



IFC-National Bank of Belgium Workshop on "*Data needs and Statistics compilation for macroprudential analysis*"

Brussels, Belgium, 18-19 May 2017

Panel presentation  
Statistical reporting and macroprudential analysis:  
Banco de Portugal experience<sup>1</sup>

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

# Statistical Reporting and Macroprudential Analysis: Banco de Portugal experience



BANCO DE PORTUGAL  
EUROSYSTEM

**Pedro Duarte Neves** • Banco de Portugal Vice-Governor  
Brussels, 19 May 2017

**Workshop on “Data needs and statistics compilation for macroprudential analysis”**  
Jointly organized by the BIS Irving Fisher Committee on Central Bank Statistics and National Bank of Belgium

## Panel discussion

Chair:

- **Marcia De Wachter**, Executive Director, Member of the Board of the National Bank of Belgium

Panellists:

- **Claudia Buch**, IFC Chair and Vice President, Deutsche Bundesbank
- **Pedro Duarte Neves**, Vice Governor, Bank of Portugal
- **Philip Lane**, Governor, The Central Bank of Ireland
- **Jan Smets**, Governor of the National Bank of Belgium and former IFC Chair



- 1. Financial crisis aftermath and macroprudential policy**
- 2. BdP experience on micro-databases**
- 3. BdP experience on using granular information for macroprudential purposes**
- 4. Looking ahead**



### **The financial crisis has shown the importance of:**

- sharing key information across banking, insurance and financial markets supervisors;
- complementing macro-data with micro-data.

### **The objective is to:**

- better monitor the risks to financial stability;
- signal when a specific macroprudential instrument should be activated;
- evaluate the impact of macroprudential policy.



### Examples of BdP micro-databases

#### Central Credit Register (CCR)

Enabled BdP to compile comprehensive statistics on credit, to assess credit concentration and distribution and to measure overdue loans and overdue loans' ratio, with a view to better understand the risks underlying bank's balance sheet.

#### Central Balance Sheet Database (CBSD)

Gives a complete view on non financial corporations assets and liabilities allowing the BdP to monitor and conduct detailed studies on businesses and entrepreneurial dynamics.

#### Securities Statistics Integrated System (SSIS)

A powerful tool to measure exposures of banks and non-banks to specific issuers and in complement with the CCR give a more complete overview of the indebtedness of the economy.



## **BdP experience in fostering the use of granular information for macroprudential purpose**

- **Loans to non-financial corporations**
- **Real estate loan-by-loan information**
- **In-house credit assessment system (ICAS)**
- **Research Laboratory on Microdata (BPLim)**



### 3.1

### Loans to non-financial corporations

#### Micro-data

Data Sources: Central Credit Register (CCR) and Central Balance Sheet Database (CBSD)

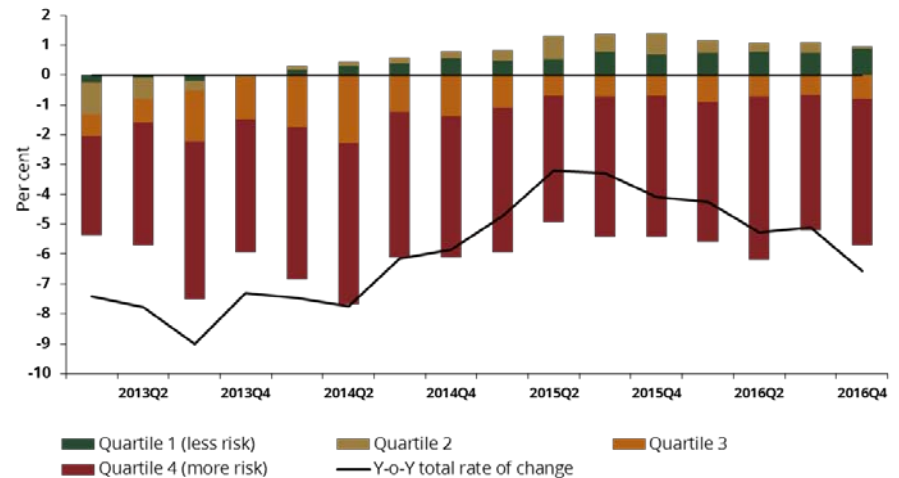
CCR is a database containing granular information on credit on a borrower-by-borrower basis and, in some cases, including details which provide loan-by-loan information, with a virtually complete coverage. CBSD contains yearly balance sheet information on firms with almost complete coverage.

#### Data Treatment

Loans to NFC were distributed among quartiles, according with the respective risk class, with quartile 1 corresponding to the less risky NFC.

#### Macroprudential use

Disaggregate the evolution of total loans to NFC in order to grasp if there has been different evolutions according to risk profiles.



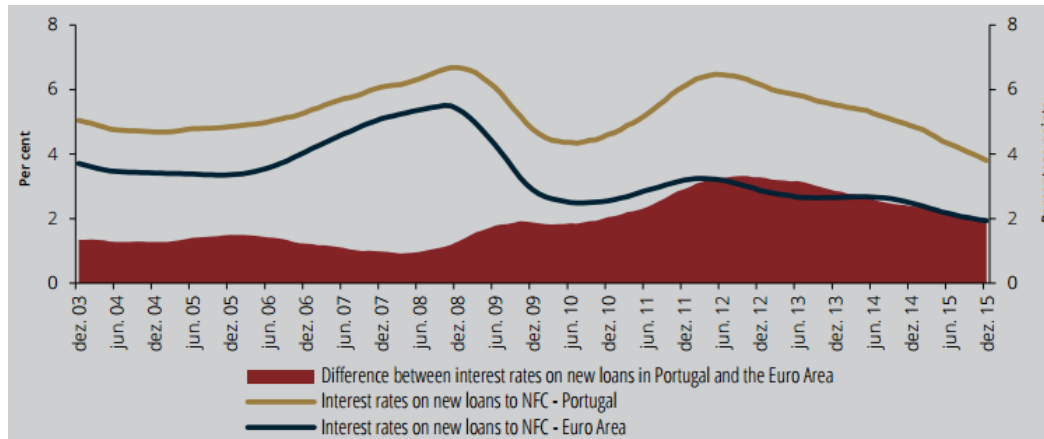
#### Macro-prudential policy implications

- After the financial crisis there has been a continued deleveraging process of the Portuguese banking system. In 2016 the annual growth rate of NFC loans was still negative.
- Nevertheless, we can observe that the contribution to the reduction of the exposure of domestic banks to NFC comes from loans to companies included in the higher risk quartiles.



#### 3.1 Loans to non-financial corporations (cont.)

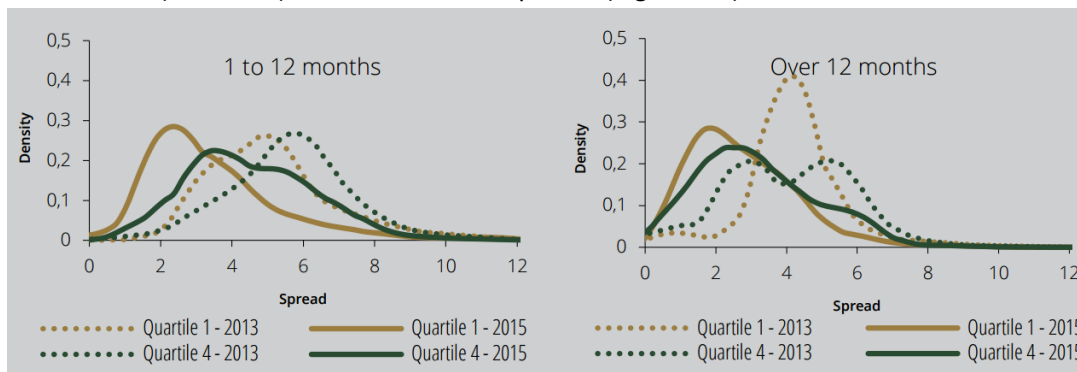
Interest rates on new bank loans to NFCs – Portugal, euro area and difference between both series



#### Macro-prudential policy implications

- The spread between interest rates in loans to NFC in Portugal and in the euro area has been declining steadily since 2012.
- There is differentiation in returns on new loans.
- Risk premia accuracy improved during period 2013-2015, especially in longer term loans.
- Analysis published in the Financial Stability Report May 2016.

Average spreads on new bank loans to NFCs – Loans by maturity for the first risk quartile (lower risk) and the fourth risk quartile (higher risk) in 2013 and 2015







### 3.2 Real Estate loan-by-loan information

#### Micro-data

##### Data Source

Loan-by-loan information on conditions, collateral and debtor's income, reported under Circular-Letters 6/2016/DES and 107/2015/DSC.

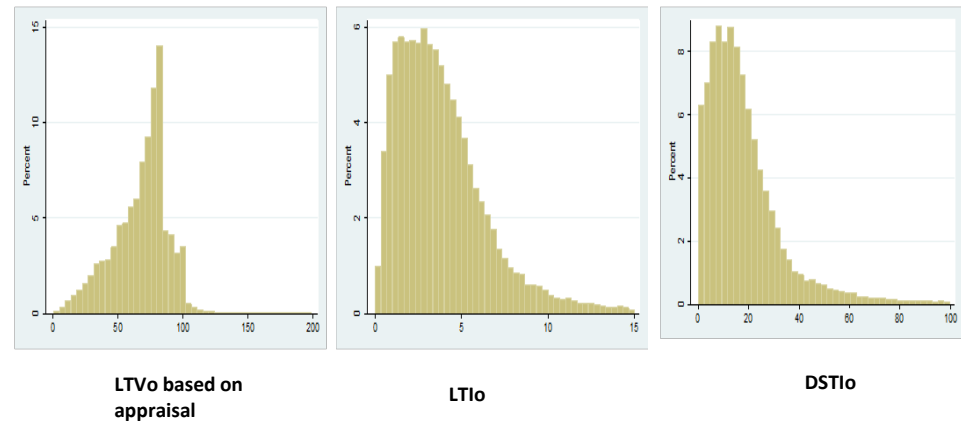
##### Data Treatment

Loans are aggregated by borrower of the property in order to calculate indicators such as LTV, LTI, DSTI on the origination and on current date.

##### Macroprudential use

Monitoring of the real estate market and the exposure of the financial system. High levels of indicators (LTV, LTI, DSTI) may signal the potential building up of imbalances.

#### Loan by loan information (year of origination 2015)



#### Macro-prudential policy implications

- Although the evolution of LTV, LTI and DSTI reflects the result of relative strict credit standards in the last years, data for 2015 new contracts shows that there are still contracts with high indicators.
- Mortgages for properties owned by the banks and for properties of distressed companies which are clients of the bank usually display higher LTV ratios.



### 3.3.

### Funding and Capital Plans

#### Micro-data

##### Description

FCPs focus on the solvency, liquidity and profitability of the institutions, include detailed historical and prospective accounting and prudential information (overall strategies pursued in a 3-4 year time horizon) and are built over harmonized macro scenarios, guidelines and restrictions, which allow for full consistency among institutions. As such, this instrument is much suited for the pre-emptive nature of macroprudential policy.

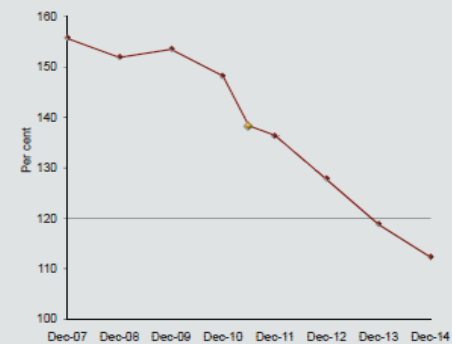
##### Data Source and Treatment

Plans are submitted by institutions to BdP followed by several interactions between the supervisory and financial stability teams.

##### Macroprudential use

On top of its direct relevance for supervision, the analysis of FCP contribute to the prospective assessment of the intermediate objectives of the macroprudential policy and namely to assess the coherency and sustainability of the projected aggregate trends on credit, funding, financing to the economy and profitability.

#### Credit to deposits ratio (FCP projections)



#### Macro-prudential policy implications

This tool was very useful under the Economic and Financial Assistance Program.

##### Example from Financial Stability Report Nov 2011

There has been a reduction in the credit to deposits ratio since 2009 which fell to around 140 per cent in June 2011 (156 per cent in December 2007). In aggregate terms, the plans point towards a gradual reduction of the ratio, to levels of less than 120 starting from the end of 2013.



### 3.4 Internal Credit Assessment System (ICAS)

#### ICAS use

##### Monetary policy use

- To assess the credit quality of eligible assets.

##### Micropudential use

- Benchmark to gauge the assessment provided by institutions with their own internal notation systems;
- To assess the quality of individual credit portfolios, while potentially contributing to an early identification of specific risks to which institutions may be exposed to.

#### ICAS data source



#### Macro-prudential policy implications

Monitoring tool of the developments of the non-financial sector and the potential building up of imbalances, namely to assess the fragility of specific sectors of the economy, in particular through the economic and financial analysis of the companies that constitute each of the sectors.



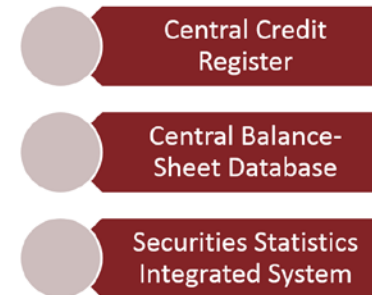
3.5

BPLim

### Research Laboratory on Microdata (BPLim)

Research Laboratory on Microdata (BPLim) is a research structure integrated in the Economics and Research Department, whose chief objective is to support the production of research projects and studies on the Portuguese economy, both by the Bank's economists and authorized external users.

### BdP microdata used by BLim



### Main purposes

- providing scientific and computational support for microdata-backed research;
- promoting training actions in micro-econometrics and panel econometrics;
- disclosing econometric estimation techniques applied to microdata.



Data needs put forward by macroprudential functions should be regarded as an opportunity to explore synergies between financial stability and statistical activities:

- integrating supervisory and statistical information generates benefits both to the reporting entities and to the data compliers;
- micro-data enables a wider range of analytical studies that reveal the heterogeneity hidden behind aggregate numbers and that can be of importance for macroprudential purposes.

To maximize the usefulness of all the new information that will be available further work should focus on its analysis and integration to ensure that the higher reporting standards are reflected in a sounder framework for financial institutions supervision, thus fostering financial stability.

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