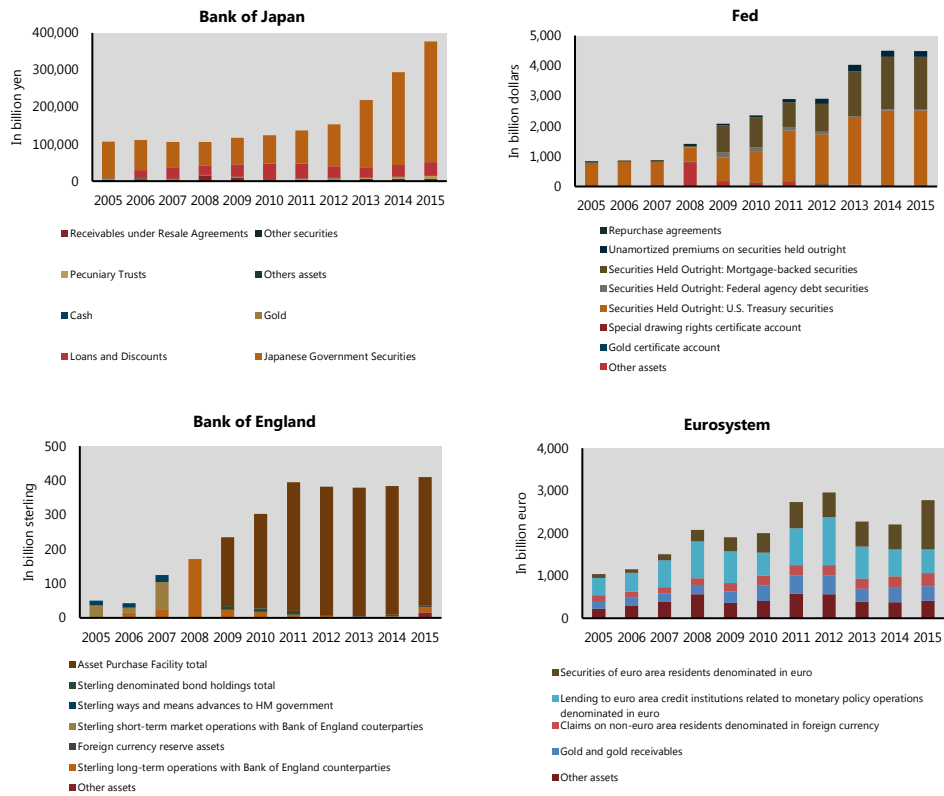
Starting with Japan, the balance sheet mirrors the massive purchases of securities issued by the Japanese government. The purchase of public debt securities reached the amount of 325 002 billion yen in 2015, which represented an increase of 361% when compared to 2007, around 75% of the Japanese GDP in 2015

In the United States, from 2009 onwards, the Fed's balance sheet reflects the effect of unconventional monetary policies measures adopted, namely the purchase of mortgage-backed securities, as well as US Treasury securities, reaching respectively 1 747 billion dollars and 2 462 billion dollars in 2015. When compared with 2009, the stock of Securities Held Outright (mortgage-backed securities) increased 92% and the purchase of US Treasury securities 217%.

For the Bank of England, it is noteworthy the impact of the Asset Purchase Facility programme starting in 2009. At the end of 2015, the amount held in the portfolio of the central bank was 375 billion pounds, representing an increase of 88% when compared to 2009².

² For the purpose of the analysis, from 2009 to 2012, it was considered in the instrument "Asset Purchase Facility Total" the amount not covered by the Bank of England weekly report regarding quantitative easing.

Graph 2 | Balance sheets – assets side

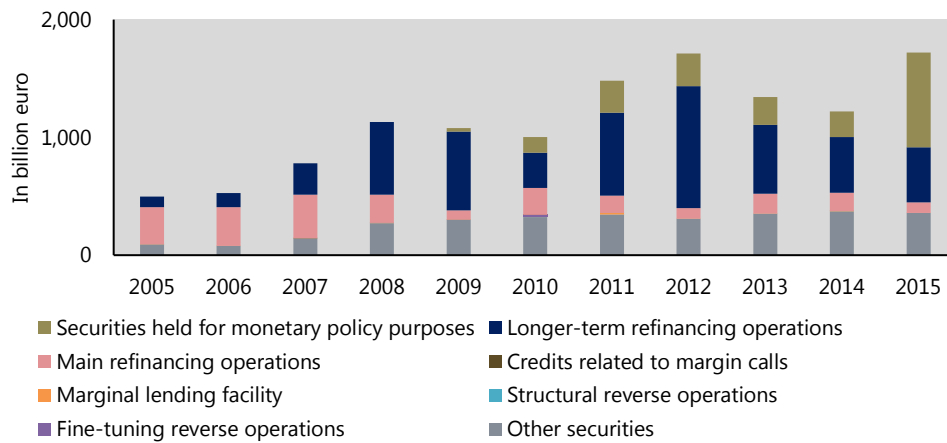


Source: European Central Bank; Board of Governors of the Federal Reserve System; Bank of Japan; Bank of England

In the case of the Eurosystem, we can observe the impact of LTRO in 2008, 2011 and 2012, also observed in graph 3, through the increase of long-term refinancing operations, which was reduced in 2013 and 2014, with the repayment made by banks.

In 2008, the component *“Lending to euro area credit institutions related to monetary policy operations denominated in euro”* amounted 860 billion euros, an increase of approximately 111% over 2005. Similarly, in 2008, it is visible the purchase of euro-denominated covered bonds under the Covered Bond Purchase Programme by the ECB, which contributed to an increase of 179 billion euros in *“Securities of euro area residents denominated in euro”* compared to 2005. In 2014, the ECB undertook additional policy measures, namely the TLTRO and a new purchase programme of covered bond and asset-backed securities purchase programme. However, the impact on the balance sheet of the Eurosystem was not significant as shown in Graph 2. In 2015, the ECB's balance sheet increased significantly again, as a result of the new debt purchase programme, which further raised the item *“Securities of euro area residents denominated in euro”*, which includes government bonds purchased under the PSPP, by 571 billion euros from 2014 to 2015. Graph 3 details the monetary policy operations denominated in euro carried by the Eurosystem by type.

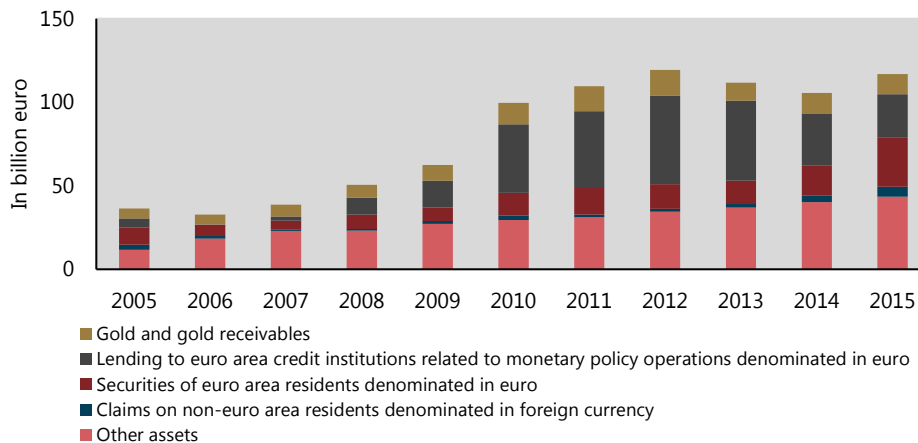
Graph 3 | Monetary policy operations denominated in euro – Eurosystem



Source: European Central Bank

In the case of Banco de Portugal, it is noteworthy the trend observed since 2009, with a sharp increase in component “Lending to euro area credit Institutions related to monetary policy operations denominated in euro” (Graph 4). In 2015, it is worth noting the increase in “Securities of euro area residents denominated in euro” held by Banco de Portugal compared with 2005 (182%), which was strongly influenced by the purchase of government bonds under the PSPP.

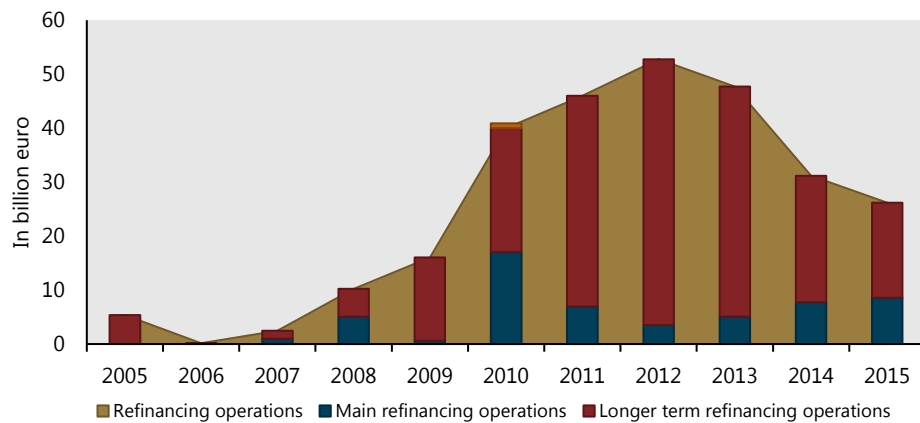
Graph 4 | Banco de Portugal – assets side



Source: Banco de Portugal

Graph 5 details the refinancing operations carried by Banco de Portugal by type, where it can be observed the predominance of long-term refinancing operations.

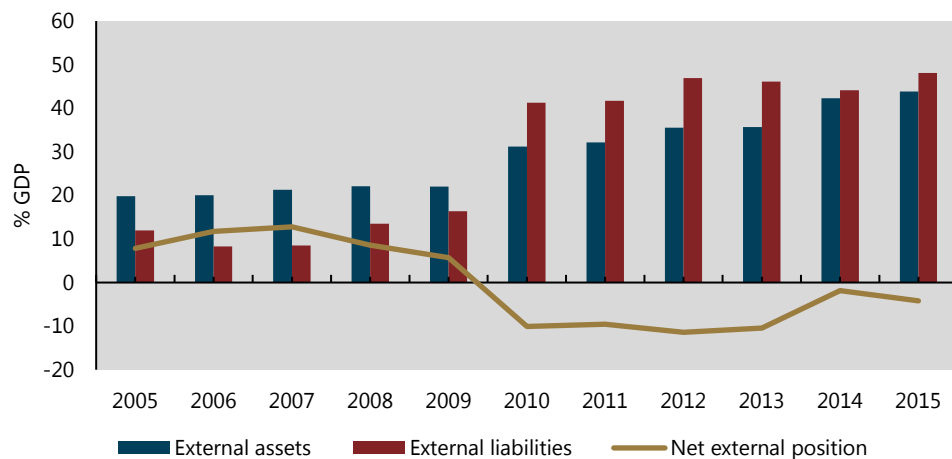
Graph 5 | Banco de Portugal – refinancing operations



Source: Banco de Portugal

The monetary policy operations conducted by Banco de Portugal in the context of the Eurosystem also had a significant impact in terms of the Bank's net external position, as measured in the framework of external statistics and the international investment position data. As Branco *et al.* (2015) illustrate, until 2009, Banco de Portugal exhibited a positive net external position; from 2010 onwards the net external position is negative (Graph 6). Nonetheless, it is possible to identify two distinct phases: first, 2010-2012, where the growth of external liabilities is not accompanied by an increase in the external assets at the same pace, thus leading to a deterioration of the net external position; and second, 2013-2014, where we can observe a decrease of external liabilities, thus contributing to an improvement of the net external position, reaching towards the end-2014 a relatively balanced record, which, in 2015, deteriorated a bit further.

Graph 6 | Banco de Portugal – net external position



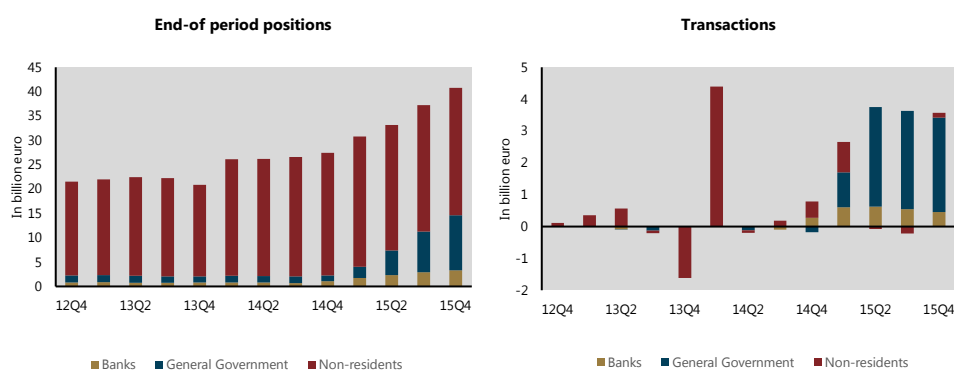
Source: Banco de Portugal

This evolution reflects the role of the central bank as an intermediary in the Eurosystem in financing resident banks – which is recorded as a liability of Banco de Portugal against the Eurosystem and as an asset against the resident banks. In fact, according to the Banco de Portugal's Annual Reports (2010-2013), "In 2010 there was an increase in positions relating to monetary policy operations. This reflects the current market situation, which is marked by a continued increase in the demand for liquidity in the money market. In a context of financial market instability, liquidity management by Portuguese credit institutions, like in other countries, continued to be translated into

high primary liquidity demand throughout the whole year, evidenced by a sharp rise in the relative value of the main refinancing operations and longer-term refinancing operations. The increase in claims related to monetary policy operations during the review period also reflects a rise in the portfolio of securities held for monetary policy purposes. The growth of claims related to monetary policy operations causes a very sharp rise in the Bank's intra-Eurosystem liabilities." As for 2013, "The total (net) balance of monetary policy operations, carried out within the framework of the Eurosystem, recorded a significant reduction in 2013 compared with 2012 (€-5 956 million), reversing the growth trend seen in the past few years. The significant decline in the amount outstanding of these operations was chiefly due to the decrease in the provision of liquidity to domestic credit institutions (€-4 920 million) in the context of the deleveraging process of their balance sheets."

As mentioned earlier, from the analysis of Graph 4 it is noteworthy an increase of debt securities held by Banco de Portugal in 2015. Graph 7 illustrates that this resulted from the purchase of domestic government bonds. These securities were acquired under the Eurosystem's PSPP. These data is available from the financial accounts dataset, with counterpart data published by Banco de Portugal since April 2016, from 13Q4 onwards (see also section 3.3). It remains to be seen the impact stemming from the CSPP launched in June 2016.

Graph 7 | Debt securities held by the Banco de Portugal by counterpart sector



Source: Banco de Portugal

3.2 Interest rates and credit growth

In a context of historically low interest rates and monetary policy measures aiming at promoting credit easing, statistical data on banking interest rates and credit developments are key to assess the impact of such measures. With aggregate data alone, policy makers miss lots of valuable information, namely the underlying distribution "hidden" behind the simple average.

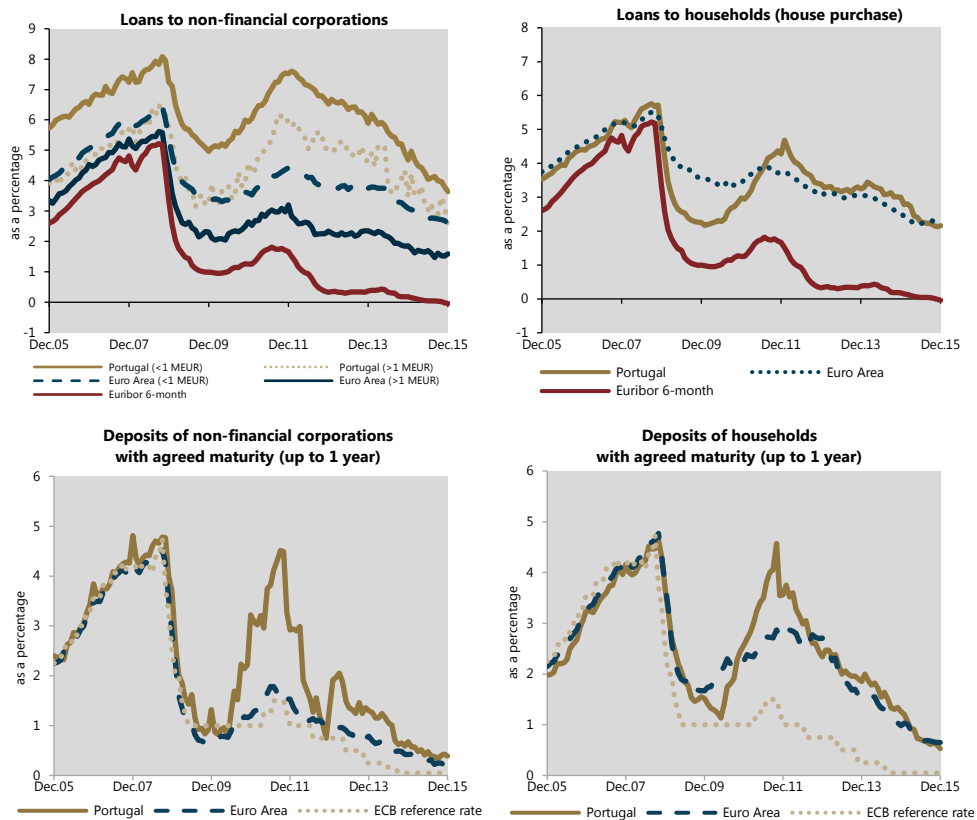
In this section, we use "MFI interest rate statistics" that cover all interest rates that monetary financial institutions (MFIs) resident in the euro area – except central banks and money market funds – apply to euro-denominated deposits from and loans to households and non-financial corporations resident in the euro area, both for new business and outstanding amounts³.

³ The legal requirements for MFI interest rate statistics were originally laid down in Regulation ECB/2001/18, which was recast by Regulation ECB/2013/34 (amended by Regulation ECB/2014/30). MFI interest rate statistics refer to interest rates individually agreed between a bank and its customer and are converted to an annual basis taking into account the frequency of interest payments, while being quoted

In the case of Portugal, the cost of loans to households has slightly decreased since 2012. At the end of 2015, interest rates (house purchase) were below the levels of the euro area. Similarly, since 2012, the cost of loans to non-financial corporations (NFCs) has been gradually decreasing (Graph 8). In December 2015, interest rates on new loans to NFCs were the lowest since the start of the data collection. In turn, spreads implied in these rates, using the six-month Euribor as the reference rate, stood at levels close to those of the period immediately before the sovereign debt crisis, but above those prevailing until 2008.

The decline in interest rates on new loans mainly reflects the monetary policy pursued by the ECB. In addition, the spread between average interest rates on new loans to NFCs in Portugal and the euro area has narrowed, although it remains considerably above the levels seen before 2008 (Graph 8). This convergence reflects, at least partly, decreased constraints on corporate financing – which had been the result of tighter policies on the supply of bank loans during the crisis period – and a gradual improvement in economic activity, contributing to a higher credit quality for firms (Banco de Portugal, 2016).

Graph 8 | Banking interest rates – Loans and deposits (new business) – Portugal



Source: Banco de Portugal and European Central Bank

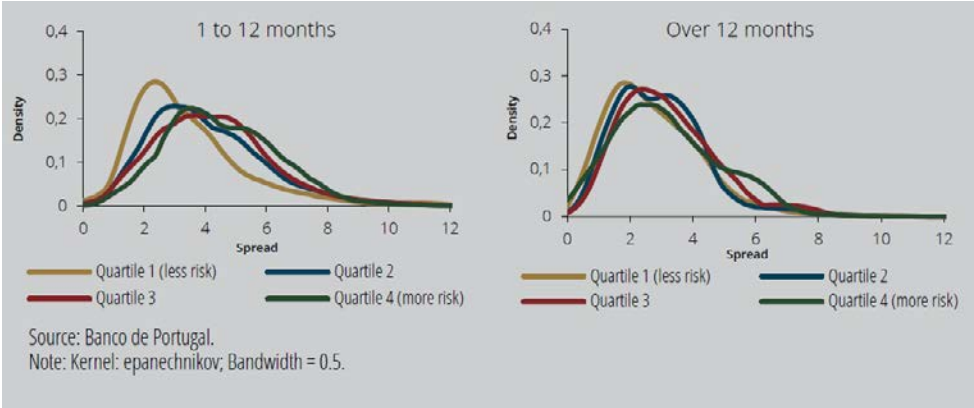
Following a data request in the context of the Economic and Financial Assistance Programme to Portugal and, to better assess current credit conditions of the non-

in percentages per annum. New business is defined as any new agreement between a household or non-financial corporation and the bank. These comprise all financial contracts in which the terms and conditions of the interest rate on the deposit or loan are specified for the first time, and all new negotiations of existing deposits and loans. Prolongations of existing deposit and loan contracts which are carried out automatically, i.e. without any active involvement of the household or non-financial corporation, and which do not involve any renegotiating of the terms and conditions of the contract, including the interest rate, are not considered as new business.

financial corporations and monetary policy transmission, Banco de Portugal started collecting individual data on new bank loans and respective interest rates. This database covers all new operations starting with reference period December 2014 (in its initial stage it was limited to banks with volumes of €50 million or higher). Combining these individual data with reference data and data available in other databases, we are able to study how interest rates vary according to the characteristics of the firms. In this respect, one of the main determinants of the interest rate applied to each firm is the credit risk associated to it. In fact, Banco de Portugal has recently taken decisive steps towards further exploring the informational potential of its own Central Credit Register (CCR) and balance sheet databases in an ongoing project that aims at creating an in-house credit assessment system, thus attributing a credit notation to each firm (Neves, 2014).

The relation between risk and interest rates on new loans to non-financial corporations was analysed in the latest Financial Stability Report, published by Banco de Portugal in May 2016. In order to assess the relationship between the level of risk of NFCs and the spreads on new loans, NFCs were divided into four classes according to their risk of default. From this breakdown, by comparing the distribution of spreads on new loans by risk class for the 2013-15 period, it was possible to assess the differentiation of rates between levels of risk. The analysis concludes that in 2015, the highest rates were generally associated with higher-risk firms (Graph 9).

Graph 9 | Average spreads on new bank loans to NFCs – Loans by maturity and risk quartile in 2015 – Portugal

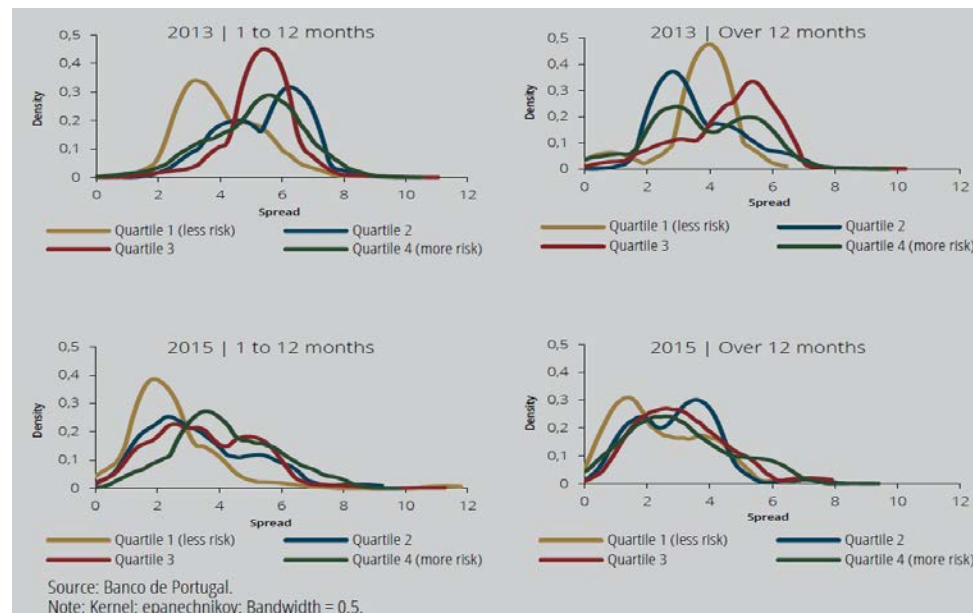


Source: Banco de Portugal, Financial Stability Report, May 2016

The degree of differentiation seems smaller for longer maturities. Additionally, recent data point to a decline in interest rates on new loans for NFCs with both low and high credit risk, as suggested by the shift to the left of interest rate distributions.

Graph 10 illustrates that for new loans of over €1 million, the differentiation between risk classes in 2015 was greater than in 2013. This effect is particularly relevant in loans with longer maturities, where the apparent absence of differentiation in 2013 is in contrast with the risk differentiation observed in 2015.

Graph 10 | Average spreads on new bank loans to non-financial corporations – loans of over 1 million euro by maturity and quartile in 2013 and 2015 – Portugal

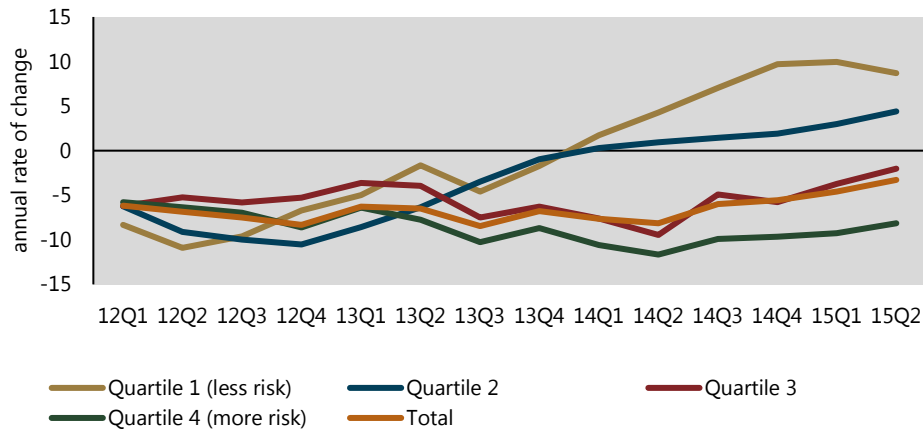


Source: Banco de Portugal, Financial Stability Report, May 2016

Given that underlying the definition of quartiles is a credit risk assessment that already takes into account enterprise size, large enterprises alone do not justify the pattern observed. An analysis of loans of up to €1 million shows an apparent risk differentiation in 2013 and 2015, but also a gradual blurring of the distinction between quartiles with lower risk, which corroborates the indicators that have more recently pointed to greater competition by medium-risk firms. Summing up, evidence points to the existence of a differentiation in risk premia on new loans to NFCs. Risk differentiation is more noticeable in loans with a maturity of up to one year, particularly those of over €1 million.

Turning the attention to annual growth rates for loans (in terms of end-of period positions), Drummond and Lima (2016) conclude that, on aggregate, Portuguese banks are granting credit mostly to less risky firms (see Graph 11), suggesting that the overall reduction in the credit supply, confirmed by the negative year-on-year growth rates for NFCs as a whole, may have been part of a “flight to quality” in lending. Ferrando et al. (2015), on an investigation of the effect of sovereign stress and of unconventional monetary policy on small firms’ financing patterns during the euro area debt crisis, found that after the crisis started, firms in stressed countries were more likely to be credit rationed, both in the quantity and in the price dimension, and to increase their use of debt securities. However, unlike the evidence suggested from Portuguese data, the authors concluded that more transparent and creditworthy firms in the euro area experienced a relatively larger decline in credit access, suggesting that the overall reduction in the credit supply was not part of a “flight to quality” in lending.

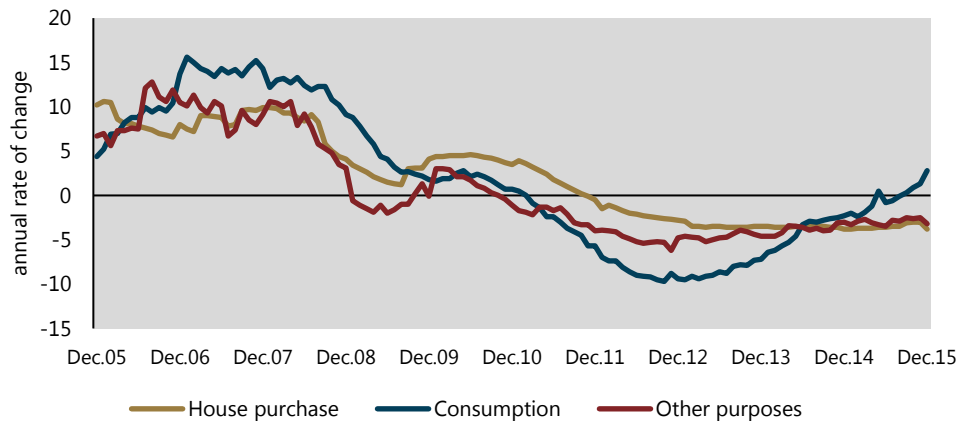
Graph 11 | Loans to NFCs by risk category – Portugal



Source: Banco de Portugal

Also in the case of households, micro data can be of use in order to better understand the driving forces behind the aggregates. Graph 12 shows the growth rate of loans to households; after several years of negative growth across all purposes, it is noticeable that consumption loans are picking up at a relatively steady pace, exhibiting already a positive annual rate of change, while housing loans are still decreasing. In this respect, we could consider an additional breakdown of the data presented, according, for example, to the main characteristics of the borrowers: age, education, occupation, source of income, indebtedness, wealth, etc. So far, this data is not available at Banco de Portugal.

Graph 12 | Bank loans to private individuals by purpose – Portugal



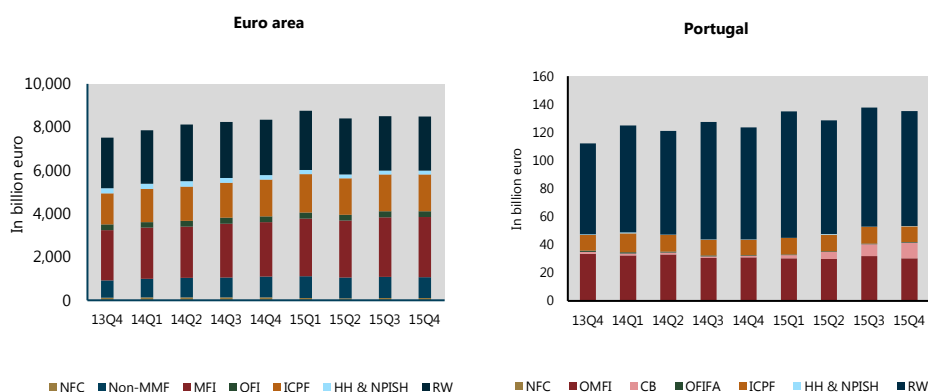
Source: Banco de Portugal

Complementarily, Household Survey Data can also be relevant to better understand the impact of unconventional monetary policies on income distribution. Frost and Saiki (2014) find evidence that, in the case of Japan, the impact of the portfolio channel of unconventional policies have increased income inequality. According to the authors the mechanism is straightforward: an increase to the monetary base (through purchases of both safe and risky assets) tends to increase overall asset prices, which will benefit primarily upper incomes, who hold a larger amount and share of overall savings in equities, and thus benefit from greater capital income.

3.3 Public debt holder structure

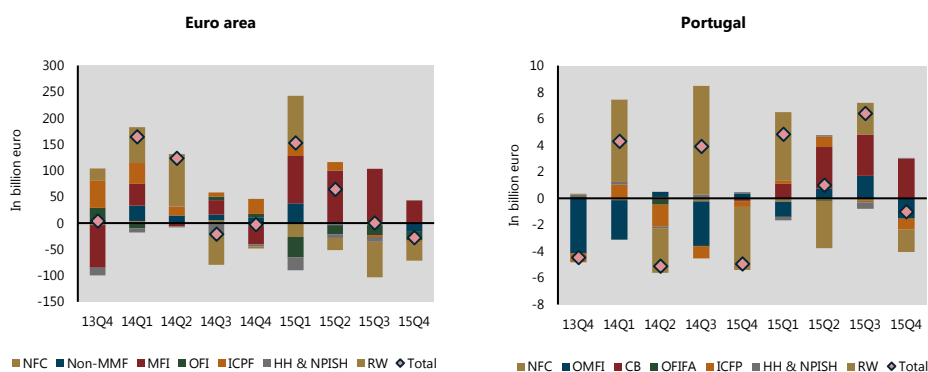
Following the introduction of public sector purchase programmes, central banks emerge as key investors in government debt. The availability of detailed statistical data, not only from the perspective of the assets of the central bank, but also from the perspective of the liabilities of the general government – the so-called from-whom-to-whom approach – becomes thus extremely relevant.

Graph 13 | Debt securities issued by general government, breakdown by holder (end-of period positions)



Source: Banco de Portugal and European Central Bank

Graph 14 | Debt securities issued by general government, breakdown by holder (transactions)



Legend: NFC - Non financial corporations; MFI - Monetary financial institutions; CB – Central Bank; Non-MMF - Non MMF investment funds; OFI - Other financial institutions (Financial corporations other than MFIs, insurance corporations, pension funds and non MMFs investment fund); OFIFA - Other financial institutions (Financial corporations other than MFIs, insurance corporations and pension funds); ICPF - Insurance corporations and Pension Funds; HH & NPISH - Households and non-profit institutions serving households; RW – Rest of the World.

Source: Banco de Portugal and European Central Bank

In Graphs 13 and 14 we use data available in the framework of the quarterly financial accounts, Guideline (EU) 2016/66 of the ECB of 26 November 2015 amending Guideline ECB/2013/24 on the statistical reporting requirements of the ECB in the field of quarterly financial accounts (ECB/2015/40). Starting with data from end-2013 onwards, it is possible to breakdown of debt securities issued by the general government according to the ESA2010 sector classification of the holder. However, given that the banking sector is considered as a whole, it is not possible, in the context of the current guideline, to separate the holdings of the central bank from those of the other banks. Nevertheless, this detail is currently published by Banco de Portugal. In addition, for holdings by the non-resident sector, it is not possible to identify the share held by other central banks. Possibly, this is a limitation that can be overcome in the context of the Securities Holdings Statistics Database, a European System of

Central Banks (ESCB)-wide project with the objective of collecting security-by-security holdings by institutional sectors of euro area/EU reporting countries for both direct holdings and indirect holdings (third party holdings).

This type of data will also be instrumental to assess the impact of the CSPP launched in June 2016 by the ECB.

4. Concluding remarks

In the aftermath of the financial crisis that started in 2007-2008, central banks around the world moved beyond their traditional operating framework to make use of their balance sheets as a monetary policy tool. The quantitative easing transmission channels are very diverse: confidence, policy signalling, portfolio rebalancing, market liquidity and money/lending (Joyce et al., 2011).

In order to thoroughly understand these transmission mechanisms and better define the monetary policy measures, there is thus a call from monetary policy makers for unconventional data, which is not aggregate but granular, i.e., micro data. As highlighted by a Member of the Executive Board of the ECB, "conducting this kind of unconventional monetary policy is rather difficult when decisions have to be taken on the basis of conventional data, i.e. traditional aggregate statistics."

Furthermore, the degree of interconnection and integration of the economies and the markets worldwide calls for the extension of such initiatives at the international level. In this respect, the following cases are worth mentioning:

1. The Analytical Credit Dataset (AnaCredit). Efforts of conceptual harmonisation and convergence across the EU have already started regarding the CCRs. In order to get a better overview of the level of indebtedness of the borrowers in an environment of increasing financial integration across European Union Member-States, the overarching aim of this ESCB project is the setting up of a long-term framework for the collection of harmonised granular credit data.
2. The Securities Holdings Statistics Database (SHSDB). SHSDB is an ESCB-wide project with the objective of collecting security-by-security holdings by institutional sectors of euro area/EU reporting countries for both direct holdings and indirect holdings (third party holdings).
3. The Legal Entity Identifier (LEI). LEI is a 20-character, alpha-numeric code, to uniquely identify legally distinct entities that engage in financial transactions. The LEI code is associated with reference data for each entity, currently including core identification information, such as the official name of the legal entity, the address of its headquarters and address of legal formation. As a result of joint public and private sectors efforts, the LEI supports authorities and market participants in identifying and managing financial risks.

In statistics, like in many other areas, there is the need for continuous improvement and innovation. A stepwise approach is not only wise but the most realistic to be followed.

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Eighth IFC Conference on *“Statistical implications of the new financial landscape”*

Basel, 8–9 September 2016

Unconventional monetary policy – is there a call for unconventional statistics?¹

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Bank of Portugal

¹ This presentation was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

Unconventional monetary policy - is there a call for unconventional statistics?



BANCO DE PORTUGAL
EUROSYSTEM

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8 September 2016

8th IFC Conference, “Statistical implications of the new financial landscape”

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Outline

I. Background

II. Unconventional monetary policy around the globe

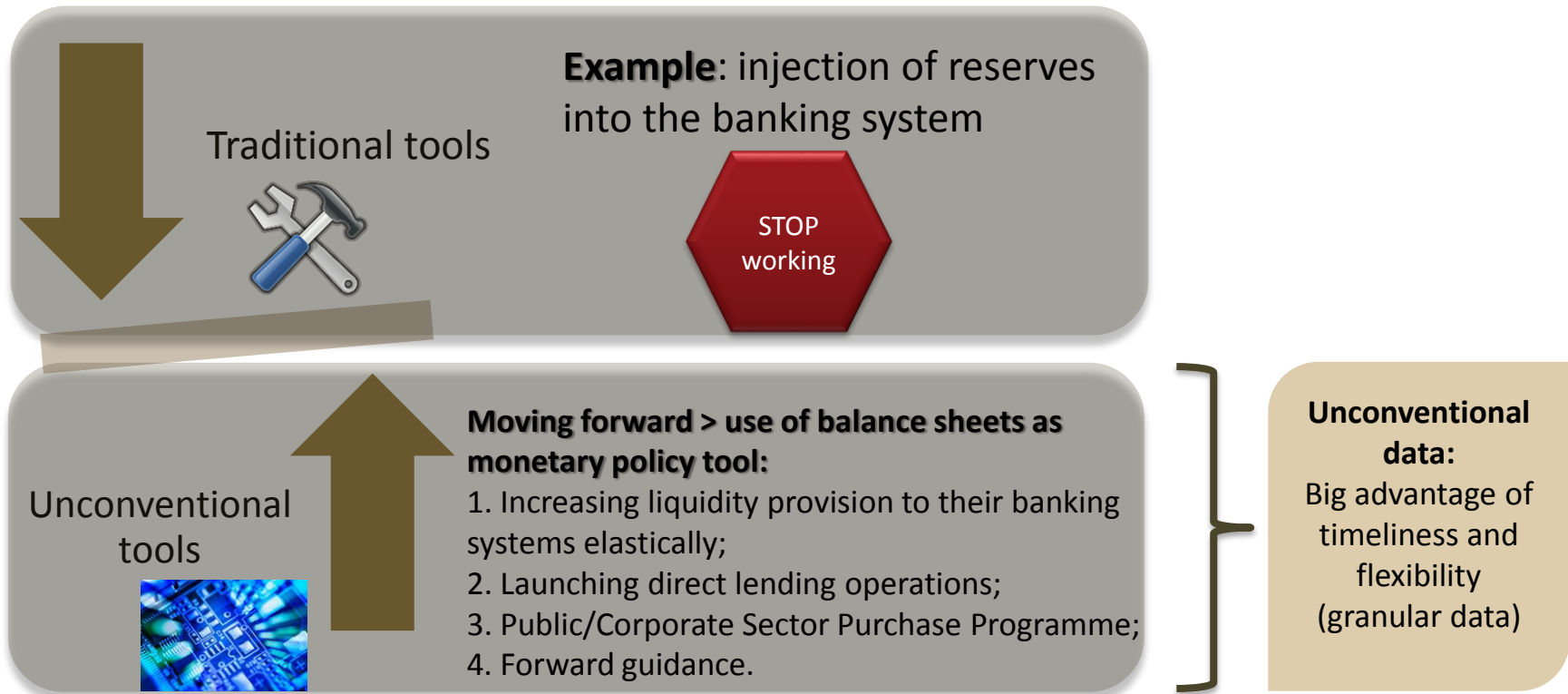
III. Evidence from statistical data:

1. Central banks' balance sheet
2. Interest rates and credit growth
3. Public debt holder structure

IV. Conclusions



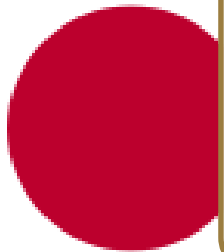
- **Central banks** conduct monetary policy to achieve their goals, influencing financial and macroeconomic conditions.





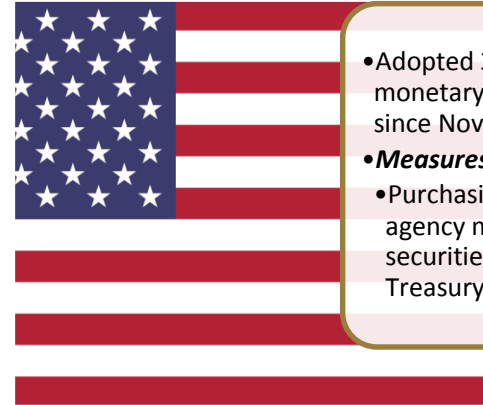
II. Unconventional monetary policy around the globe

Bank of Japan



- Adopted quantitative easing in March 2001
- **Measures:**
 - Purchasing government bonds and asset-backed securities.

Fed



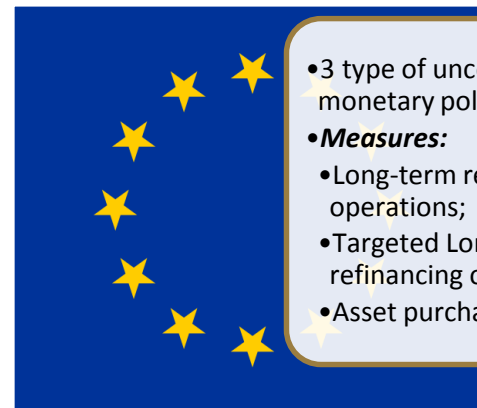
- Adopted 3 unconventional monetary policy programmes since November 2008
- **Measures:**
 - Purchasing agency debt, agency mortgage-backed securities and long-term Treasury securities.

Bank of England



- Adopted quantitative easing in March 2009
- **Measures:**
 - Asset purchase programme, specifically of public debt securities.

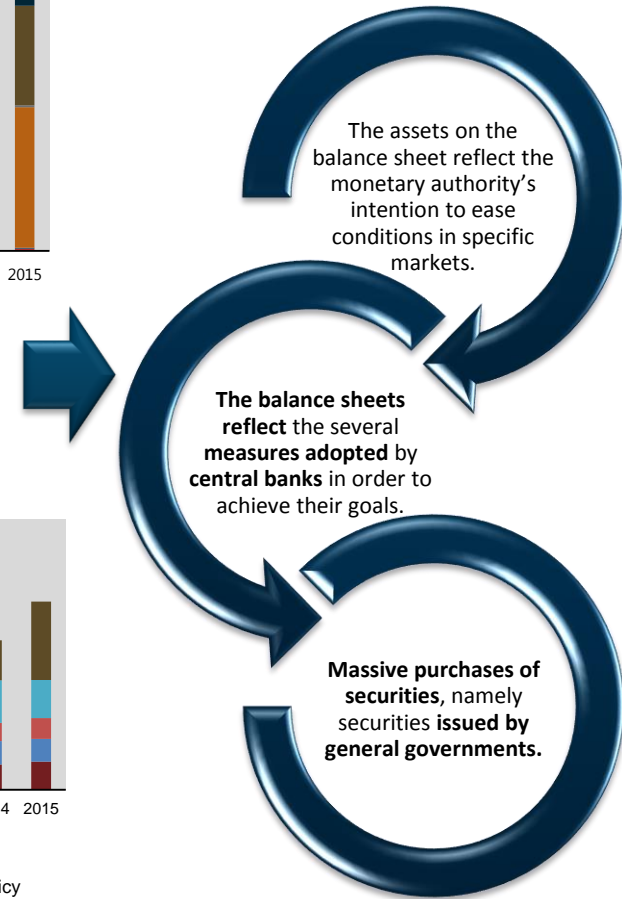
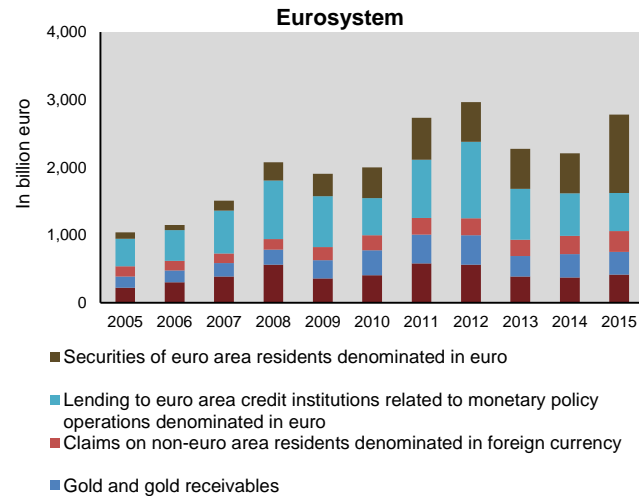
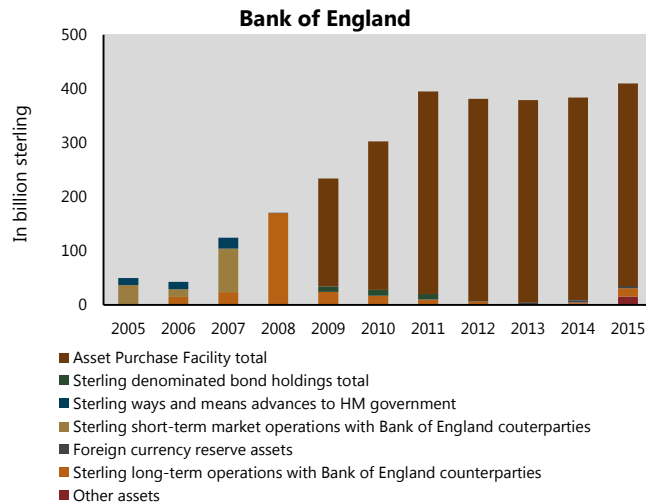
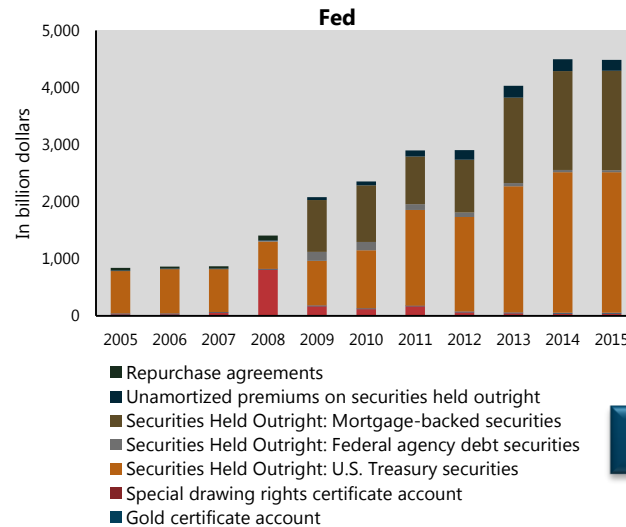
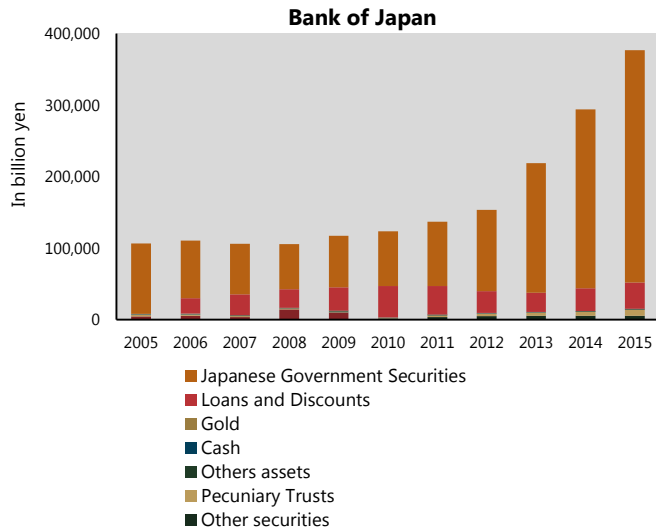
Eurosystem



- 3 type of unconventional monetary policy (since 2009)
- **Measures:**
 - Long-term refinancing operations;
 - Targeted Long-term refinancing operations;
 - Asset purchase programme.



The change in the composition of the balance sheet's asset side

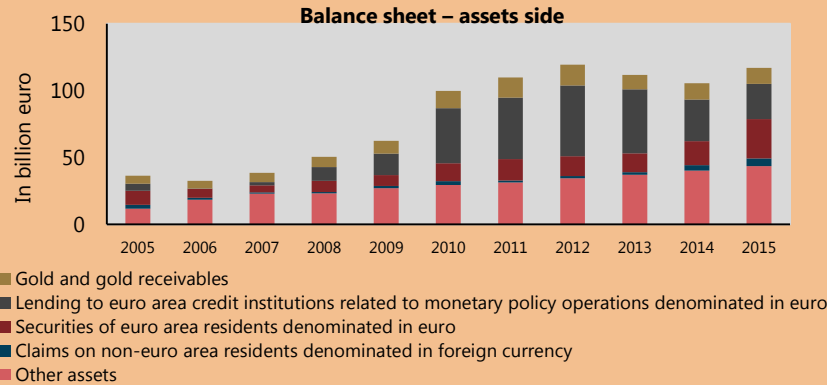


Source: European Central Bank; Board of Governors of the Federal Reserve System; Bank of Japan; Bank of England

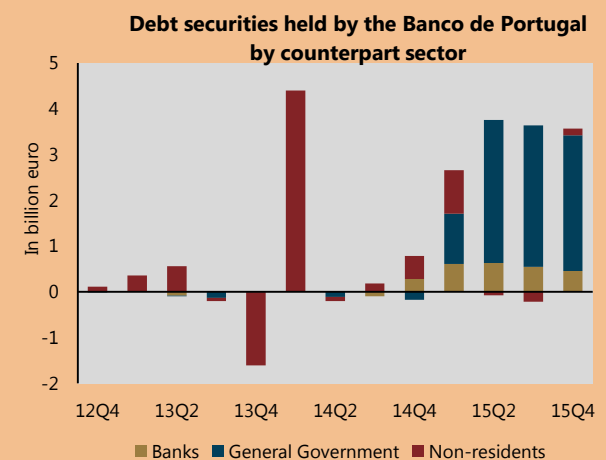
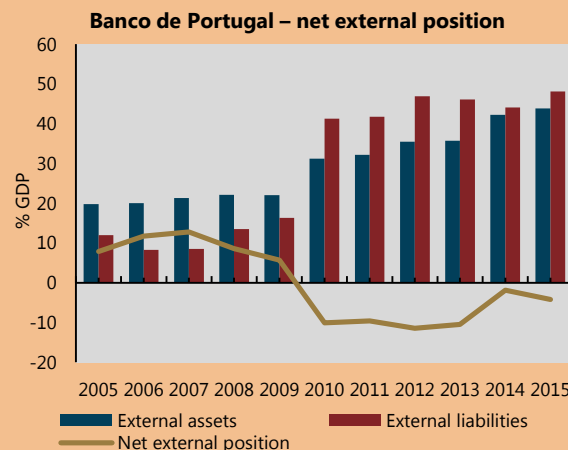
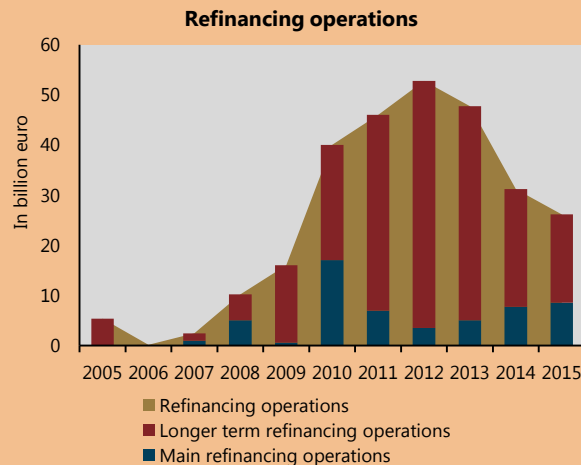


The change in the composition of the balance sheet's asset side – Portuguese case

Looking to the aggregate



Looking to the granular data



Since 2009: sharp increase in "Lending to euro area credit Institutions related to monetary policy operations denominated in euro"

Predominance of long-term refinancing operations

The Central bank acts as an intermediary in the Eurosystem, financing resident banks

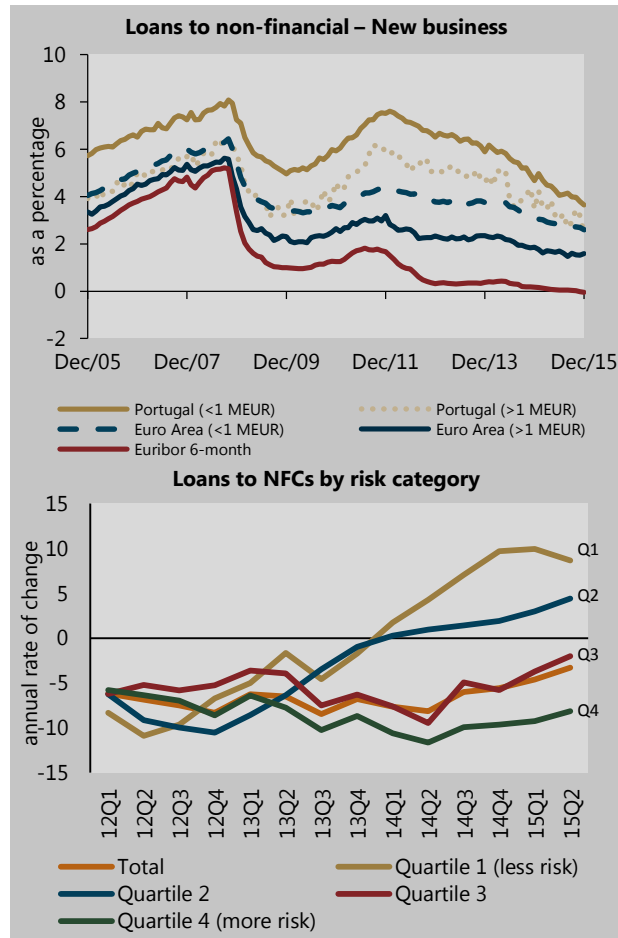
In 2015: increase of "Securities of euro area residents denominated in euro"

Purchase of domestic government bonds

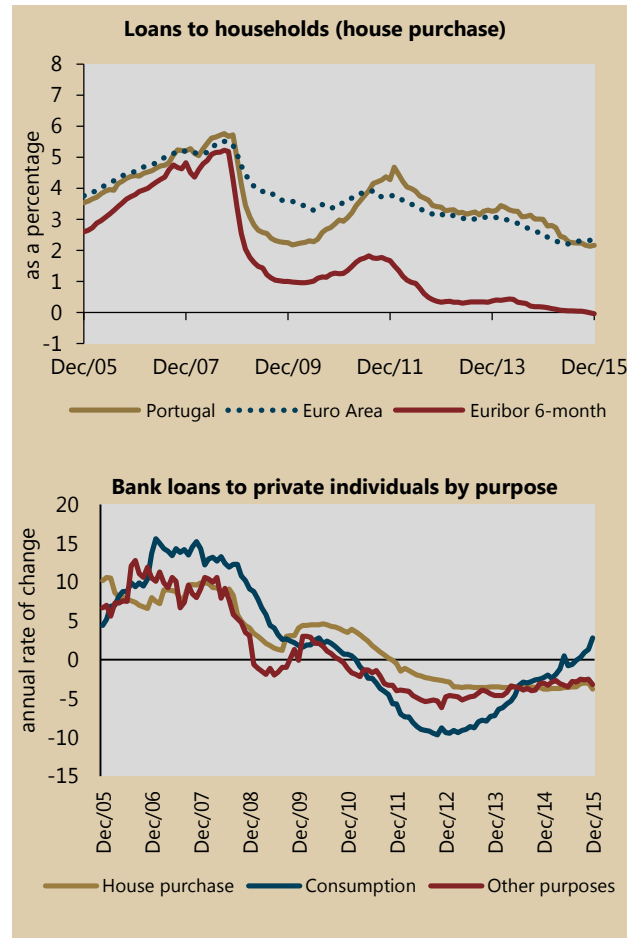


Micro data can be of use in order to better understand the driving forces behind the aggregates

Non-Financial Corporations



Households



The decline in interest rates on new loans mainly reflects the monetary policy pursued by the ECB

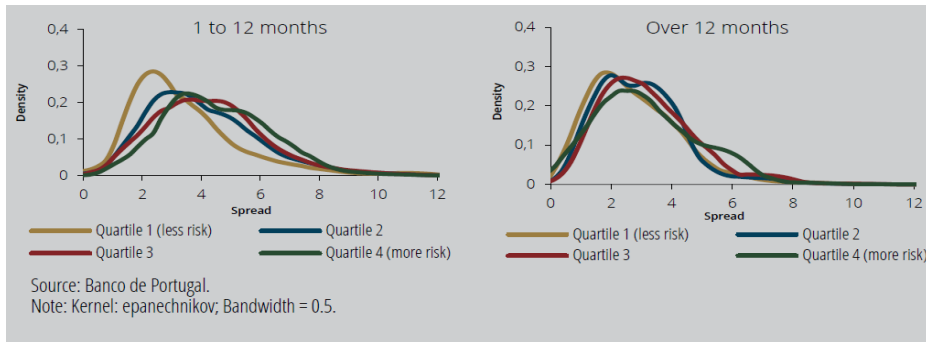
Banks are granting credit mostly to less risky firms

Consumption loans exhibit a positive annual rate of change; Housing loans are still decreasing



The relation between risk and interest rates on new loans to NFC - Portugal

Average spreads on new bank loans to NFCs – Loans by maturity and risk quartile in 2015

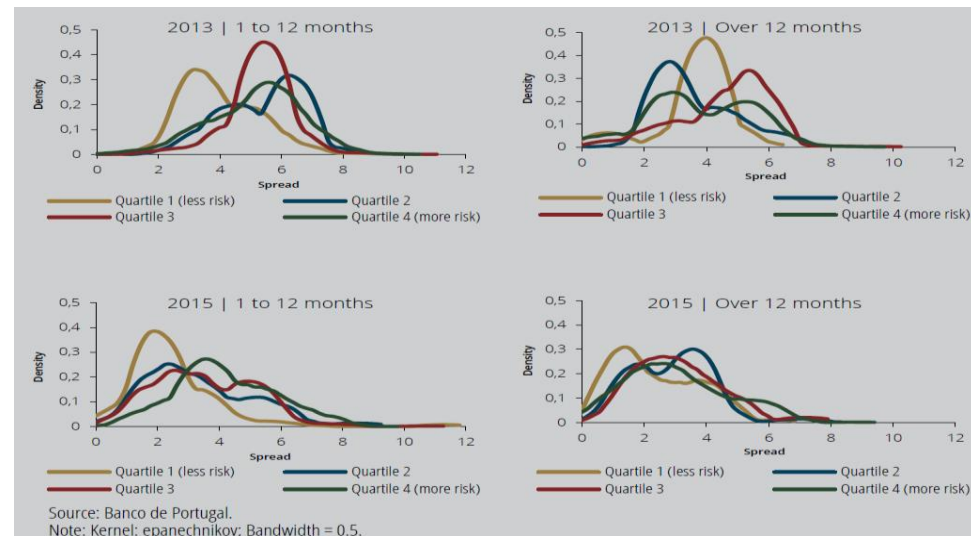


In 2015, the highest rates were generally associated with riskier firms.

The degree of differentiation seems smaller for longer maturities.

Average spreads on new bank loans to non-financial corporations – loans of over 1 million euro by maturity and quartile in 2013 and 2015

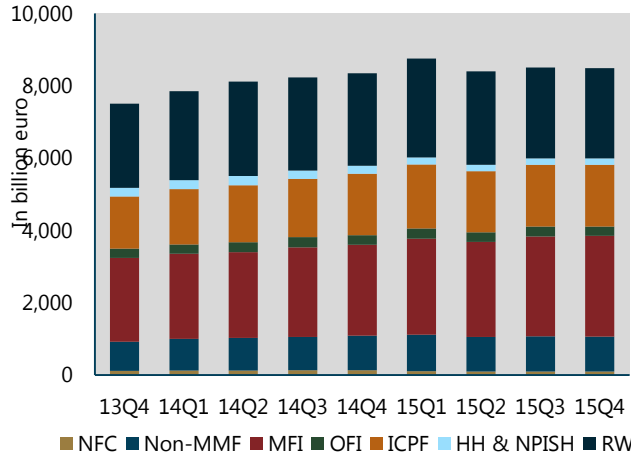
Over €1 million, the differentiation between risk classes in 2015 was greater than in 2013, namely in longer maturities.



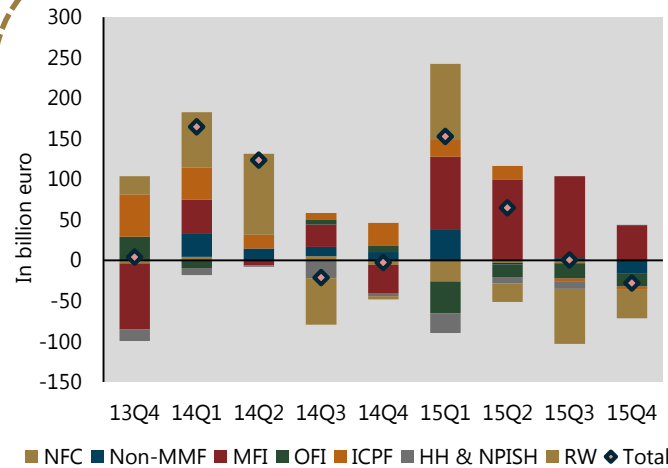


From who-to-whom approach: who's buying public debt?

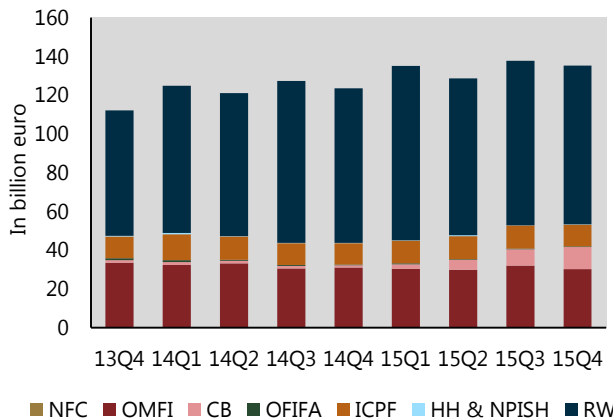
Euro area – outstanding amount



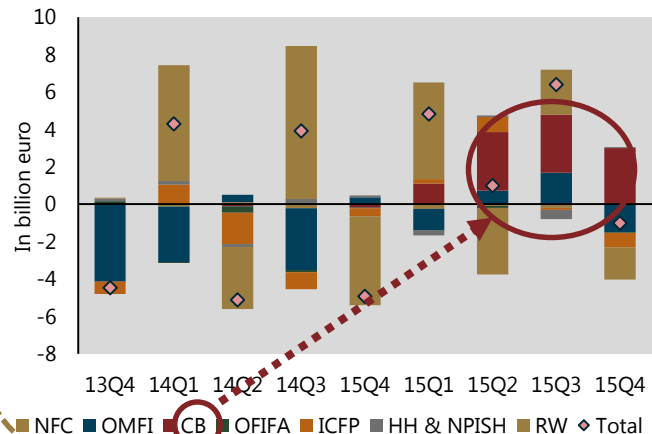
Euro area - transactions



Portugal – outstanding amount



Portugal - transactions



The banking sector is considered as a whole, in the context of the current ECB guideline > **this detail is currently published by Banco de Portugal.**

For holdings by the non-resident sector, it is not possible to identify the share held by other central banks > **overcome this limitation using the Securities Holdings Statistics Database.**



- **In the aftermath of the financial crisis**, central banks moved beyond traditional operating framework using their **balance sheets as monetary financial tool**.
- **Quantitative easing transmission channels:**



Confidence



Policy signalling



Portfolio
rebalancing



Market liquidity



Money/lending

- **Need for continuous improvement and innovations in statistics:**
 1. The Analytical Credit Dataset (AnaCredit);
 2. The Securities Holdings Statistics Database (SHSDB);
 3. The Legal Entity Identifier (LEI).



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8 September 2016