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The Portuguese Central Credit Register: a powerful multipurpose tool, relevant for many central bank functions¹

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

The Portuguese Central Credit Register: a powerful multi-purpose tool, relevant for many central bank's functions¹

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Abstract

The Portuguese Central Credit Register (CCR) – managed by the Statistics Department of the Banco de Portugal – contains monthly granular information on credit on a borrower-by-borrower basis and includes, in some cases, details that provide loan-by-loan information with a virtually complete coverage.

These features have enabled the Banco de Portugal to use its CCR data for a variety of purposes, namely:

- a. To compile very comprehensive statistics on credit, with breakdowns by institutional sector of the borrower, branch of activity, purpose, size of the firms, location/region and amount of credit*
- b. To assess credit concentration and distribution*
- c. To measure overdue loans and overdue loans' ratio*
- d. To understand the risks underlying banks' balance sheets*
- e. To create an in-house credit risk assessment system in the Banco de Portugal.*

Given these multi-purpose uses, the Portuguese CCR has proved to be a powerful tool, relevant for many central bank's functions, namely for banking supervision, financial stability, monetary policy, economic research and compilation of statistics.

Keywords: Micro-data; Central Credit Register; Financial Stability; Data Collection; Central Bank statistics

JEL Code: C80; E50

1. Introduction

The Central Credit Register (CCR) is an information system managed by the Statistics Department of the *Banco de Portugal* (hereafter referred to as “the Bank”), which contains granular information on credit granted by the institutions participating in the system (all resident credit-granting institutions)

¹ I would to thank Luís D'Aguiar, from the Statistics Department, for his valuable contributions to this paper.

on a borrower-by-borrower basis and, in some cases, including details which provide loan-by-loan information, with a virtually complete coverage.

The CCR was established in 1978, at the time covering only the credit liabilities of non-financial corporations (NFCs) – households were included later, in 1993. The main goal of the CCR is to provide the credit institutions with data relevant for their assessment of the risks attached to granting credit – aggregate information on the credit liabilities of each client (borrower) *vis-à-vis* the financial system as a whole.

The use of CCR data for the compilation of statistics was authorized in 1996. However, the responsibility for the management of the database and all its related services was assigned to the Statistics Department only in 1999. Since then, a number of developments were introduced aiming at improving the CCR's coverage and usability, namely the establishment of a bilateral exchange of individual credit data among the 7 European countries that signed a Memorandum of Understanding (in 2005),² the inclusion of the potential credit liabilities of personal guarantors (in 2007) and the implementation of a new information system that introduced additional breakdowns at the level of credit data and a greater efficiency in identifying private individuals (2009).

More recently, (i) the CCR coverage was extended to include new reporting institutions (essentially NFCs that buy credit portfolios from the resident financial sector); (ii) a new analytical data system for data analysis and exploration was developed; (iii) additional details were included to allow for the individual identification of loans used as collateral in Eurosystem financing operations; and (iv) additional breakdowns were introduced (*e.g.*, new collateral types, original and residual maturity brackets, non-performing loans and restructured loans).

According to CCR's legal framework,³ apart from the compilation and publication of statistics, CCR data is also used by the Bank for several other purposes, namely, the prudential supervision of credit institutions, the analysis of the financial system's stability, the implementation of monetary policy and for research.

This paper is organised as follows: the next section presents a short overview of the Portuguese CCR; section three illustrates how CCR data are being used in the context of the compilation of credit statistics; section four discusses briefly the Bank's involvement in the AnaCredit project; section five addresses the recent creation of an In-house Credit Assessment System in the Statistics Department;

² The seven original Signatories of the 2005 Memorandum of Understanding on the exchange of information among CCRs were the NCBs of Austria, Belgium, France, Germany, Italy, Portugal and Spain. A few years later, the NCBs of the Czech Republic and Romania also joined this group.

³ The Portuguese CCR is regulated by Decree-Law no. 204/2008, of 14 October, Bank's Instruction no. 21/2008, of 15 January 2009 and National Commission for Data Protection's Authorization no. 4241/2011 of 27 April. It is also mentioned in a provision of the Bank's Organic Law (Art. 17^o - 1). The use of and access to CCR data is in compliance with the provisions laid down in specific laws issued by Portuguese Parliament and by the National Commission for Data Protection.

section six considers the use of CCR data for banking supervision, financial stability, monetary policy and economic research; lastly, section seven concludes.

2. Description of the Portuguese Central Credit Register (CCR)

The CCR's main goal is to assist the participating entities in their risk assessment when granting loans. Hence, these entities have access to aggregate information on the credit liabilities of each borrower⁴ *vis-à-vis* the whole CCR reporting institutions.

Borrowers also have the legal right to access their respective information stored in the CCR. In case of missing or wrong information, borrowers must address the reporting institution to change or update its information, since the Bank is not legally authorized to correct the information itself.

Currently, 188 institutions (of which 146 are banks) report data to the CCR and around 6.2 million borrowers are registered with effective or potential (*e.g.*, credit lines) credit data.

As mentioned above, the CCR database contains information on actual and potential credit granted by participants to borrowers. Actual credit includes all the loans granted by the participants (mainly resident financial institutions) and actually taken up – *inter alia*, loans for house purchase, loans to purchase cars, furniture and other consumer goods or services, loans for the acquisition of shares or bonds, payment of bills of exchange or other commercial bills, overdrafts, leasing or factoring operations, and balances on credit card transactions. Potential credit consists chiefly of irrevocable commitments by participants, such as available credit on credit cards, credit lines, pledges given by participants and other credit facilities which may become actual debt.

Participants are all resident financial institutions granting credit – *i.e.*, banks (including savings banks and mutual agricultural credit banks) and other credit institutions (*e.g.*, credit financial companies, financial leasing companies, factoring companies and credit-purchase financing companies). Additionally, other non-financial entities with credit-related activity may also be designated by the Bank to participate in the CCR. This is, for example, the case of some non-financial companies that buy credit portfolios from the financial sector.

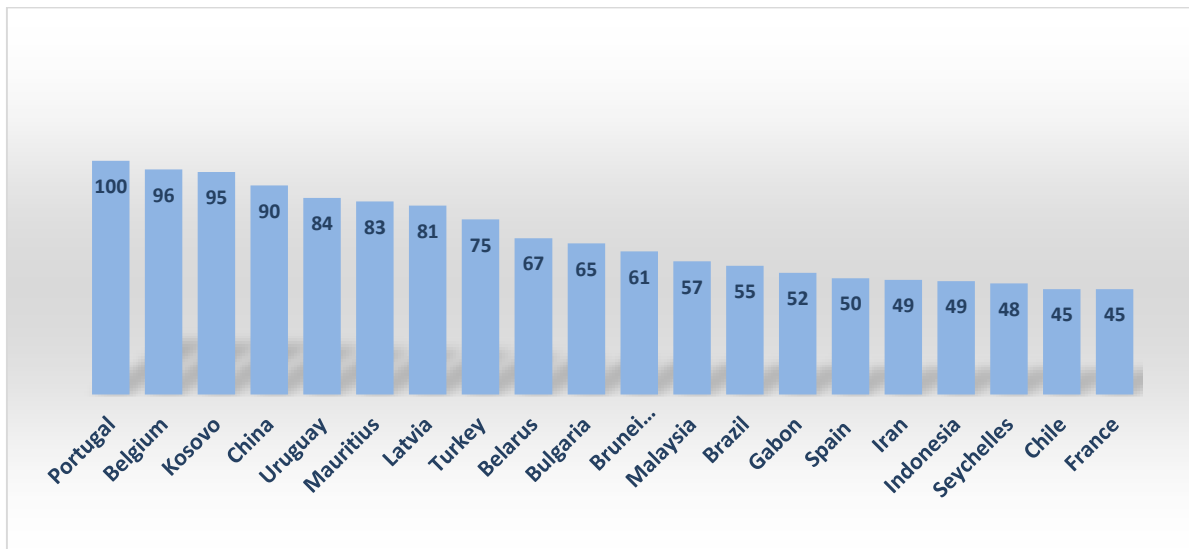
Borrowers are resident or non-resident entities, both private individuals and legal persons, receiving credit from the participant institutions. The identification of resident borrowers is made using the tax payer number; for the identification of non-residents, reporting institutions must provide a code (unique for each borrower in each institution), the name, an identification document and the country of residence.

Data has to be reported to the CCR on a monthly basis, with reference to the end of each month, until the 6th working day following the end of the reference period. Participants are obliged to supply

⁴ Or of each potential client, when the client asks for a loan or authorizes the entity to access information on it.

the CCR with information on the outstanding amount of the borrower's actual or potential liabilities whenever its value exceeds 50 (fifty) Euros. This very low threshold has allowed the Portuguese CCR to lead the world ranking of public credit registries in term of coverage (please see Figure 1. below).

Figure 1. Credit registry coverage (as a % of the adult population⁵)



Source: World Bank, *Doing Business 2016*

Participants have to classify loans according to a list of attributes and dimensions, using the following variables to classify the loans:

- a. Type of liability of the borrower – identifies the commitment the borrower has *vis-à-vis* the credit institution (for example, individual credit, joint credit, personal guarantee).
- b. Status of the loan – shows the type of liability represented by the loan and if there is any degree of non-compliance with the repayment schedule (*e.g.*, drawn credit in a regular situation, undrawn credit, overdue loans, written-off loans).
- c. Type/purpose of the loan – identifies the credit instrument used, sometimes referring to the purpose of the loans (*e.g.*, current accounts, credit card, factoring with or without resource, housing loans, consumer credit and car credit).
- d. Original and residual maturity – identified according to a list of predefined brackets.

⁵ Credit registry coverage reports the number of individuals and firms listed in a credit registry's database as of 1 January 2015, with information on their borrowing history within the past five years, plus the number of individuals and firms that have had no borrowing history in the past five years but for which a lender requested a credit report from the registry in the period between 1 January 2014 and 1 January 2015. The number is expressed as a percentage of the adult population (the population age 15 and above in 2014 according to the World Bank's World Development Indicators). A credit registry is defined as a database managed by the public sector, usually by the central bank or the superintendent of banks, that collects information on the creditworthiness of borrowers (individuals or firms) in the financial system and facilitates the exchange of credit information among banks and other regulated financial institutions (while their primary objective is to assist banking supervision).

- e. Number of days the loan is past due – in case of default, the number of days since the loan has defaulted is identified according to a list of predefined brackets.
- f. Currency – identifies the currency of denomination of the loan.
- g. Type and value of collateral or guarantee securing the loan (when existing).
- h. Identification of special characteristics associated to loans – information to be used internally by the Bank, which allows the identification of, *inter alia*, securitised loans (derecognized and non-derecognized), syndicated loans, loans used as collateral for monetary policy operations, non-performing loans.
- i. Value of monthly repayments – only for some types of personal loans.

The Portuguese CCR also collects information on the insolvency status of the borrower, both for private individuals and companies or other legal entities. This information is provided by the Portuguese Courts of Law.

Figure 2. highlights the comprehensiveness of the Portuguese CCR: currently, none of the other credit registers of the countries that signed the Memorandum of Understanding on the exchange of information among CCRs (see footnote 1) is in a position to collect information on the full set of variables depicted in the table below.

Figure 2. Comparison among European public credit registers

Variables collected	Austria	Belgium	Czech Republic	France	Germany	Italy	Portugal	Romania	Spain
Credit status	Y	Y	Y	Y	Y	Y	Y	Y	Y
Liability level	Y	Y	Y	Y	Y	Y	Y	Y	Y
Purpose of the loan	N	N	Y	N	N	N	Y	N	Y
Original maturity	N	Y	Y ³	Y	N	Y	Y	Y	Y
Residual maturity	N	Y	Y ⁴	N	N	N	Y	N	Y
Overdue loans	Y	Y	Y	Y	N	Y	Y	Y	Y
Type of collateral	Y	N	Y	N	Y	Y	Y	Y	Y
Value of collateral	N	Y	N	N	Y	N	Y	Y	N ⁵
Bankruptcy status	Y	Y	N	Y	N	Y	Y	Y	Y
Currency	N	Y	Y	N	N	N	Y	Y	Y
Country where the loan was granted	Y	Y	Y	Y	Y	N	Y	N	Y
Data on personal guarantors	N ¹	Y ²	N	N	Y	N	Y	N	Y

¹ Only for the types of credit derivatives indicated in Article 204 of Regulation (EU) No. 575/2013, used for hedging purposes, the protection seller has to be specified.

² For consumer and mortgage lending.

³ Variables collected directly are "Date of origin" and "Maturity date". "Original maturity" is calculated using these variables.

⁴ Variable collected directly is "Maturity date". "Residual maturity" is calculated using this variable.

⁵ This data will be collected from 31 December 2016.

3. The use of CCR data for the compilation and dissemination of statistics

The compilation of comprehensive statistics on credit granted is one of the various goals of the Portuguese CCR. With this in mind, credit instruments and other variables related to the classification of loans are defined in such a manner that they are meaningful for economic analysis. Also, borrowers have to be classified according to proper statistical criteria (*e.g.*, by institutional sector, sector of economic activity, firm size and region of residence). Since the participating institutions only report the borrowers' identifications (*i.e.*, their taxpayer numbers), the statistical classification of the resident borrowers is made in the Bank, mostly by means of a business register managed by the Statistics Department.

Statistical information based on the Portuguese CCR data is made available to users on a monthly/quarterly basis. In both cases, the main focus is loans granted by the financial sector to the resident entities classified as NFCs, non-profit institutions serving households and households.

The set of statistical indicators disclosed monthly includes:

- a. Outstanding amounts of loans granted and the correspondent annual change of rate.
- b. Overdue loans ratios.
- c. The percentage of borrowers with overdue loans.

These indicators are compiled for borrowers belonging to the NFCs and households sectors. In the former sector, information is also broken down by firm size and also made available for exporting companies. In case of households, a breakdown according to the purpose of the loan is also included. Data using the above-referred metrics are provided for non-profit institutions serving households without any additional details.

More detailed information is disseminated on a quarterly basis, both for the outstanding amounts of regular loans and for loans in default. In the latter case, two indicators are published: overdue loans ratio and percentage of borrowers with overdue loans. In the case of NFCs, for the referred metrics, data is further broken down by:

- a. Region of residence of the company headquarters (according to NUTS⁶ classification)
- b. Economic activity sector (according to NACE⁷ sections)
- c. Brackets of total amount of loans per borrower.

As to households, data are further broken down by:

- a. Purpose of the loan
- b. Region of residence (according to NUTS classification and by municipality)
- c. Brackets of total amount of loans per borrower.

⁶ Nomenclature of Territorial Units for Statistics.

⁷ Statistical Classification of Economic Activities in the European Community.

The Bank has the intention to enlarge the set of statistical indicators on loans that are compiled on the basis of CCR data, and has scheduled its dissemination to the 1st quarter of 2016. The type of additional indicators envisaged include: (i) loans broken down by size of the firm, maturity (original and residual) and type of collateral; and (ii) indicators on the average number of financial institutions granting loans to NFCs or to households.

The high-quality figures that can be obtained from specific breakdowns of CCR credit data are of great importance for economic analysis and for quality control. In addition, the use of the CCR has made it possible to reduce the reporting requirements in the context of the Bank's Monetary and Financial Statistics (MFS), thus alleviating the participants' reporting burden and curtailing data redundancy.

The following example, concerning the breakdown by branch of economic activity of credit granted to NFCs, illustrates this point. The referred breakdown has been included in the MFS reporting requirements from 1990 to 2002. Yet, the data reported during this period showed a number of weaknesses in terms of quality due to the need for the reporting agents to aggregate the information according to various statistical criteria prior to its submission to the Bank. Given that the CCR provides an alternative source for such data, with higher quality, the MFS data collection system in force since January 2003 no longer requires the breakdown by branch of economic activity.

4. The CCR as a tool for banking supervision, financial stability, monetary policy and economic research

The prevailing CCR legal framework already foresees that, besides statistical compilation, data can be used in the context of other specific functions of the Bank, such as banking supervision, financial stability analysis, monetary policy and research.

4.1 Using CCR data for banking supervision and financial stability

In the domain of banking supervision, CCR data have been used in the assessment of credit risk and concentration of risk exposures, both at micro and macro level, and for the improvement of on-site inspection practices.

In this context, it is worth mentioning the Bank's Early Warning System (EWS), whose aim is to identify companies showing a high probability of default as a result of an excessive level of indebtedness to be assessed taking into consideration the ability to generate cash flow and/or the existing capital structure. Through this system, the Bank intends to encourage credit institutions to be proactive in identifying and defining appropriate procedures and solutions in the treatment of such companies.

The EWS relies heavily on the information available in the Portuguese CCR – and also on data from the Bank’s Central Balance-Sheet Database (CBSD) –, which are used to calculate a predefined set of five financial ratios, determined for each company regardless of the industry or sector in which it operates:

- a. Two financial ratios (Total Debt to EBITDA⁸ and EBITDA Interest Coverage) are classified as core ratios in accordance with Standard & Poor’s Corporate Ratings Framework.
- b. Three additional ratios are considered as supplementary ratios due to the fact they foster the understanding of a company’s financial risk profile, capturing other critical risk dimensions, such as profitability and leverage (FFO to Total Debt⁹, Gearing, Return on Capital).

As regards the Bank’s financial stability function, both the CCR statistics disclosed in the Bank’s Statistical Bulletin and the granular data available from the CCR database are extensively used.

Granular data are crucial for (i) research purposes, allowing for the crossing/analysis of various dimensions and characteristics of loans/debtors/creditors; and (ii) analysis objectives.

These data are typically used, *inter alia*, in the:

- a. Analysis of distribution measures by loan/debtor classes according to the activity sector, exposure size, firm size, type of guarantee, performing status and other characteristics (assessment of risks stemming from the household and NFCs sectors).
- b. Distinction of financial situation of NFCs with positive, null or negative changes in borrowing (together with data from the Bank’s CBSD).¹⁰
- c. Breakdown of above by activity branch and by size¹¹ (together with data from the Bank’s CBSD).
- d. NFCs’ credit performance following credit restructuring.
- e. Effects of the age in NFCs bank relations in credit spreads (with the interest rate statistics database).
- f. Credit trends of largest indebted NFCs.
- g. Credit history of high growth corporations.

Given its homogeneity and comparability with other datasets, CCR data allow for complementary analysis to aggregated data by providing distribution measures. Granular data enable better testing and monitoring of the banks’ results in face of more comprehensive scenarios (*e.g.*, stress testing).

⁸ EBITDA is an acronym for “Earnings Before Interest, Taxes, Depreciation and Amortization”.

⁹ FFO (“Funds from Operations”) is given by (EBITDA - Net Interest - Income Taxes).

¹⁰ Used together with data from the Bank’s CBSD.

¹¹ *Id.*

Moreover, some macroprudential tools require the use of characteristics that are only available in granular datasets (such as real estate collateral amount and debt instalments).

4.2 Using CCR data for monetary policy

Within the monetary policy framework, CCR has been used as an auxiliary tool in the identification of loans used as collateral in Eurosystem financing operations. In particular, the CCR collects the data needed to evaluate the risks associated with the acceptance of bank loans as collateral of monetary policy credit operations.

The general documentation on Eurosystem monetary policy instruments and procedures requires:

- a. All Eurosystem credit operations to be based on adequate collateral (underlying assets provided by the counterparties).
- b. Underlying assets to fulfill certain criteria in order to be eligible for Eurosystem monetary policy operations.
- c. A single framework for eligible assets common to all Eurosystem credit operations.

The single framework comprises two distinct asset classes:

- a. Marketable assets.
- b. Non-marketable assets (namely, credit claims).

CCR is relevant for eligibility assessment (and *ex post* verification) of credit claims. CCR is also relevant for the elaboration of collateral generation capacity estimates of domestic counterparties on credit claims, asset back securities (ABS) and covered bonds.

Each National Central Bank (NCB) is responsible for the eligibility assessment of a subset of assets.

The Bank is responsible for the eligibility assessment of:

- a. Marketable assets traded in Portugal.
- b. Non-marketable assets granted by domestic counterparties and presented as collateral to the Bank.

Since February 2012, NCBs are allowed, as a temporary measure, to accept as collateral for Eurosystem credit operations additional performing credit claims. These credit claims should satisfy specific eligibility criteria proposed by the NCBs and approved by the ECB Governing Council. In general, the use of CCR data allows for:

- a. Verifying the existence of the credit claims.
- b. Confirming the major characteristics of the credit claims.
- c. Simplifying the report for monetary policy purposes.

4.3 Using CCR data for economic research

The Bank's economic research function has been using CCR micro-data for several research papers and analysis, frequently combining this data with other micro-data sources, like the Bank's CBSD.

A good example of the usefulness of this information can be found in *Augusto, F. & Félix, S. (2014)*, where the authors examine the impact of bank recapitalization on firms' access to credit. Starting from the several private and public capital injections experienced by the Portuguese banks during the recent global financial crisis, the paper investigates the impact of bank recapitalizations on the supply of credit in the period between the first quarter of 2010 and the fourth quarter of 2013. Their results suggest that bank bailouts contributed to an increase in the supply of credit. This effect is negatively related to the capital buffer of recapitalized banks and applies to the sectors of manufacturing and trade. There is no evidence that bank recapitalizations contributed to a selective behavior in the supply of credit towards distressed firms compared to other firms. The main dataset used in this analysis is the Bank's CCR. The granularity of these data allows considering sophisticated micro-econometric approaches to identify the effects of the bank recapitalization on the supply of credit. The information reported in the CCR allows for the construction of several credit performance indicators, related to firms' overdue credit. This study includes two firm distress indicators based on firms' overdue credit (as reported in the CCR). The sample includes 201,768 non-financial corporations and 327,777 loans (firm-bank pairs). The results suggest that firms have on average two banking relationships.

Another example can be found in *Farinha, L. & Félix, S. (2014)*. This paper examines the importance of credit demand and credit supply-related factors in explaining the evolution of credit granted to Portuguese small and medium-sized enterprises (SMEs). The results suggest that the interest rate is a strong driver of SMEs' demand for bank loans, as well as their internal financing capacity. On the other hand, credit supply mostly depends on the firms' ability to generate cash-flows and reimburse their debt, and on the amount of assets available to be used as collateral. The model was estimated for the period between 2010 and 2012, and the estimated coefficients were used to compute the probability of credit rationing. The results suggest that a considerable fraction of Portuguese SMEs were affected by credit rationing in this period.

5. The creation of an ICAS in the Statistics Department

The bank has recently taken decisive steps towards further exploring the informational potential of the CCR and balance sheet databases in creating an In-house Credit Assessment System (ICAS).

This system will provide the Bank with its own in-house credit risk assessment system, thus reducing its dependence on external sources. Against the background of the recent economic and financial

crisis and the shortage of assets liable to be used as collateral in monetary policy operations, these systems have recently been gaining importance within the Eurosystem, as can be seen by the increasing number of NCBs that have introduced them (Austria, Belgium, France, Italy, Germany, Slovenia and Spain). In fact, at the current juncture, a more pressing business case for ICAS stems from monetary policy purposes, for which ICAS will provide an evaluation of debtors' credit notation. But the benefits of such a system are not exclusive to monetary policy. In fact, there is a broad range of advantages to different business areas, in particular regarding banking supervision and financial stability. First and foremost, starting with banking supervision, the credit notations derived from ICAS could be used as a benchmark to gauge those provided by institutions with their own internal notation system. Furthermore, the computation of sectoral default probabilities could also be envisaged, providing a useful input for stress-testing. As for financial stability, the monitoring of developments in the non-financial sector (and the potential building up of imbalances) would benefit from an indicator of NFCs credit risk, which could serve, at least, two purposes: on the one hand, to identify situations of potential financial fragility in a set of companies of a particular economic activity sector; on the other hand, to contribute in assessing other risks stemming from the NFCs sector. Other business areas such as economic analysis and statistical functions would also stand to gain from ICAS's outputs.

Against this background, CCR data is essential for the good performance of the ICAS. In line with the Basel III default definition and the guiding principles for the identification of defaults, default observations are determined using the CCR data, namely:

- a. Data on legal proceedings (legal defaults) are obtained automatically from the CCR (public information).
- b. Data on all remaining elements of the reference default definition are obtained automatically via Portuguese commercial banks reporting to the CCR.

This information is crucial to calibrate the econometric models and also for the assessment of the ICAS performance.

In addition, the remaining credit information (*e.g.*, non-performing loans, loan volume, number of banks and write-offs) is used by analysts to supplement the information given by the econometric model. These indicators support the analyst's decision of revising the company's rating upwards or downwards.

6. The AnaCredit project and its impact in the Portuguese CCR

Central credit registers are a fundamental tool to monitor and manage credit risk, as well as to provide an overview of credit exposures and the level of indebtedness of both resident and non-resident borrowers *vis-à-vis* national financial intermediaries.

In order to get a better overview of the level of indebtedness of the borrowers across European Union Member-States the European System of Central Banks has been exploring, since 2007, the potential statistical use of CCRs.¹² In particular, it sought to understand to which extent their content may be enhanced and adapted to euro area and European Union statistical needs, to alleviate the statistical reporting burden and to increase transparency.

Against this background, the European Central Bank (ECB) launched the so-called AnaCredit¹³ project in 2011, together with experts from both the statistical and credit registers' areas of a number of euro area and non-euro area national central banks.

Three main issues were especially under scrutiny:

- a. Identifying a core set of information to meet main users' needs and the necessary data attributes and level of harmonisation of definitions / methodologies.
- b. Considering the governance, legal and confidentiality issues.
- c. Exploring the identification of entities and loans and the CCRs' links to other data sources such as micro databases and business registers.

Following this avenue, a joint Statistics Committee (STC) / Financial Stability Committee (FSC) Task Force on Analytical Credit Datasets (co-chaired by the Banco de Portugal) was established in 2013. The overarching aim of this task force was the setting up of a long-term framework for the collection of harmonised granular dataset on bank loans in the euro area.

In order to fulfil the AnaCredit requirements, the Portuguese CCR will be redesigned and will adopt a new philosophy: a loan-by-loan basis. The preparatory work regarding the implementation of this new CCR information system has already started, in collaboration with the Bank's IT Department, and it has progressed in terms of the evaluation of data requirements, not only to comply with the AnaCredit requirements but also with the data needs of both financial institutions and internal users. Although the first stage of AnaCredit will comprise only loans granted by banks to legal entities, the Portuguese CCR will keep the current coverage both in terms of participating institutions and borrowers.

¹² Data sharing with other countries' CCRs follows the rules of the 2005 Memorandum of Understanding on the exchange of information among CCRs and are based on reciprocity.

¹³ The name AnaCredit stands for "Analytical Credit Datasets".

So far, it is clear that some functionalities of the current CCR should be kept: (i) different reporting rules for static and dynamic data; (ii) identification of borrowers using a unique code (the use of the taxpayer number will continue to be mandatory for residents in Portugal); (iii) statistical classification of borrowers will be made in the Bank through its business register; (iv) the monthly backflow data to the financial system will be approximately the same; (v) corrections to reported data will be made only by the reporting institutions; and (vi) the system itself should be composed by two components (transactional and analytical).

Moreover, new options are being considered given the CCR data users requirements (both AnaCredit and internal users), *inter alia*:

- a. Classification of participating institutions according to data needs (different types of institutions may report different sets of data).
- b. Identification of different types of data (characterization of counterparties, contracts and related instruments and guarantees; financial data, on a monthly basis; accounting data, on a quarterly basis; credit risk data).
- c. Definition of different deadlines for each type of data.

The new CCR system is expected to “go live” six months before the beginning of the reporting for AnaCredit (no overlap with current system will occur, given that a test phase shall be included in the project development).

7. Concluding remarks

The Portuguese CCR has been created with the objective of providing the participating institutions with relevant information to better understand the risk associated with a specific credit contract or borrower. That being said, the CCR holds also nowadays a significant potential for other purposes: the prevailing CCR legal framework already foresees that data can be used in the context of specific functions of the Bank, such as statistical compilation, supervision, economic research, financial stability analysis and monetary policy.

The use of CCR data for statistical purposes has allowed, *inter alia*, an improvement in the quality of monetary financial institutions (MFIs) and other financial institutions (OFIs) balance sheet statistics (*e.g.*, greater accuracy in the MFIs’ classification of the institutional sector of the counterparties receiving credit), a better assessment of credit developments, including the possibility of analysing different breakdowns, and the conception of new statistical products, without imposing additional reporting requirements and burdens on respondents.

In the context of monetary and financial statistics (MFS) the use of CCR data has been facilitated given the fact that: (i) both domains share the same data source (*i.e.* the same reporting institutions);

(ii) the content of the reported information is coherent, since the CCR covers a complete range of credit liabilities; (iii) they both have identical reporting frequency and timeliness; and (iv) both the CCR and MFS are integrated in the same Division in the Bank's Statistics Department. On the whole, the high-quality figures that can be obtained from specific breakdowns of CCR credit data are of great importance for economic analysis and for quality control.

In the domain of banking supervision and regulation, CCR has been used in the assessment of credit risk and concentration of risk exposures, both at micro and macro level, and for improvement of on-site inspection practices. Economic research has been using CCR micro-data for several research papers and analysis, frequently combining this data with other micro-data sources, like the CBSD. Within the monetary policy framework, CCR has been used in the identification of loans used as collateral in Eurosystem financing operations.

The data reported to the CCR has gained relevance with the current indebtedness situation of the Portuguese economy combined with the pressing need of economic agents in all sectors to deleverage their activity, including the banking sector. CCR data combined with other micro-data databases (namely securities holdings and issues and corporate balance-sheet data) has been a key factor in meeting all the data demands in the context of the economic and financial assistance programme.

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The Portuguese Central Credit Register: a powerful multipurpose tool, relevant for many central bank functions¹

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¹ 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 or the central banks and other institutions represented at the meeting.

The Portuguese Central Credit Register: a powerful multi-purpose tool, relevant for many central bank's functions

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BANCO DE PORTUGAL
EUROSYSTEM

Irving Fisher Committee Workshop in Warsaw

Warsaw, 14-15 December 2015

Session 4

Central credit registers: entity-level credit information transformed into knowledge about macro-stability threats



OUTLINE

- 1. Description of the Portuguese CCR**
- 2. The use of CCR data for the compilation of statistics**
- 3. The CCR as a tool for banking supervision and financial stability, monetary policy and economic research**
- 4. The creation of an In-house Credit Assessment System**
- 5. The AnaCredit project and its impact in the Portuguese CCR**
- 6. Concluding remarks**



The Portuguese CCR in a nutshell

CCR: A database managed by the Statistics Department of the *Banco de Portugal*, using information reported by all the institutions that grant credit to individuals and legal entities

MAIN PURPOSE: Providing information to support the participants in their assessment of the risks attached to extending credit

OTHER USES: Compilation of statistics, supervision of credit institutions and financial corporations, analysis of financial system stability, conduct of monetary policy and intraday credit operations



The Portuguese CCR in a nutshell



Reporting deadline: 6th business day



50 € reporting threshold



188 participating institutions



15 different types of loans



285 thousand corporations registered



6.1 million private individuals registered



23 million records reported per month



Credit Registry Coverage

TOP 20



Source: World Bank, *Doing Business 2016*



Using CCR data to compile statistics

CCR data

Allows to compile very comprehensive statistics on credit, with breakdowns by:

Institutional sector of the borrower

Branch of activity

Purpose

Size of firms

Location / region

Amount of credit



Using CCR data to compile statistics

IN PARTICULAR

Households

- Purpose of the loan
- Region of residence
- Total amount of loans *per* borrower

Non-Financial Corporations

- Firm size
- Region of headquarters' residence
- Economic activity sector – per NACE
- Total amount of loans *per* borrower

Under development:

- Loans by size of firm
- Loans by maturity
- Loans by type of collateral
- Indicators on the average number of financial institutions granting loans



Comparison among European public credit registers

Variables collected	Austria	Belgium	Czech Republic	France	Germany	Italy	Portugal	Romania	Spain
Credit status	Y	Y	Y	Y	Y	Y	Y	Y	Y
Liability level	Y	Y	Y	Y	Y	Y	Y	Y	Y
Purpose of the loan	N	N	Y	N	N	N	Y	N	Y
Original maturity	N	Y	Y ³	Y	N	Y	Y	Y	Y
Residual maturity	N	Y	Y ⁴	N	N	N	Y	N	Y
Overdue loans (status)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Type of collateral	Y	N	Y	N	Y	Y	Y	Y	Y
Value of collateral	N	Y	N	N	Y	N	Y	Y	N ⁵
Bankruptcy status	Y	Y	N	Y	N	Y	Y	Y	Y
Currency	N	Y	Y	N	N	N	Y	Y	Y
Country where the loan was granted	Y	Y	Y	Y	Y	N	Y	N	Y
Data on personal guarantors	N ¹	Y ²	N	N	Y	N	Y	N	Y

¹ Only for the types of credit derivatives indicated in Article 204 of Regulation (EU) No. 575/2013, used for hedging purposes, the protection seller has to be specified.

² For consumer and mortgage lending.

³ Variables collected directly are "Date of origin" and "Maturity date". "Original maturity" is calculated using these variables.

⁴ Variable collected directly is "Maturity date". "Residual maturity" is calculated using this variable.

⁵ This data will be collected from 31 December 2016.



Using CCR data to compile statistics

**Better assessment
of credit
developments**

**Development of new statistical products
(e.g., loans granted by MFIs and OFIs,
broken down by type, purpose,
institutional sector, branch of economic
activity, region and size)**

**Improvement in the quality of MFIs' and OFIs'
balance sheet statistics (greater accuracy in
the classification by the MFI on the reported
institutional sector of the entities
counterparties receiving credit)**



Using CCR data to compile statistics

CCR data:

A key factor in meeting all the data demands in the
context of the **ECONOMIC AND FINANCIAL
ASSISTANCE PROGRAMME**

Particularly useful to meet the **ECB REQUIREMENTS
ON SECURITISATION** without having to increase the
reporting burden on Financial Vehicle Corporations



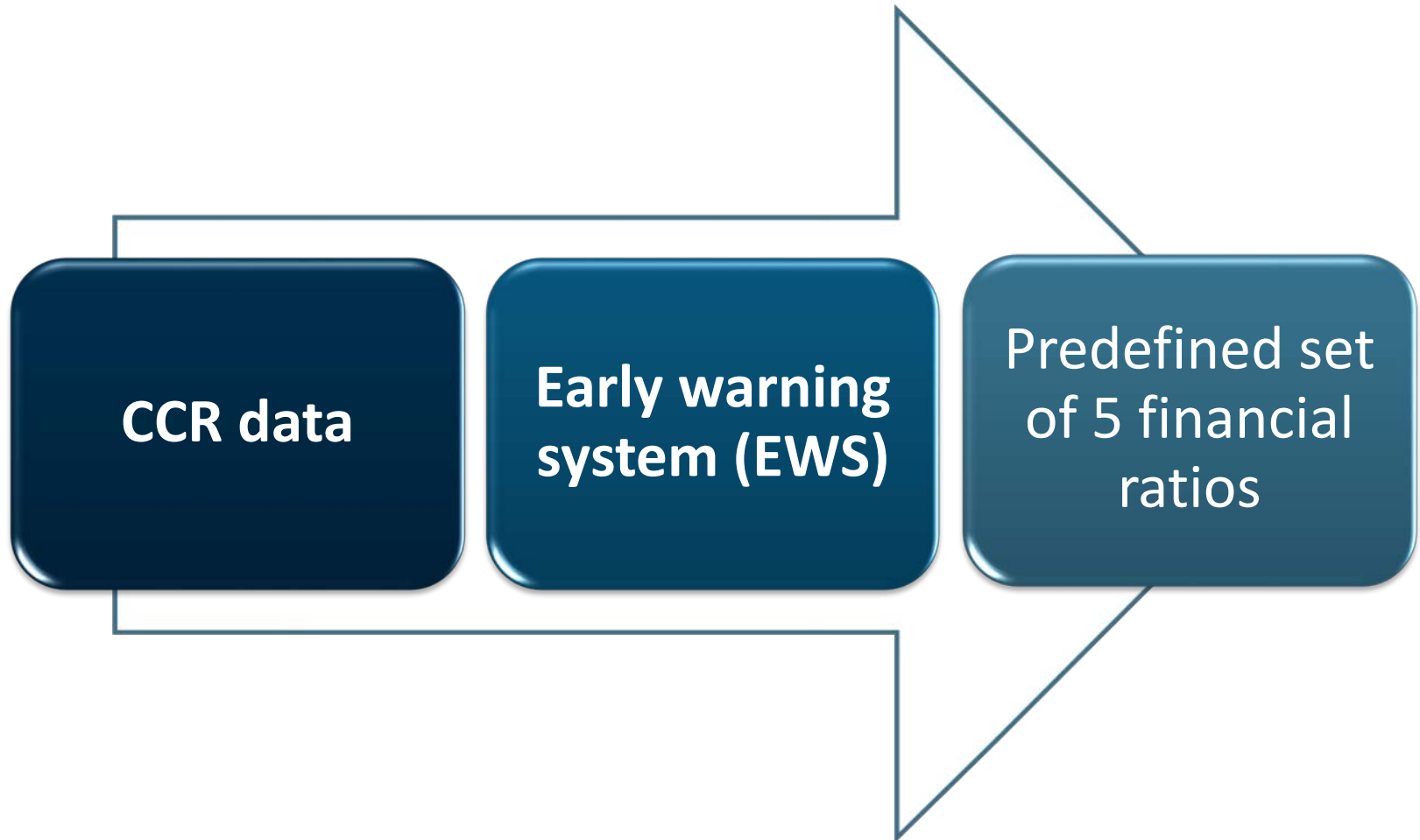
The Portuguese CCR as a tool for banking supervision and financial stability



CCR data have been used in **assessing credit risk and concentration of risk exposures**, both at micro and macro level, and improving on-site inspection practices



The Portuguese CCR as a tool for banking supervision and financial stability





The Portuguese CCR as a tool for banking supervision and financial stability

EWS

Two core ratios in accordance with Standard & Poor's Corporate Ratings Framework:

Total debt to EBITDA

EBITDA Interest Coverage

Three additional supplementary ratios:

To foster the understanding of a company's financial risk profile

To capture other critical risk dimensions (e.g., profitability, leverage)



The Portuguese CCR as a tool for banking supervision and financial stability

EWS

Ratios	Definition
1 – Total Debt to EBITDA	$\frac{\text{Total Debt}}{\text{EBITDA}}$
2 – EBITDA Interest Coverage	$\frac{\text{EBITDA}}{\text{Net Interest}}$
3 – FFO to Total Debt	$\frac{\text{FFO}}{\text{Total Debt}}$
4 – Gearing	$\frac{\text{Total Debt}}{\text{Capital}}$
5 – Return on Capital	$\frac{\text{EBIT}}{\text{Average Capital}}$

Two core ratios in accordance with Standard & Poor's Corporate Ratings Framework

Three additional supplementary ratios:

- To foster the understanding of a company's financial risk profile;
- To capture other critical risk dimensions



The Portuguese CCR as a tool for monetary policy

Monetary policy
credit operations



CCR data has been used:

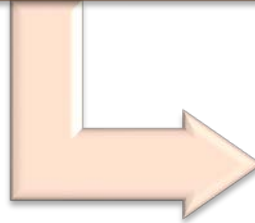
As an auxiliary tool in the identification
of loans used as collateral in Eurosystem
financing operations

To evaluate the risks associated with the
acceptance of bank loans as collateral of
monetary policy credit operations



The Portuguese CCR as a tool for monetary policy

CCR is also relevant for:



Eligibility assessment (and *ex post* verification) of credit claims.

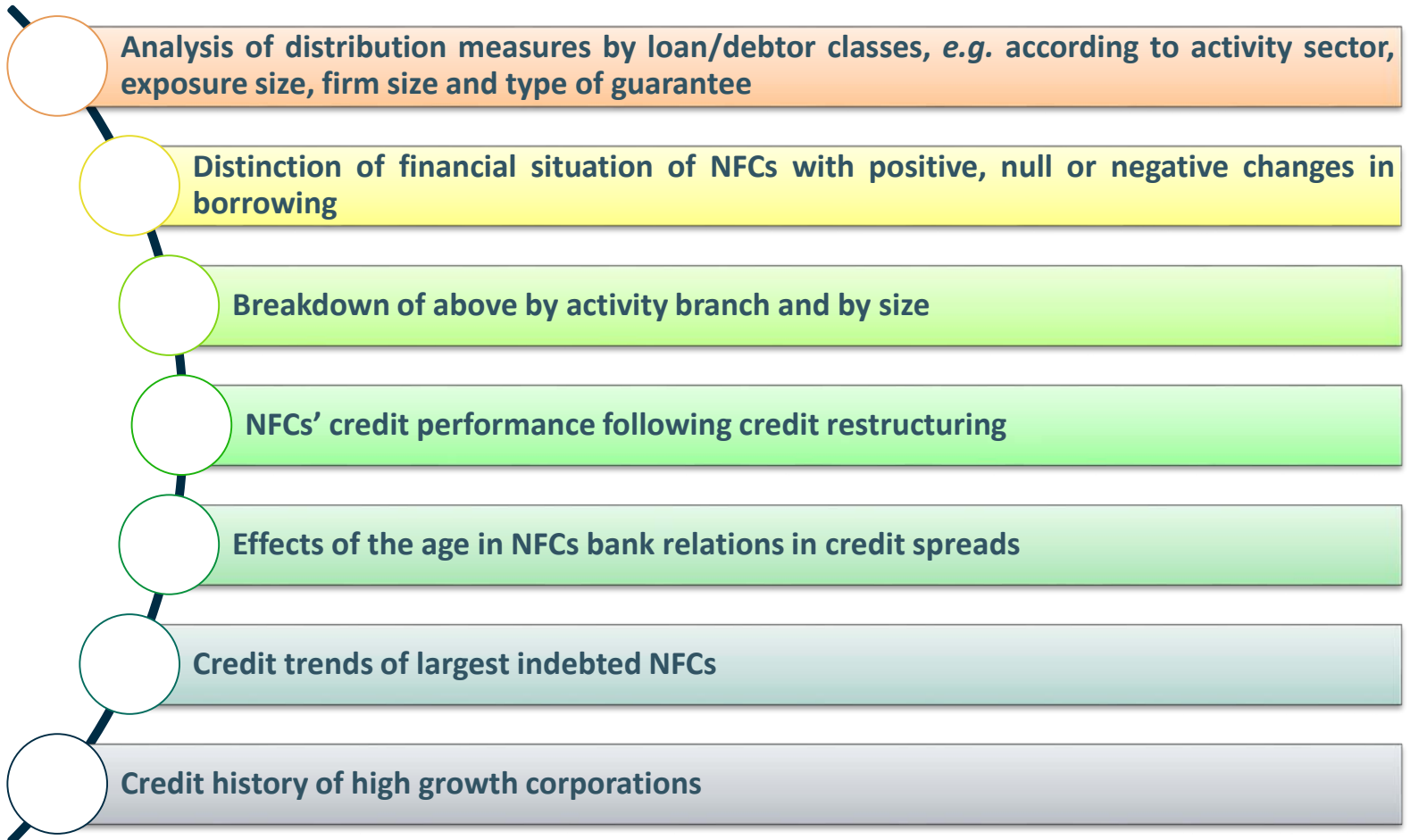


Collateral generation capacity estimation of domestic counterparties on credit claims, asset back securities and covered bonds



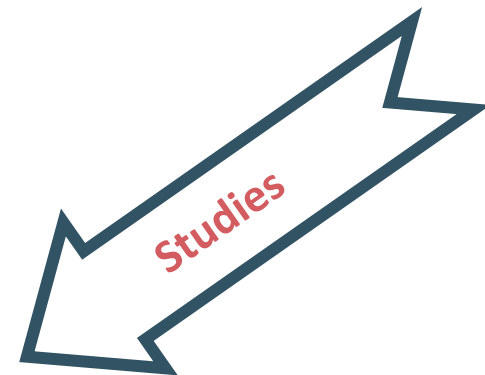


CCR data as a tool for research purposes





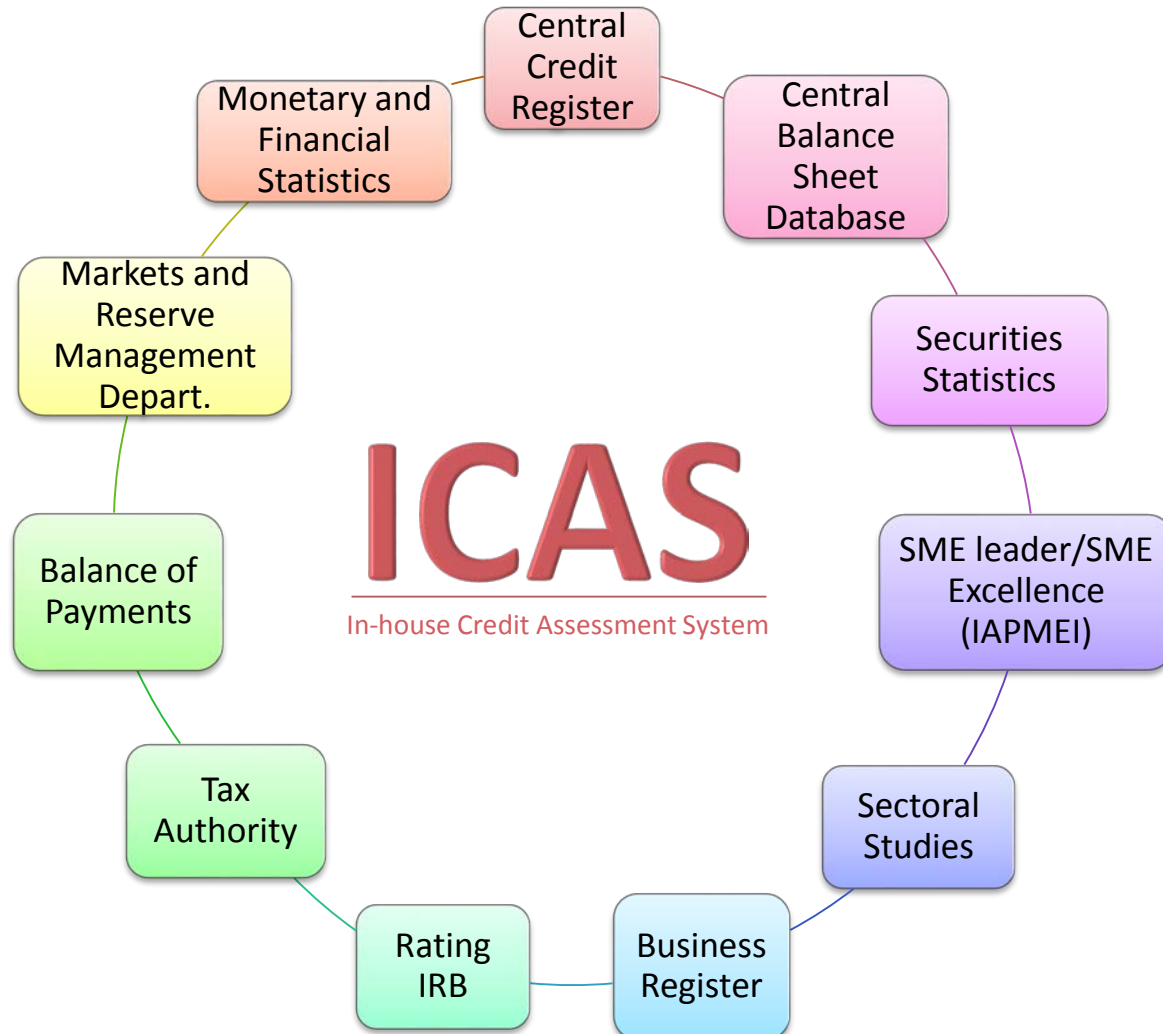
CCR data as a tool for research purposes



The collage includes the cover of the 'ECONOMIC BULLETIN' from Banco de Portugal, the cover of 'FINANCIAL STABILITY PAPERS' from Banco de Portugal, and a line graph showing 'Nominal GDP' (solid line) and 'Total credit' (dashed line) from 2009q1 to 2014q1. The graph shows a general downward trend for both metrics over the period, with a notable dip in total credit around 2012q3.

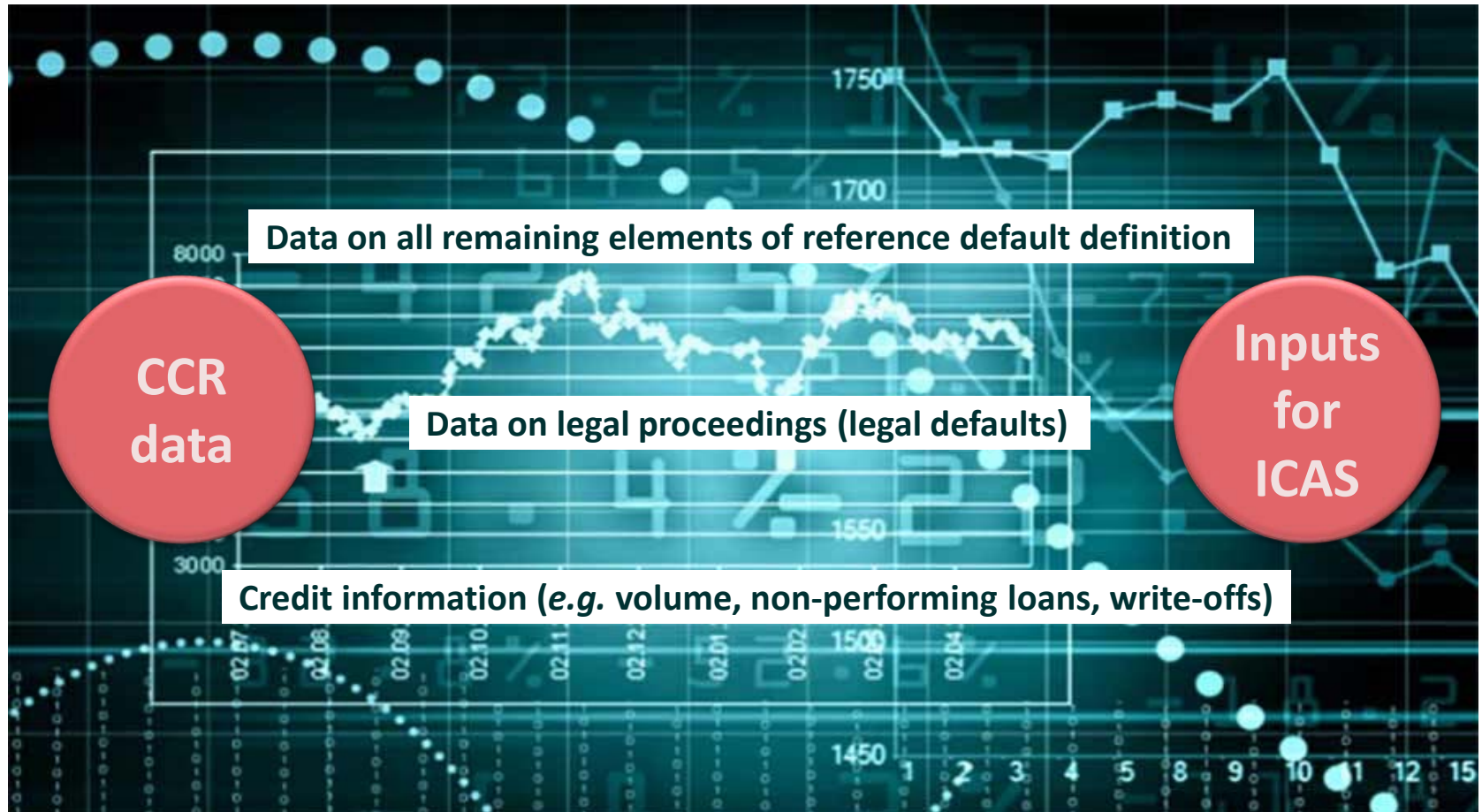


The ICAS and the Portuguese CCR



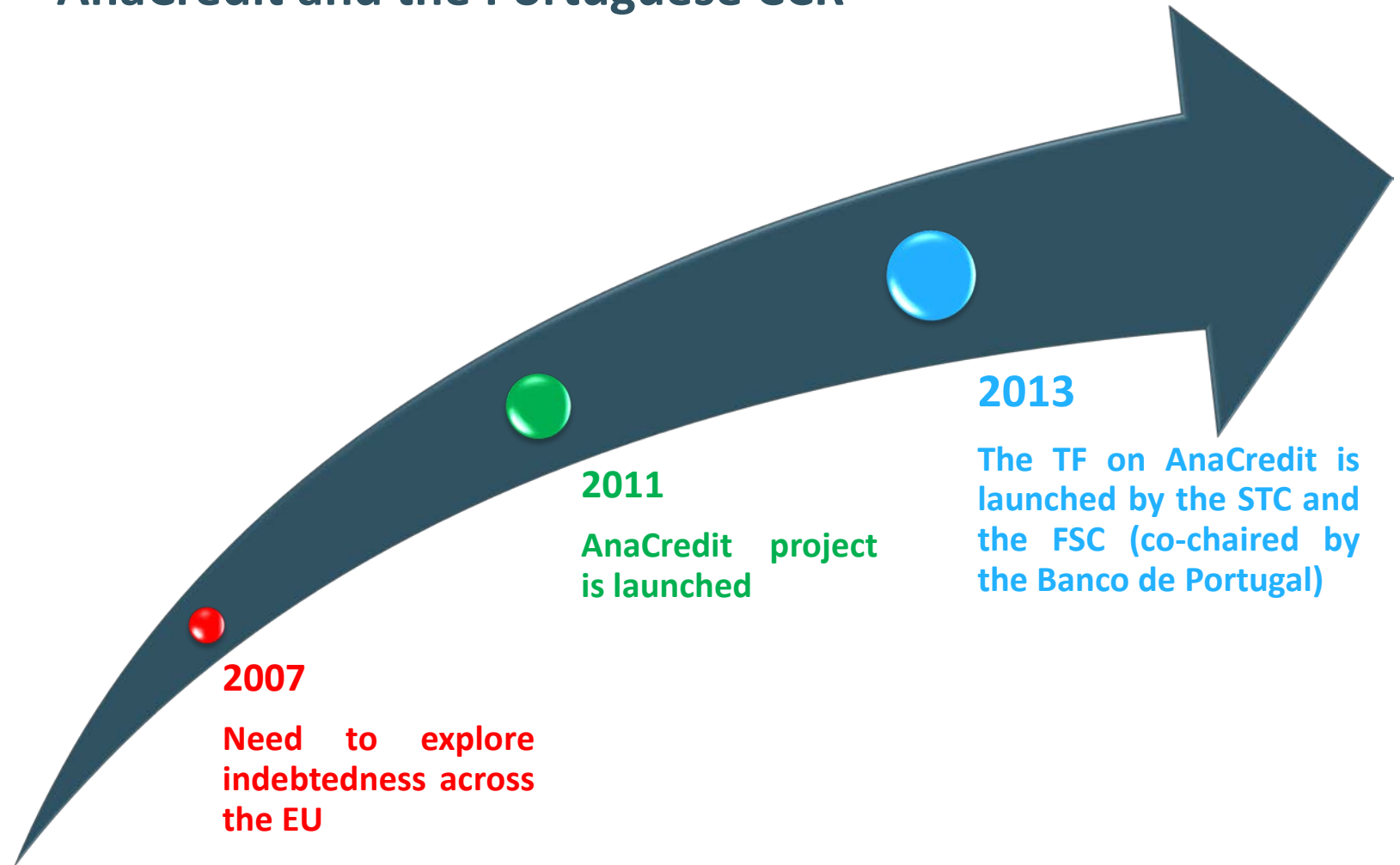


The ICAS and the Portuguese CCR





AnaCredit and the Portuguese CCR





AnaCredit and the Portuguese CCR

New AnaCredit
requirements

New CCR logic: Loan-by-loan data

Functionalities to be kept:

- Different reporting rule for different data
- Single identification code
- Classification *per* business register
- Corrections assured by reporters

Options under consideration:

- Classification of participants according to data needs
- Identification of different types of data
- Different deadlines for each type of data

Thank you for your attention | Dziękuję za uwagę



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