



FINANCIAL INFRASTRUCTURE SERIES
CREDIT REPORTING POLICY AND RESEARCH

INTERNATIONAL COMMITTEE ON CREDIT REPORTING

THE ROLE OF CREDIT REPORTING IN SUPPORTING FINANCIAL SECTOR REGULATION AND SUPERVISION

January 2016



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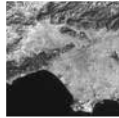


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PREFACE

In September 2011, the General Principles for Credit Reporting were issued by the World Bank and produced under its guidance by an international task force composed by central banks, other economic authorities, multilateral organizations, consumer/data protection authorities and credit reporting industry associations. In March 2013, the Task Force agreed to continue working on the policy implications related to the implementation of the General Principles for Credit Reporting and was transformed into a permanent committee, the International Committee for Credit Reporting (ICCR). This committee is currently comprised of the Arab Monetary Fund, Association of Consumer Credit Information Suppliers, Banco Central do Brasil, Banco de España, Banque de France, Banca d'Italia, Banco de México, Bank for International Settlements, Business Information Industry Association, Center for Latin American Monetary Studies, Central Bank of the Republic of Turkey, Consumer Data Industry Association, Deutsche Bundesbank, European Bank for Reconstruction and Development, Inter-American Development Bank, International Finance Corporation, People's Bank of China, Reserve Bank of India, South Africa's National Credit Regulator, U.S. Consumer Financial Protection Bureau and the World Bank.

At its meetings in Washington and Berlin in May and October 2014, respectively, the ICCR agreed that more light should be shed on the role that credit reporting plays in promoting financial stability through the provision of credit data for financial sector micro- and macro-prudential supervisory and regulatory activities.

In this context, the ICCR has produced this report, which discusses how credit reporting systems can support financial sector regulation and supervision in an effective manner. This analysis is complemented with the identification of a number of trends and associated key challenges.

ABBREVIATIONS

ACCIS	Association of Consumer Credit Information Suppliers	GLEIF	Global Legal Entity Identifier Foundation
BCBS	Basel Committee on Banking Supervision	GPCR	General Principles for Credit Reporting
BOE	Bank of England	ICCR	International Committee on Credit Reporting
CB	Credit Bureau	IFC	International Finance Corporation
CCB	Counter-cyclical Capital Buffer	IMF	International Monetary Fund
CCF	Credit Conversion Factor	IRB	Internal Ratings-Based
CCRC	Commercial Credit Reporting Company	IMF	International Monetary Fund
CNBV	National Banking and Securities Commission of Mexico	INFONAVIT	Mexico's National Institute of the Fund for the Provision of Housing for Workers
CR	Credit Registry	LGD	Loss Given Default
CRS(s)	Credit Reporting System(s)	LGL	Loss Given loss
CRSP(s)	Credit Reporting Service Provider(s)	LTI	Loan-to-Income
EAD	Exposure At Default	LTV	Loan-to-Value
EBA	European Banking Authority	MOU	Memorandum of Understanding
ECB	European Central Bank	NCA	National Competent Authorities
EL	Expected Loss	NCB(s)	National Central Banks
ESCB	European System of Central Banks	OECD	Organization for Economic Co-operation and Development
ESFS	European System of Financial Supervision	PD	Probability of Default
EU	European Union	SCR	Sectoral Capital Requirements
FLESB	Forward Looking Exercise on Spanish Banks	SME	Small and Medium Enterprises
FSB	Financial Stability Board	SSM	Single Supervisory Mechanism
FSC	ESCB Financial Supervision Committee	STC	ESCB Statistics Committee
GLEI	Global Legal Entity Identifier	UK	United Kingdom

SECTION I

INTRODUCTION



1. The General Principles for Credit Reporting (GPCR) were issued by the World Bank in September 2011.¹ Since then, the World Bank and the International Committee on Credit Reporting (ICCR) have been leading efforts towards the implementation of the GPCR worldwide. Among those efforts, the World Bank and the ICCR are developing more detailed guidance for specific credit reporting areas and connected activities.

2. In this context, at its May 2014 meeting the ICCR included the topic “The Role of Credit Reporting in Financial Sector Regulation and Supervision” in its list of work streams meriting an in-depth discussion and analysis, and during its October 2014 meeting decided to produce a report on this subject as a specific output of the follow-up work in connection with the implementation of the GPCR.

3. Indeed, the overarching public policy objectives for credit reporting in the GPCR state that “*Credit reporting systems should effectively support the sound and fair extension of credit in an economy as the foundation for robust and competitive credit markets. In doing so, credit reporting systems should be safe and efficient and fully supportive of data subjects and consumer rights*”.

¹ The World Bank (2011), “*General Principles for Credit Reporting*”, Washington DC.

This overarching objective is further developed in the GPCR report into a set of more specific objectives, one of which is that an effective credit reporting system should “*support financial regulators in supervising regulated institutions in order to ensure that the latter remain safe and sound, minimizing systemic risk*”.

4. In many countries, credit reporting already plays a significant role in supporting financial sector regulation and supervision, both from the micro-prudential perspective as well as from a macro-prudential angle.²

5. Financial sector regulators and supervisors worldwide have shown a strong preference for sourcing the data they need from credit reporting service providers (CRSPs) as well as from other types of centralized credit databases, rather than relying on *ad hoc*, unstructured data requests to the regulated/supervised entities. A key reason behind this is that integrated reporting mechanisms like those of CRSPs normally ensure higher data quality and better overall usability of such data, in addition to greater efficiency. Box 1 provides a description of the main types of CRSPs, i.e. credit registries, credit bureaus and commercial credit reporting companies.

² Micro-prudential supervision focuses on preserving the soundness of individual banks, financial conglomerates and other financial institutions, while macro-prudential supervision is concerned with the stability of the financial system as a whole. The two approaches are discussed in further detail throughout this report.

BOX 1: CREDIT REPORTING SERVICE PROVIDERS

In essence, credit reporting service providers (CRSPs) enable or facilitate information flows between entities that gather credit and credit-related data directly from individuals and businesses (i.e. data providers) and parties that use such data for a variety of purposes (i.e. users). CRSPs perform several important functions. For example, data received from data providers is cleaned, validated and stored in a standardized data format. CRSPs then supply organized information to users in a certain format that facilitates credit assessments and other tasks.

The main types of CRSPs are credit registries, credit bureaus and commercial credit reporting companies.

As per the GPCR, a credit registry is *“A Model of credit information exchange whose main objectives are assisting bank supervision and enabling data access to regulated financial institutions to improve the quality of their credit portfolios.”* Credit registries are typically owned and operated by a central bank or other financial supervisors. In most countries, credit registries focus on collecting credit information from prudentially regulated financial institutions.

Credit bureaus are defined in the GPCR as *“A Model of credit information exchange whose primary objective is to improve the quality and availability of data for creditors to make better-informed decisions.”* Credit bureaus collect credit data from banks, other regulated financial institutions, other non-financial lenders and in some cases from entities providing non-financial services but from which a payment obligation is derived (e.g. payment of utilities), and generally target retail credit and small business lending markets.

Finally, the GPCRs define commercial credit reporting companies as *“Entities that collect information on businesses, including sole proprietorships, partnerships and corporations for the purpose of credit risk assessment, credit scoring or for other business purposes such as the extension of trade credit.”* These entities collect credit data from banks, other regulated financial institutions, other non-financial lenders and other sources, and generally target the medium and large company lending market segments.

Source: Adapted from the GPCR report.¹

¹ Additional details are available in the GPCR report, including in particular Annex 2 which provides a detailed description of the various models of credit reporting.

6. Data in credit registries (and in other centralized credit databases operated by central banks and/or other financial sector authorities) has been used extensively for many years to support regulation and supervision of individual financial institutions. For example, credit data at the level of each reporting financial institution is a key input for off-site supervision. More recently, credit data has also become important in areas like the implementation of the internal ratings-based

(IRB) approach of the Basel regulatory capital framework for banks, for example by facilitating supervisory validation of internally-estimated risk parameters.

7. As the most recent financial crisis showed, focusing on the stability of individual financial institutions alone is however not enough to ensure the stability of the financial system as a whole. This is why policy-makers and academic circles alike have been developing a

complementary macro-prudential approach to financial supervision and regulation. Hence, as part of this complementary approach central banks and/or other financial supervisors perform a series of analyses and have designed instruments to, respectively, continuously monitor the stability of the financial system and take preventive measures if and where appropriate. Data obtained through credit registries (and/or other centralized credit databases operated by financial sector regulators/supervisors) is one of the key inputs that allow central banks and other financial sector regulators and supervisors to perform such analyses from a systemic perspective. Moreover, credit data from these sources is crucial for the calibration of macro-prudential policy regulations or measures (e.g., counter-cyclical capital buffers, or quantitative limits to certain key ratios in lending such as loan-to-value and loan-to-income).

8. It should be noted that credit bureaus and commercial credit reporting companies can also play a role in supporting financial regulation and supervision and broader financial stability tasks. As a matter of fact, some central banks and financial supervisors already resort to credit bureaus and commercial credit reporting companies to obtain the data they need to discharge their micro- and/or macro-prudential responsibilities.³ Depending on a number of factors, data in these CRSPs may be sought as a complement to the data available in the credit registry (or other credit databases operated by financial authorities),⁴ or in some cases may actually be the main source for such data, for example when a credit registry does not exist in the corresponding jurisdiction.

³ Among others, some examples include the central banks of Korea, Mexico, Turkey and the United Kingdom.

⁴ For example, because of a limited coverage of the credit registry if a minimum reporting threshold exists and has been set at a relatively high level.

OBJECTIVES OF THIS REPORT

9. New and often more complex data needs of central banks and other financial sector regulators and supervisors have emerged as a result of changes in the financial sector regulatory and supervisory paradigm and the new analytical techniques that have been developed, and continue to be developed, in connection with such changes. A robust credit reporting system can play an important role in satisfying these data needs.

10. To this end, this report identifies the key elements and practices that characterize a credit reporting system that is effective in supporting central banks and other regulators/supervisors in discharging their respective micro- and macro-prudential supervisory and regulatory responsibilities. **The specific focus of this report is on how the various types of CRSPs are able to satisfy the underlying data needs of these authorities, as well as the difficulties that CRSPs often face in this specific context.**⁵

11. These key elements, practices and difficulties can guide financial sector authorities in their efforts to build or to reform and modernize the various elements of their credit reporting system and maximize its usefulness for supervisory and regulatory purposes.

STRUCTURE OF THE REPORT

12. Chapter II provides an overview of the usefulness of credit data for financial regulation, supervision and overall financial stability tasks, and the role that the various CRSPs and other centralized credit databases

⁵ This report looks primarily at credit reporting service providers, and to a much lesser extent it discusses the role of other credit or credit-related databases that do not have a feedback loop to the data providers (e.g., to lenders). Additionally, this report has not analyzed in detail potential impacts on CRSPs from supporting financial regulation and supervision, if any.

play in this regard. Chapters III and IV analyze, respectively, the data needs of micro-prudential financial supervisors and macro-prudential financial sector authorities, with a special focus on how such data is sourced from CRSPs as well as the obstacles and other difficulties these supervisors and other authorities face when using this data effectively. Similarly, chapter V discusses credit data needs for the purposes of financial sector regulation-making. Chapter VI presents some concluding remarks through the identification of the main trends observed in the above-mentioned areas, and the key challenges associated with each of these trends.

SECTION II

THE QUEST FOR CREDIT DATA USEFUL FOR FINANCIAL SUPERVISION, REGULATION AND OVERALL FINANCIAL STABILITY TASKS



II.1 CREDIT REGISTRIES, CREDIT BUREAUS, COMMERCIAL CREDIT REPORTING COMPANIES AND OTHER CREDIT DATABASES

13. From a policy perspective, perhaps the most important role of credit reporting consists in addressing information asymmetries between creditors and borrowers in order to facilitate an efficient and cost effective credit risk assessment. Through this means, credit reporting can help achieve lower lending costs, which in competitive markets are passed on to borrowers in the form of lower cost of capital. Moreover, it can enhance access to credit for individuals and firms.

14. Credit reporting also contributes to financial stability. For example, services offered by CRSPs help improve the quality of loans made by banks and other lenders through the provision of tools used to evaluate credit risk more effectively and consistently, as well as for the active management of the loan portfolio. Credit reporting also serves to discipline debtor behavior as regards the timely repayment of their financial and certain other obligations, as a good credit history facilitates access to credit and can often obviate the need for debtors to put up tangible collateral for loans.

15. In addition to these positive effects of credit reporting on financial stability, central banks and other financial sector authorities are interested in their na-

tional credit reporting system being capable of reliably providing comprehensive, high-quality credit data, which serves as a crucial input for micro- and macro-prudential regulation and supervision, as well as for other public sector functions (e.g., production of certain macro statistics).⁶

16. A key purpose of a credit registry (CR) is precisely to support banking and broader financial micro- and macro-prudential regulation and supervision, and through this means assist in preserving financial stability. Therefore, CRs typically collect credit data from banks and in some cases also from other regulated financial institutions that provide loans and other forms of credit as a core business,⁷ and make this information available to financial supervisors and regulators for them to perform a number of analyses. At present, for example, CR data is being heavily exploited in certain jurisdictions for stress testing.⁸

⁶ Box 5 in Chapter IV describes recent work of the Bank of England on ascertaining the availability of credit data in the United Kingdom for financial supervision and regulation and a number of other purposes.

⁷ Some reporting entities may not be regulated by the central bank or other financial supervisor that operates the CR, although from a broader perspective they would still be considered as regulated. One example is that of some special purpose vehicles that are required to report to CRs.

⁸ For example, Spain's central bank (Banco de España) has developed a stress test tool, so-called FLESB (Forward Looking Exercise on Spanish Banks), that exploits the very granular information contained in its CR. FLESB is able to develop different probability of default (PD) models for homogeneous credit portfolios (i.e. consumer loans, mortgages, loans to SMEs, corporate loans and construction and real estate developer loans), as well as cure rates, credit conversion factors (CCFs) and to understand better loss given default (LGD) and loss given loss (LGL).

17. CRs are characterized by having a feedback loop to the banks and other regulated lenders that provide data to the registry. Hence, another function of CRs is to improve the quality and availability of credit data for those lending institutions (e.g., regarding the indebtedness of individuals, firms, public sector entities, other financial intermediaries), thereby helping improve the overall quality of their loan portfolios. In addition, in certain cases information provided by CRs assists banks and other regulated lenders in calculating their loan loss provisions.⁹

18. Many central banks and/or other financial supervisors/authorities have developed other types of credit databases or credit-related databases in connection with their regulatory and supervisory responsibilities. Some are used exclusively for supervisory and/or regulatory purposes, with no feedback loop to data providers.¹⁰ Others have a much more specific or limited objective, like databases that record negative events such as data on individuals and/or firms that have defaulted on their loan repayment obligations and caused losses to lenders through loan write-offs, or “bad cheque” databases.^{11 12}

19. Credit bureaus, on the other hand, aim primarily at improving the quality and availability of data for financial and non-financial creditors so that they can make better-informed credit and loan decisions. This consideration also applies to commercial credit reporting companies. However, while not their primary objective, credit bureaus (CBs) and commercial credit reporting companies (CCRCs) can also support financial

regulation and supervision directly through the provision of credit data to the corresponding authorities.

20. In some countries CBs and CCRCs are in fact the main data sources for financial sector regulators and supervisors in connection with their responsibilities. This is usually the case when there is no CR, or when the database of CBs and/or CCRCs is more comprehensive than that of the CR (or of the other credit databases operated by regulators/supervisors).

21. More often, however, data in CBs and CCRCs is used as a complement to the data in CRs and/or in other credit databases. For example, some CRs focus on loans to legal persons and/or have set a minimum reporting threshold that does not allow capturing a relevant portion of loans to individuals (i.e. some CRs do not cover individuals as such, or micro businesses or other self-proprietorships). Likewise, if the set of entities reporting to the CR is limited to traditional commercial banks, authorities responsible for overall financial stability¹³ may resort to CBs and CCRCs for data on other relevant financial and non-financial entities that make loans to individuals or firms on a regular basis. Box 2 shows the case of Mexico as an example of credit data being sourced also from CBs and CCRCs for certain regulatory and supervisory purposes.

22. There may be cases where CBs and CCRCs provide less value to financial regulation and/or supervision, mainly where there are legal or other types of restrictions on the collection of data through private arrangements. A typical example of this is CBs and CCRCs not being able to collect positive credit data.¹⁴

⁹ For example, in some countries the CR provides consolidated data on the borrower (i.e. at the system level), and/or a rating of the borrower based on the worst position of such borrower in the system.

¹⁰ For example, some central banks and other supervisors have developed a loan-by loan database with a large number of attributes that allows supervisors to follow the whole life cycle of each single credit transaction.

¹¹ “Bad cheque” databases frequently also include bills of exchange and promissory notes. Moreover, in some countries these databases are developed by the private sector and operate as a type of specialized credit-related risk-management database used by those who accept cheques in the marketplace, and also by banks when evaluating a consumer’s application for a deposit account.

¹² Some of these other databases may have a feedback loop to data providers.

¹³ The next section of this chapter introduces the distinction between micro- and macro-prudential supervision.

¹⁴ “Positive data” is defined in the GPCRs as “*Information that covers facts of contractually compliant behavior. It includes detailed statements about outstanding credit, amount of loans, repayment patterns, assets and liabilities, as well as guarantees and/or collateral...*” Principle 1 of the GPCRs supports so-called full-file credit reporting, i.e. collecting both positive as well as negative data. For additional details see The World Bank (2011).

BOX 2: USE OF CB AND CCRC DATA FOR FINANCIAL SUPERVISION AND REGULATION: THE CASE OF MEXICO

Mexico's central bank (Banco de México) and the National Banking and Securities Commission of Mexico (CNBV), collect from financial institutions periodic granular information on their credit counterparties. However, the respective information layout showed areas of opportunity to bring about a comprehensive and consistent analysis of the reported data. Current challenges include: i) heterogeneity in the design, timing and historical depth of the information layout among the different types of loan portfolios; and, ii) the underlying reports do not contain information of unregulated lending entities.

In this sense, the information collected by CBs and CCRCs has proved valuable for covering these areas of opportunity since these entities collect information in a homogenous manner from the totality of regulated credit institutions and from a high percentage of unregulated lending entities during periods of time long enough to cover the business cycle.¹

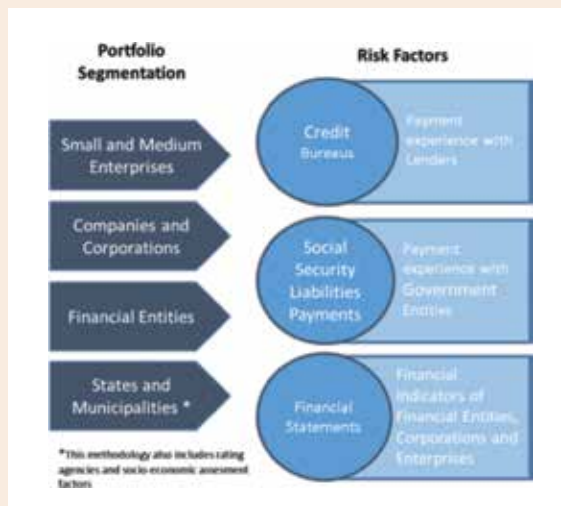
With regard to the specific uses of the data obtained from CBs and CCRCs, one example is that of credit risk provisioning. At the time of the latest financial crisis, provisioning was based on “incurred loss” models which showed deficiencies with regard to the time and the amount needed to face credit risk. For this reason, efforts have been made to shift to a new, more prospective model known as “expected loss” (EL), where losses are provisioned *ex-ante*.

In the development of EL models, the use of CB/CCRC information allows incorporating a systemic approach by considering the defaults that debtors may have had with any credit counterparty and with any loan product, and not just with each institution in particular. In this sense, a systemic probability of default (PD) can be obtained. This approach provides greater consistency to the perception of the borrowers' risk in the system

With this background, in 2008 the CNBV launched a project to change the reserves provisioning approach towards the EL model. This new EL model for the commercial loans portfolio incorporated information from CBs and CCRCs to estimate the PD.² The dimensions of risk considered in the PD are: payment behavior information with banks and non-banks, information on write-offs or loan restructuring, information on payment experience with government entities,³ the debtors' economic sector and geographical region, and their credit and overall financial situation characteristics. On the basis of the latter, a debtor credit score is calculated.

This model, calibrated with information from CBs and CCRCs based on an expert analysis of qualitative and quantitative data, showed a significant improvement in its predictive power over the previous regulatory model.

Source: Banco de México.



¹ CBs and CCRCs in Mexico must retain the information on payment behavior for at least 72 months.

² This methodology was developed in 2011 and became effective in July 2013.

³ More specifically with the National Institute of the Fund for the Provision of Housing for Workers (INFONAVIT), which is the main provider of mortgage loans in Mexico. Currently, INFONAVIT has more than 5 million mortgage loans outstanding.

BOX 3: MICRO- VERSUS MACRO-PRUDENTIAL SUPERVISION: POTENTIAL DIFFERENCES, TENSIONS AND COMPLEMENTARITIES

Micro- and macro-prudential policies share a number of instruments but have a different, albeit complementary, focus. The main focus of micro-prudential supervision is to safeguard individual financial institutions from idiosyncratic risks and prevent them from taking too much risk. By contrast, macro-prudential policy focuses on the stability of the financial system as a whole.

Conceptually, *intermediate* macro-prudential objectives for the financial system relate to financial risks faced by individual financial institutions. For example, endogenous credit and liquidity cycles in the financial system coincide with a build-up of credit and liquidity risk in individual institutions: Credit booms are not necessarily a source of concern for micro-prudential supervision, as banks, taken in isolation, look healthy during boom periods.¹ Likewise, fluctuations in market prices (market risk for individual institutions) can lead to contagion across the financial system.

On the other hand, complementarities between the two policy domains arise primarily because they do not rely on *exactly* the same set of tools. To give an example of complementarity: the counter-cyclical nature of some macro-prudential measures may have the unintended effect of leading banks to collectively take on risk *ex ante*. Micro-prudential measures may deter such collective behavior by preventing excessive risk-taking at the level of individual banks.

Complementarities may also emerge because micro- and macro-supervision may not use their common instruments with the same degree of granularity. Overall, one can distinguish at least two levels of complementarity. First, macro-prudential policies are in some cases blunter than micro-prudential ones. Second, macro-prudential policies may be vulnerable to “collective moral hazard” problems. Micro-prudential supervision can help fix the problems and incentives caused by macro-prudential problems by enforcing requirements at the level of individual institutions.

Tensions between the two approaches may arise primarily because micro-prudential supervision does not necessarily internalize the potential adverse effects that it may have at the macroeconomic scale. Frictions between micro and macro-prudential policies are most likely to emerge during downturns. For example, during a downturn, the desire to increase the capital buffers of individual banks to protect them against future credit losses (a micro-prudential concern) can – in aggregate – have negative pro-cyclical effects on credit growth to the economy (a macro-prudential concern).

Source: Summarized from the European Central Bank’s Financial Stability Review, May 2014.

¹When asset prices go up, indicators such as leverage ratios tend to decrease; also, market volatility is typically muted and risks tend to be underpriced.

II.2 CREDIT DATA NEEDED FOR FINANCIAL SECTOR REGULATORY AND SUPERVISORY PURPOSES

23. Data needs of financial supervisors have been evolving over time in response to changes in the banking business and the financial business more generally, and also as a result of new regulatory/supervisory paradigms. For example, micro-prudential supervision evolved from being largely an ex-post, regulatory compliance-focused (audit-like) activity up to the 1980s and early 1990s, to a more prospective/forward-looking, preventive function. Likewise, a macro-prudential approach to financial supervision has been under development over the last several years to complement micro-prudential supervision. Box 3 contains a brief discussion on micro- versus macro-prudential supervision.

24. Further, the most recent financial crisis unveiled a number of data gaps that hindered effective supervision and regulation. Following widespread consultation with official users of economic and financial data in G-20 countries and at other international institutions, particularly those responsible for financial stability analysis, the Financial Stability Board (FSB) and the International Monetary Fund (IMF) put forward a series of recommendations to fill these gaps. These recommendations address the following broad topics: i) Need to better capture the build-up of risk in the financial sector; ii) Need to improve data on international financial network connections; iii) Need to better monitor the vulnerability of domestic economies to shocks; and, iv) Need to improve the communication of official statistics.¹⁵

25. The specific credit data used for financial regulation and supervision in each country will depend on a

number of issues and is therefore likely to vary to some degree from one country to the other. Some of these issues include:

- The legal and regulatory framework for banks and other financial entities, including issues such as secrecy provisions and the reporting duties of these entities¹⁶
- The legal and regulatory framework underpinning the regulatory, supervisory and financial stability monitoring duties and activities of the central bank, other financial supervisor(s) and other financial sector authorities, including the prudential regulatory framework
- The actual financial supervision model implemented in a country, including its degree of technical sophistication
- The types of CRSPs operating in the country (i.e. CRs, CBs, CCRCs) and the actual availability, depth and breadth of data in them
- The availability of modern analytical and reporting tools at the central bank/financial supervisory agency to exploit the data available at CRs (if such tools are not already embedded in the system), or that is obtained from CBs and CCRCs.

26. As a result of the above, trying to identify a “typical set” of specific credit data items that are used in financial sector supervisory and regulatory activities on the basis of cross-country comparisons is likely to be extremely difficult and probably not very useful.

27. An alternative approach is to take as a starting point the core analytical tasks that are performed in a modern financial regulatory and supervisory model/

¹⁵ For full details see FSB and IMF (2009).

¹⁶ Secrecy provisions generally do not affect data flows intended for supervision purposes, but they do affect the flow of data to third parties, including CBs and CCRCs.

regime,¹⁷ and on this basis assess in broad terms the data needs that are derived from such core tasks. This report follows this alternative approach.

28. In this context, micro-prudential financial supervisors have a key interest in the overall quality of the loan portfolio of individual regulated institutions. Hence, among other aspects they will analyze the types of loans granted, loan attributes (e.g. currency, maturity, interest rate, etc.) and any mismatches of these with the institution's funding structure, and loan quality measures (e.g. amount in arrears, provisions, value of collateral). Often supervisors will perform these analyses not only at the entity-level, but will also selectively analyze individual borrowers and groups of connected clients. Supervisors will also likely carry out exercises like benchmarking/peer group reviews and stress tests at the level of individual financial institutions. **These core analytical tasks for micro-prudential supervision and the underlying credit data needs, and especially how such data is sourced from CRSPs and the obstacles to effective usage are discussed in chapter III of this report.**

29. Implementation of macro-prudential supervision policies has increased demand for data relevant for financial stability analysis. Macro-prudential supervision focuses on the monitoring and managing of the build-up of risks to systemic financial stability, which are very often generated endogenously during so-called "credit booms".¹⁸ Hence, macro-prudential authorities are typically interested in analyzing system-wide phenomena such as potential excessive credit growth that

¹⁷ Many of the features of such a model or regime are prescribed in international regulatory and policy standards (i.e. principles, standards, recommendations and other forms of guidance). Especially relevant to banking regulation and supervision are the standards produced by the Basel Committee on Banking Supervision (BCBS), as well as those of the Financial Stability Board (FSB).

¹⁸ In addition to this "financial cycle" dimension of systemic risk, there is also the "interconnectedness" dimension. For example, determining spill-over effects in the network of financial intermediaries by analyzing how losses are likely to propagate through the network in case of a shock, as well as by identifying concentrations and common exposures as a source of indirect contagion.

may be driving asset price bubbles, excessive leverage that may act as an amplifying channel, maturity and/or currency mismatches and direct and indirect exposure concentrations that may lead to asset fire sales and contagion. **Chapter IV, following a similar structure to chapter III, analyses the core analytical tasks for macro-prudential supervision and the underlying credit data needs, how such data is sourced from CRSPs and the obstacles to effective usage.**

30. The overall effectiveness of micro and macro-prudential supervision relies to a large extent on there being robust regulations. Supervisors and other relevant authorities are interested in having a thorough understanding of the aspects that need to be regulated or for which regulation needs to be improved. Moreover, they need to be able to simulate the potential consequences of the intended regulations so as to effectively calibrate the respective regulatory provisions before they come into force. **Chapter V therefore describes the types of analytical tasks used in connection with financial sector regulation-making, and the underlying credit data needs.**

31. It is important to clarify at this point that while credit data and credit-related data are essential for financial sector regulators/supervisors, they are not the only type of data they use. In the Eurozone, for example, a number of data modules have been defined within the supervisory reporting framework. One of the key modules is indeed a granular credit data module, as an essential component to be used for supervisory analyses as well as a planning tool to inform supervisory activity.¹⁹ A number of other modules have also been defined in the supervisory reporting framework, however. These other modules are:

- The core supervisory data module, essentially based on the European Banking Authority's com-

¹⁹ This project, known as AnaCredit, is described in some detail in Annex 2 of this report.

mon reporting and financial reporting templates,²⁰ to provide standardized information on solvency measures, as well as financial information on banks and banking groups and large exposures

- The statistical data module, which relies on monetary financial institution (MFI) statistics as a complement to supervisory information.²¹ These MFI data provide important information on the assets and funding structures of MFIs
- Ad hoc data collections²²
- National data requirements, to inform national-specific reporting
- Data required for public disclosure.

²⁰ For details see: <http://www.eba.europa.eu/regulation-and-policy/supervisory-reporting>

²¹ The key difference between MFI data and supervisory consolidated data relates to the reporting population and the geographical consolidation scope. For MFI data, the reporting population consists of MFIs resident in each Member State – no consolidation is performed for cross-border subsidiaries or non-bank subsidiaries.

²² To facilitate, for example, stress testing.

DATA NEEDS OF MICRO-PRUDENTIAL FINANCIAL SUPERVISORS FOR ASSESSING THE LENDING ACTIVITY OF REGULATED ENTITIES:

The role of credit reporting service providers



III.1 MICRO-PRUDENTIAL FINANCIAL SUPERVISION, ITS EVOLUTION AND CHANGING DATA NEEDS

32. While it is not the objective of this report to describe in detail micro-prudential financial supervision activities, providing an overview on the evolution of these activities is nevertheless deemed useful to understand how data needs of supervisors have evolved and how the credit reporting system has been fulfilling such needs. Given the focus of this report on the usage of credit data by financial supervisors and regulators, which relates mainly to the assessment of risks related to lending, the discussion below focuses on “banking supervision”, which is to be understood here as the regulation and supervision of banks and other regulated financial institutions that lend money as their core business.

33. As mentioned earlier, the primary interest of micro-prudential banking supervision is on preserving the soundness and stability of individual banks and other regulated lending institutions. Until a few years back, this had been the main or sole objective of financial supervisors, and is therefore often referred to as “traditional” financial supervision.

34. Until the mid-1980s or even during the early 1990s, banking supervisory activities consisted mainly

of verifying compliance with relevant laws, regulations and other applicable rules, norms, instructions, etc. Compliance was verified through certain off-site techniques,²³ and through on-site inspections. Corrective measures, possibly including sanctions, were applied if a violation on compliance was detected.

35. As part of that supervision model, credit institutions in some countries were already required to report data on a periodic and systematic basis to financial supervisors in order for the latter to perform the necessary off-site analyses, as well as to provide preparatory information to their on-site inspectors. In this context, the first CRs and other centralized credit databases operated by central banks and/or other financial supervisors were created in the late 1950s and early 1960s.

36. This supervisory model could not keep up with the liberalization of financial markets that started in the 1980s and which paved the way to their ever-growing sophistication, including the development of increasingly complex financial instruments and increasing integration of banks and other financial institutions and financial markets across national borders. This situation was reflected for example in the evolution of the Basel capital accords (see Box 4).

²³ Such as, for example, the analysis of banks’ periodic (e.g. monthly) reports to supervisors.

BOX 4: EVOLUTION OF THE BASEL CAPITAL ACCORDS

The original Basel Accord, created in 1988, was originally intended as a tool to create an international level playing field with regard to the minimum amount of capital and its measurement for internationally active banks. It was nevertheless regarded as the standard for capital measurement and capital requirements for banks, including at the domestic level, for approximately 15 years. The original Basel Accord, often referred to simply as “Basel I” contained relatively simple and straightforward provisions. The growing sophistication of banks, their lending activity and creation of complex financial instruments nevertheless started to strain this simple methodology.

Basel I was then replaced by Basel II in 2004, which was intended to deal with the growing sophistication by establishing a capital regulatory regime more aligned with a bank’s underlying risk profile (i.e. moving from a “one size fits all” regime to differential approaches using bank’s internal models to calculate a number of parameters that are then used as inputs in regulatory capital calculations). This aimed at making the regulatory regime better, but regulation was now no longer simple or completely uniform across banks.

At that time there was certainly a quite prevalent view that if banks were individually stable, the financial system would itself stay upright. This view was turned down by the 2007-08 global financial crisis. And so, Basel III replaced Basel II. Basel III not only enhanced the micro-prudential framework, but with the countercyclical buffer it also introduced the first international agreement on a macro-prudential tool.¹

Source: Own elaboration based on information available at the BCBS’s microsite at www.bis.org.

¹ Subsequent work on the framework for systemically important banks (both global and domestic) has further expanded the BCBS’s input into the macro-prudential field.

37. The key problem faced by supervisors has however not changed in essence. As stated by the Chairman of the Basel Committee on Banking Supervision (BCBS) “...banks regularly lose money in the same old way: while pursuing profits, growth and market share without adequate heed to risk. Unfortunately, they often find clever new ways of doing this, so that it isn’t always easy to see how the same old habits will be repeated.”²⁴

38. Starting in the mid-1980s, and more generally during the 1990s, a “prospective” or “forward-looking” banking supervisory model aimed at preventing the build-up of risk emerged as a response to the new reality in financial markets and started to be implemented in many countries around the world.

39. This new model further evolved into what is now commonly referred to as risk-based banking supervision. Some of the key areas of focus of supervisory activities are:²⁵

- The quality of management. Special emphasis to be placed on stronger interaction between supervisors and banks’ boards of directors, senior management, and control functions such as compliance and internal audit
- An institutions’ risk governance framework (e.g. strong internal audit function, risk appetite framework, risk culture), including the formulation of supervisory expectations for such frameworks
- Usage of forward-looking risk analysis tools such as stress testing to detect early weaknesses or problems.

²⁴ Keynote address by Stefan Ingves, Chairman of the BCBS and Governor of Sveriges Riksbank, at a symposium to mark 25 years of the Basel Capital Accord “25 years of international financial regulation: Challenges and opportunities”, Basel, 26 September 2013. Full speech is available at <http://www.bis.org/speeches/sp130926.htm>

²⁵ Apart from supervisory activities, other pillars of this model include: i) effective and prudent regulations; ii) corrective measures, including supervisory recommendations and orders, restructuring plans, intervention of institutions, removal of management; iii) a disciplinary and sanctioning regime affecting both the supervised entities as a whole as well as their managers, individually or collectively.

III.2 CREDIT DATA NEEDS FOR MICRO-PRUDENTIAL SUPERVISORS: Core analytical supervisory tasks with regard to lending risks

40. As discussed in chapter II, by identifying the core analytical tasks that micro-prudential financial supervisors perform on a regular basis in a modern regulatory and supervisory regime, it is possible to obtain a good understanding of their overall data needs in terms of types of data, data attributes, frequency of data reporting/updates, coverage and granularity, among other features.

41. When it comes to analyzing lending risks, the paramount interest of financial supervisors is on the overall quality of the loan portfolio of banks and other financial institutions that lend money as a core business. Focus is placed on their individual performance. In this context, some of the most relevant and commonly used *types of analyses* may include:²⁶

- The concentration of the loan portfolio as a whole or of certain loan types across regions, economic sectors/activities, economic groups, population segments, etc.
- Distribution of loans across sectors (e.g. consumer, mortgage, commercial) and/or product types (e.g. credit card, working capital loan, capital expenditure loan, etc.).
- Connected lending to individuals and/or legal persons with financial, ownership, management and other types of links/ties with the financial institution
- Currencies in which the loan portfolio is denominated

- Original maturity of loans and pre-payment prospects
- Guarantees and collateral received, including the type of collateral and its valuation
- Loan classification and provisioning
- Non-performing loans (e.g. stock of loans, vintages)
- Loans renewed or restructured
- Recoveries (i.e. the amounts recovered after loan has been written-off as bad debt)
- Loan portfolios sold to/purchased from other banks and other financial institutions
- Interest rates of loans.

42. The previous set of analytical tasks is based on actual balance sheet positions. Supervisors are also highly interested in all types of off-balance sheet engagements in connection with lending activity, such as credit guarantees given or unused credit lines, among others.

43. In addition to performing all these analyses at the financial entity-level, often supervisors also selectively analyze individual borrowers of those entities. This is done mainly in the course of on-site inspections and is based only partially on the data obtained from CRs, CBs and/or CCRCs as normally it also involves a detailed review of the documentation in the borrower's file with the lender and of a variety of internal reports of the lender.

44. Other analyses such as peer group reviews are also used by many micro-prudential supervisors to better contextualize what is observed at the entity-level. These analyses are performed on a regular basis and often involve defining benchmarks for a set of loan portfolio attributes that can be consistently compared

²⁶ As mentioned in section III.1, in a modern financial regulatory and supervisory regime the ultimate objective of all these analytical tasks is to identify sources of risk in order to anticipate and/or prevent the materialization of such risks. Hence, the analysis is forward-looking rather than focusing merely on compliance with applicable rules.

across peers,²⁷ and also defining acceptable levels of deviation from such benchmarks.

45. Micro-prudential supervisors also perform a series of analyses for certain specific and/or discretionary purposes, performed at irregular intervals or on an ad-hoc basis. Stress tests and other “early warning” exercises are among the most notable analyses of this kind.²⁸

46. Considering the nature and objective of this report, the above discussion on the analytical tasks performed by micro-prudential supervisors has focused on loan portfolio analyses that can be performed using credit data obtained from CRs, CBs or CRCCs. It needs to be emphasized that micro-prudential supervisors actually perform several other analyses both in connection with lending risks (e.g. review of corporate governance in general and of underwriting standards and other credit policies and procedures in particular) as well as with other risks and activities of the banks and other regulated financial institutions.

III.3 TYPICAL PROBLEMS THAT CRSPS FACE FOR MAKING AVAILABLE THE CREDIT DATA THAT MICRO-PRUDENTIAL SUPERVISORS REQUIRE FOR THEIR ANALYSES

47. As stated in the GPCR report, “*Information quality is the basic building block of an effective credit reporting environment. Accuracy of data implies that such data is free of error, truthful, complete and up to date...*”²⁹ This means that data quality is one of the key challenges that micro-prudential supervisors face in order to

be able to produce meaningful and consistent results from their various analytical tasks.

48. The quality of data might be hampered by multiple factors. One of the most relevant ones is the lack of clear definition and/or a lax interpretation of the relevant variable or of its various attributes. For example, some of the variables or concepts that supervisors often find having inconsistencies and insufficiencies are those related to connected lending, non-performing loans, loan loss provisioning, loan renewals and loan restructuring. This would prevent supervisors from capturing the full scope of inter-linkages among a group of connected people, or from rightly determining the overall performance of the loan portfolio if there is a significant misclassification of assets by the lender(s).

49. Incorrect interpretations leading to low-quality data can occur for multiple reasons and at multiple levels. The source of the low-quality data would most likely be traced back to the data provider (i.e. the bank or other lender reporting to CRSPs). This data provider may have opted for reporting the data using an interpretation it finds beneficial for its own interests. Or, among other possibilities, this data provider may simply have had problems in correctly transposing the legal or regulatory definition of a certain variable or concept into a technical definition (i.e. the way in which that variable or concept is defined in its internal systems and database(s) to make it operational).³⁰

50. Low quality of data is often also a result of some data providers lacking integrated systems/mechanisms for reporting to CRSPs (and to other parties). At present, it is not uncommon that certain credit data that a data provider is required to report needs to be gathered

²⁷ Clearly, peer reviews/benchmarking exercises go beyond loan portfolios and cover a wide variety of aspects of the activity of the bank or other financial institution.

²⁸ Other relevant analyses of this kind include for the design and calibration of regulatory tools. These are discussed in chapter 5 of this report.

²⁹ See GPCR report, page 2.

³⁰ In Italy, for example, to address these types of problems the central bank coordinates an interbank working group that permanently analyzes and interprets the reporting regulations and produces very detailed documentation in order to guide all the banks in extracting data from their archives.

from a specific area or department within its organization, often through sub-optimal procedures (e.g., involving some degree of discretion and/or manual intervention). This has a negative effect in quality. The growing requirement of granular credit and credit risk data is nevertheless becoming a stronger incentive for data providers to set up internally-integrated systems in order to avoid this kind of problems.

51. Even if banks and other lenders interpret the various variables and concepts correctly and consistently and source the data under high quality standards and procedures, micro-prudential supervisors may still face challenges to obtain some of the data they need due to the CRSPs' own limitations, including first and foremost gaps in the data that CRSPs are actually able to collect.

52. In this regard, many CRs were originally designed to gather information on larger lending portfolio exposures, and as result some of them have data architectures that limit the provision of the needed credit data for certain supervisory analyses.³¹ Examples include:

- Limited coverage of retail loans (i.e. to households and some small and medium enterprises (SMEs), like credit cards, personal loans, residential mortgages, etc.)
- Collection of quantitative data only, and no or very little qualitative information
- Data structures that do not allow to link/associate different borrowers that have financial, family, management or other ties amongst themselves
- Data structures that do not allow analyzing the bank or other lender on a consolidated basis with all other relevant financial (and/or non-financial) subsidiaries, branches, holding company structures, etc.

³¹ On the other hand, as mentioned earlier, CRs in some countries are increasingly being used by both micro- and macro-prudential supervisors for other types of analyses, like stress testing.

53. As earlier discussed, credit data in CBs and CCRCs can be used as a complement to CRs or other credit databases operated by central bank/supervisors. As is the case with CRs, however, the usefulness of data in CBs and CCRCs for supervisory and regulatory purposes may be limited due to data quality (e.g., see paragraph 21), due to a data structure that is more applicable to private sector user needs, or other issues. In this regard, one of the most relevant limitations arises when CBs and/or CCRCs in a given jurisdiction do not collect any positive credit data, or when these CRSPs only collect a limited number of variables or a limited set of attributes of the relevant variables.³² Moreover, in some countries credit data may be fragmented across several CBs or CCRCs, which in addition may have quite different quality standards.

54. Even if a large amount and variety of credit data is collected, in some cases such data could be unreliable and therefore of little use for supervisors. This may happen when there are no mechanisms in place to incentivize or otherwise make sure that data providers are putting the necessary care and resources in preparing the data to be reported to CRs, CBs and CCRCs.³³

55. One relevant example of the potential unreliability of reported credit data is when such data is not updated frequently. Several of the modern analytical techniques and other practices used by supervisors and other financial authorities require very frequent updates of data. Apart from the possibility that data updates by data providers may not be provided as frequently as needed by the authorities, it may also be that CRSPs do not have the capability to process all the data

³² In this last regard, it should be kept in mind that the main purpose of CBs and CCRCs is to improve the quality and availability of data for creditors rather than to assist in financial supervision. Hence, the data architecture of CBs and CCRCs is not necessarily aligned to prudential standards.

³³ Central banks and other supervisors, as owners and managers of CRs, often have sanctioning powers on the reporting agents which fail to report accurate free of error, truthful, complete and up to date data.

in a timely enough manner, including the updates that they receive.

56. Up to this point, the discussion of supervisory data needs has been centered on the loan portfolio, whereas banks and other financial institutions are also exposed to credit risks through their securities portfolio as well as through credit derivatives, foreign exchange activity, cash management services and several other products, activities and services. Data on these other portfolios, products and activities has not been traditionally collected by CRs,³⁴ CBs or CCRCs, although some CRs are currently undergoing a modernization effort with this specific purpose in mind.³⁵

III.4 TYPICAL PROBLEMS THAT MICRO-PRUDENTIAL SUPERVISORS FACE WITH REGARD TO BEING ABLE TO EFFECTIVELY USE CREDIT DATA IN CRSPs

57. Even if all the credit data that supervisors require for their analyses of the loan portfolio were readily available at CRs, CBs and/or CCRCs, supervisors may still face issues and challenges in *using such data effectively*.

58. A common obstacle for the usage of the available data is the existence of legal impediments for supervisors to be able to obtain all the data they need from CRSPs. This situation is more likely to happen in relation to CBs and CCRCs as these are not commonly controlled by central banks or other financial supervisors. For example, supervisors may wish to obtain

³⁴ Some CRs do collect data on securities, like in the case of the CR operated by the central bank of Spain.

³⁵ For example, in the EU as part of the AnaCredit project the ESCB's Statistics Committee and its Financial Supervision Committee are currently working on linking AnaCredit with other databases, including centralized databases containing data on securities holdings. The AnaCredit project is described in annex 2.

the whole database reported by one or more banks or other regulated financial institutions to a CB or CCRC, but due to legal restrictions could end up only having access to some data attributes, certain specific reports or highly aggregate data.

59. Among other possibilities, legal restrictions may originate from data protection/privacy provisions as they apply to CRSPs.³⁶ Indeed, the legal and regulatory framework surrounding credit reporting typically sets out specific conditions for data collection and for data disclosure. On the latter, a finite set of permissible purposes for which credit data may be used is often established, especially when such data is associated or can be associated with a specific individual or household.³⁷ Permissible or legitimate purposes are usually those aspects that are of general interest to a society, such as, among others, preserving the stability of the financial system. In this context, some jurisdictions have not been able to implement a mechanism that, in an efficient manner, enables financial sector authorities to fulfill their duties but that does not interfere with the basic aspects of consumer data protection and privacy.

60. Similarly, in some jurisdictions there may be constraints on the usage for supervisory purposes of data obtained from sources other than the CR, especially if such data is to be used for taking specific supervisory actions and/or making other specific policy decisions. Indeed, some central banks and other financial supervisors are bounded by legislation or regulations and can only take specific supervisory actions and decisions based on the information available at the CR or at other credit databases they themselves operate.

³⁶ Or the way such provisions are interpreted by CRSPs when the provisions are not clear enough and there is no additional guidance from regulators on these matters

³⁷ As it will be detailed later in this report, some modern analytical techniques used by financial sector authorities require collecting certain data that would normally be considered to be of a sensitive nature. For example, obtaining, or at least estimating, data on an individual's income or a household's income for the design and calibration of certain policy measures and/or regulations.

61. When it comes to cross-border lending activities, micro-prudential supervisors may not be able to obtain and use credit data available in foreign CRs or other CRSPs. This is often the case when a Memorandum of Understanding (MOU) or other mechanism to facilitate cross-border data exchanges has not been agreed between central banks or between other supervisory authorities, and/or between private sector operators of CBs and CCRCs. At present, a number of relevant private and public sector initiatives are underway to address the difficulties in cross-border data exchanges.³⁸

62. At the operational level, to be able to use the data effectively it is highly important that the CR have the functionalities that supervisors require, together with a robust technological infrastructure supporting it. For example, even if the CR has comprehensive and high quality data, supervisors may be unable to exploit such data fully if the CR system itself has limited reporting tools and/or is not supported with adequate data warehousing tools. In cases like this, regular reports tend to be not comprehensive enough and the CR lacks flexibility to make adjustments to such reports. Likewise, it may be difficult for the CR to produce robust *ad-hoc* reports in a timely manner.³⁹ These operational problems tend to be amplified as the size of the database increases.

63. These operational problems are not exclusive to CRs. CBs and/or CCRCs may also have limited functionalities with regard to reporting data back to users

– in this specific case the supervisors - regardless of the amount and quality of the data available in them.

64. Additionally, when data is obtained from CBs or CCRCs as a complement to data available in the CR (and/or in other centralized credit databases operated by supervisors), it is not always straightforward to use this data effectively as certain other operational problems may arise. Some of the main problems in this regard include:

- Difficulties in matching the data related to any individual or institution as obtained from CBs or CCRCs to the CR
- The layout of data is in a different format from that of the CR, or it uses different specifications or metrics
- The frequency and historical depth of data are not homogenous with those of the CR.

65. Another possibility is for the supervisors to request the “raw data” available at CBs and CCRCs (i.e. data as originally reported to them by banks and others). However, the viability of this alternative would depend on the availability of highly qualified statisticians, IT and other staff at the financial supervision entity, as well as adequate technological tools to make effective use of the data.

³⁸ For example, members of Association of Consumer Credit Information Suppliers (ACCIS), based on the model ACCIS agreement on cross border-data exchange, have concluded a number of bilateral agreements on sharing data between different member states. Further, ACCIS is currently in the process of revising its cross-border data exchange system in order to create a pan-EU data exchange mechanism. As regards the public sector, relevant initiatives include the existing system of Memoranda of Understanding between central banks in the EU, the AnaCredit project (see annex 2) and the Global Legal Entity Identifier project (see annex 3).

³⁹ These “difficulties” do not necessarily mean that the desired reports cannot be produced, but that it may be time consuming and costly to produce them.

SECTION IV

DATA NEEDS OF MACRO-PRUDENTIAL FINANCIAL AUTHORITIES: The role of credit reporting service providers



IV.1 MACRO-PRUDENTIAL SUPERVISION: A new role for credit data collected by CRSPs

66. The most recent financial crisis made it evident that the stability of individual financial institutions did not ensure the stability of the financial system as a whole. Hence, macro-prudential supervision has emerged as a complement to micro-prudential supervision. Its focus is on monitoring and managing the build-up of risks to systemic financial stability, analyzing the interactions among individual banks, other financial institutions, financial infrastructures and financial markets, as well as the feedback loops of the financial sector with the real economy.

67. Macro-prudential supervision aims at having a preventive effect. Its first objective is therefore systemic risk *detection* through the analysis of a variety of data sources. In addition to this, the macro-prudential supervisory framework entails the design and implementation of specific instruments or measures to enable authorities to *address* and *mitigate* the build-up of risks to systemic financial stability.⁴⁰ For example, the Basel III Accord included tools with a macro-pru-

dential dimension (i.e. the countercyclical buffer) designed to address systemic risk.

68. More often than not, risks to systemic financial stability are generated endogenously during expansionary phases of the credit and business cycles (i.e. the so-called “credit booms”).⁴¹ In those times, financial institutions’ perceptions of risk tend to recede, and financial institutions do not internalize the adverse externalities that their increased risk-taking behavior may generate on the economy as a whole. Hence, implementation of the macro-prudential policy framework into central banks and other supervisors’ routine activities has increased the demand for credit data that can be used to analyze financial sector lending activity from a systemic perspective.

⁴⁰ An additional step in a macro-prudential supervisory framework is the so-called evaluation phase, where the impact of instruments or measures is assessed. For additional information see, for example, the ESRB’s “Flagship report on macro-prudential policy in the banking sector” (2014).

⁴¹ Credit booms are not necessarily a source of concern for micro-prudential supervision, as banks, taken in isolation, tend to look healthy during boom periods. For example, when asset prices go up, indicators such as the leverage ratio tend to decrease.

IV.2 CREDIT DATA NEEDS FOR MACRO-PRUDENTIAL AUTHORITIES: Core analytical supervisory tasks with regard to assessing overall financial stability

69. As mentioned earlier, the macro-prudential supervisory framework comprises systemic risk detection through analysis, and systemic risk mitigation through policy measures. At the risk detection stage or analytical stage, relevant indicators help detect and assess vulnerabilities. Albeit with a different focus, when it comes to analyzing risks in lending the analytical categories that are of interest for macro-prudential authorities are similar to those of micro-prudential supervisors.

70. Therefore, credit data collected on a regular basis by CRs, CBs and CCRCs can also be used to help perform analyses like the following for detecting the potential build-up of risks for systemic financial stability:

- Credit growth in the financial sector: for example, at the level of individual credit institutions, by type of credit institution, at the level of the sector as a whole, etc.
- Credit growth by non-financial sector lenders
- Building of asset bubbles: for example, trends in the value of residential and commercial mortgage loans, changes in the value of real estate property pledged as collateral, changes in the value of other assets pledged as collateral, etc.
- Concentration risk: share of total and/or new lending to specific economic sectors or activities or common borrower entities, growth rates of lending to those economic sector, activities or common borrowers, etc.
- Contagion (spillover) risk and interconnectedness: from/to/with other institutions in the financial sector, from/to the real sector or interconnections with real sector entities, from/to other countries through cross-border lending activity, etc.

- Credit risk transfer, for example the instruments used and the circumstances in which they are used
- Estimates of debt service ratios of households and corporates and other risks for loan repayment
- Magnitude and relevance of non-performing loans: their share in the total loan portfolio of banks and other credit institutions, changes and recent trends, etc.
- Currency, original maturity and product type of loans as well as data on guarantees and collateral received, including the type of collateral and its valuation
- Individual performance of systemically important credit institutions.

71. In addition to detection of risks, analysis of credit data can help in defining and setting indicative thresholds to guide policy decisions on when a preventive intervention from the authorities responsible for financial stability may become necessary.

72. As for the *form* of such an intervention, credit reporting can also provide key inputs for instrument design and calibration. This aspect is discussed in more detail in chapter V.

73. Credit data in CRSPs can also be used to produce enhanced statistics for broader economic and financial stability analyses. At this point, however, it should be noted that centralized credit databases are only one of the data inputs in the macro-prudential framework. Adopting a system-wide perspective requires inputs from many sources. For example, in addition to making an informed assessment of the financial position of households and enterprises, macro-prudential analysis also entails the monitoring of high frequency financial market data, systemic liquidity conditions, macroeconomic data, and financial and real sector asset prices, among other variables.

IV.3 TYPICAL PROBLEMS THAT CRSPS FACE FOR MAKING AVAILABLE THE CREDIT DATA THAT MACRO-PRUDENTIAL AUTHORITIES REQUIRE FOR THEIR ANALYSES

74. Performing analyses from a macro-prudential angle may be wrongly associated with requiring aggregate data only. This is clearly not the case, as significant advantages have been identified in using information on individual banks⁴² for macro-prudential purposes in addition to aggregate-level information, as the latter can hide potentially important situations and developments.

75. Apart from the fact that macro-prudential authorities require both aggregate and micro-data just like micro-prudential supervisors do, it is to be noted that the underlying *credit data items* relevant for both micro- and macro-prudential supervision are in essence the same.⁴³ Hence, the problems that macro-prudential authorities face in sourcing the data they need from CRSPs are also similar to those described in section III.3 for the case of micro-prudential supervisors. Those problems will not be repeated here. This section focuses on potential additional challenges for macro-prudential authorities.

76. With regard to CRs' limitations on coverage, one specific limitation that is especially noteworthy for macro-prudential purposes is that many CRs only collect data from banks and in some cases also from a few other regulated financial institutions. In other words, coverage of non-financial sector lenders such as large retailers and of entities that make loans to businesses

is practically non-existent at CRs. On the debtor side, coverage of the household and SME sectors is also weak in many CRs.⁴⁴

77. In this regard, CBs and CCRCs, due to their own nature, often have a broader coverage of the various types of lenders in an economy as well as of debtor households and firms. In addition to credit data from financial institutions, CBs and CCRCs often hold other data helpful for assessing the overall financial health of households and businesses, such as data on utilities and telecoms bills, health insurance and others. Hence, CBs and CCRCs can in principle be especially useful for macro-prudential authorities.^{45 46}

78. Analysis of potential contagion effects/interconnectedness might also be especially difficult or even impossible if the CR or other CRSPs do not collect, or obtain through other means,⁴⁷ the necessary information that would allow identifying borrowers that should be considered as a single borrowing unit/single risk,⁴⁸ and/or information that would allow analyzing lenders on a consolidated basis with other group companies.

79. Cross-border lending activity is also of special interest to macro-prudential authorities. Data on loans made by foreign lenders to resident financial institutions, households and real sector firms is not likely to be available in CRSPs operating in the country. As noted in chapter III, however, there are some ongoing initiatives by operators of CBs and CRs to facilitate cross-border credit data exchanges.

⁴² On this basis it is also useful to drill down to obtain disaggregated data on households and corporates, like for example the types of households that are particularly prone to a default.

⁴³ This statement refers specifically to credit data. Beyond such credit data, macro-prudential analysis gathers several other data items on the real sector and financial conditions in which the financial entities are operating.

⁴⁴ Many loans to these sectors are not reported because the loan amount is under the reporting threshold.

⁴⁵ Still, for macro-prudential purposes data on income/assets of debtors is necessary for some analyses (e.g. to calculate debt service ratios), and such data is often not captured by CRs, CBs or CCRCs, or may not be reliable.

⁴⁶ The problems and challenges for CBs and CCRCs to become useful for supervisory purposes have also been noted in section III.3 of this report.

⁴⁷ The last paragraph of this section includes a discussion on the potential linkages of CRSPs with other databases.

⁴⁸ Due to various types of links or ties amongst them.

80. At this point, it needs to be noted once again that macro-prudential authorities' data needs go well beyond credit data in relation to lending. An issue worth mentioning is the extent to which credit data in CRSPs could be linked with other types of datasets. Among other potential benefits this could help in effectively identifying the various market players and their mapping to financial or mixed conglomerates, if applicable.⁴⁹ Technically, linking databases requires having a mechanism to be able to identify and match the data subjects in each database. In this regard, the global legal entity identifier (GLEI) project that was initiated under the G20/FSB leadership could prove helpful for this purpose, not only at the domestic level but also and especially for the cross-border dimension. A description of the GLEI project and its current status is provided in annex 3.

81. Also in connection with the above discussion on linkages between CRSPs and other databases, at a more basic level CRSPs in many countries still face difficulties to obtain and use data stored in certain databases, mainly those operated by some government institutions (e.g. certain public records). This reduces the overall usage of data. Box 5 discusses recent work undertaken by the Bank of England to ascertain the availability/sufficiency of credit data in the United Kingdom (UK), which among other outcomes highlighted the need to improve access of CRSPs to data sources like the ones mentioned above.

BOX 5: BANK OF ENGLAND WORK ON THE AVAILABILITY OF CREDIT DATA IN THE UK

In May 2014, the Bank of England (BOE) published a discussion paper, which examined the availability of credit data in the United Kingdom (UK).

The discussion paper sought to evaluate the data which is currently available for a number of purposes connected to lending in the country, and also to explore ways by which the BOE may be able to attain access to the data which is held by credit reference agencies and lenders to assist with the BOE's macro and micro prudential supervisory activities.

Following the collation of the stakeholder responses to the discussion paper, the BOE published a summary of this feedback on November 2014.¹ Several of the key points that were raised during the consultation were related to the need to ensure improved access to publically owned information sources for credit reference agencies, and further release of data such as the VAT register to help improve credit assessments. Other important issues were improving access to credit data for policymakers and for trade credit providers, and the concerns surrounding the EU Data Protection Regulation and how this will impact credit reference agencies' data.

Source: Association of Consumer Credit Information Suppliers (ACCIS).

¹ Both this report and the original report may be accessed online. See Bank of England 2014a and 2014 b.

⁴⁹ In turn this would help improve the understanding of any existing inter-linkages (e.g. mutual risk exposures), and therefore a better assessment of each player's relevance for systemic financial stability.

IV.4 TYPICAL PROBLEMS THAT MACRO-PRUDENTIAL AUTHORITIES FACE WITH REGARD TO BEING ABLE TO EFFECTIVELY USE CREDIT DATA IN CRSPS

82. As with micro-prudential supervisors, a variety of legal and operational problems may prevent macro-prudential authorities from being able to use credit data available in CRSPs in an effective manner. Once again, the issues already identified in section III.4 for the case of micro-prudential supervisors are also applicable in general terms to macro-prudential authorities will not be revisited here. Some of the additional potential challenges for macro-prudential authorities are discussed below.

83. Data on cross-border lending activities, as mentioned earlier, is crucial for macro-prudential authorities,⁵⁰ and several important dimensions of such activities are only captured by CRSPs located in the jurisdiction where the lender is incorporated. CRSPs in foreign jurisdictions are not easily accessible to local macro-prudential authorities.

84. At the operational level, it is very likely that the implementation of a macro-prudential framework will impose new and complex demands on the functionalities of CRs and their supporting human and technical infrastructure. On one hand, as mentioned earlier, some or probably many of the data items in the CR will need to be updated more frequently. In addition, many of the analyses that are especially useful for macro-prudential policymaking require the ability to break down the available data into smaller parts and being able to examine it from a variety of angles.

⁵⁰ To, for example, better measure the consolidated activity of systemically important credit institutions, to understand the overall level of indebtedness of resident households and the corporate sector, and to have a better sense of potential cross-border spillover effects.

85. With regard to the latter requirement, the CR – directly or through auxiliary systems and tools – should provide ample possibilities for analytical techniques such as “slicing and dicing”, “drilling down” and “pivoting” of available data. The same can be said with regard to the possibilities of exploiting the data that is obtained from CBs and CCRCs for macro-prudential analytical purposes.

86. In this context, the analysis of debt service ratios can be mentioned as an example of the need to look at data from multiple perspectives. When analyzing such ratios, in addition to the data needed to actually calculate them,⁵¹ for these indicators to be truly useful for macro-prudential policy it should be possible to segment them in a number of different dimensions, for example to identify specific groups that are especially vulnerable (e.g. first time homebuyers).

87. In summary, at the operational level there is an increasing demand for granular data and for more frequent updating of such data, all of this together with an unprecedented requirement for flexibility to use the data. Few CRs worldwide are currently geared to this level of analysis, although ongoing projects like AnaCredit in the EU will change this scenario in the medium term.

⁵¹ Amongst others: aggregation of all debts of each individual data subject; calculating the corresponding repayment obligations (mandatory principal repayment plus interest), and having a usable measure of income (e.g., monthly salary or a way to estimate the same) and/or financial wealth.

SECTION V

DATA NEEDS FOR FINANCIAL SECTOR REGULATION-MAKING:

The role of credit reporting service providers



V.1 CREDIT DATA, CREDIT REPORTING AND FINANCIAL SECTOR REGULATION

88. While it is not the objective of this report to describe or discuss financial sector regulation in detail, in order to establish a clearer connection between chapters III, IV and V of this report this section begins with a brief introduction to financial sector regulation-making and its links with the supervisory function. This is followed by a discussion on the usage of credit data for regulatory purposes and the evolution of the underlying data needs, both of which are part of the main focus of this report.

89. In essence, financial sector regulation consists of written rules which subject financial institutions to certain requirements, restrictions and guidelines. In most countries financial sector regulation is fundamentally designed around three main topics: financial stability, consumer protection, and competition in the market place.

90. One of the main roles of micro and macro-prudential supervisors is the enforcement of these rules. Moreover, many supervisors have regulatory powers (i.e. powers to refine legislation through ordinances or the like). In this context, financial supervisors around the world are increasingly relying on data to better un-

derstand financial sector issues and to decide whether “new” regulations are needed, either to regulate a certain aspect for the first time or to improve existing regulations.

91. In most countries there is extensive financial sector regulation that targets credit risk, and more specifically the credit risk embedded in lending activities. The usage of credit and credit-related data has naturally played an important role in the making of these regulations. However, just like it is the case with micro- and macro-prudential supervision, at present in many jurisdictions there is an unprecedented demand for granular credit data to assist in regulation-making. Financial authorities have come to realize that credit data in CRSPs is especially useful to achieve better regulation on a variety of topics/areas.

V.2 Credit data needs of financial sector regulators: Core analytical tasks in designing new or improved regulations

92. With credit risk being one of the most relevant – if not the most relevant - risks in financial sector activity, as earlier discussed, credit data is essential as an input for the design and calibration of many financial sector regulations. This section focuses on a number of

key regulatory areas for which supervisors and other financial authorities are increasingly relying on the usage of credit data obtained from structured sources, such as CRSPs.

93. On the micro-prudential side, the use of internal credit ratings is being increasingly promoted for regulatory purposes, in part to reduce the dependency on external credit ratings provided by credit rating agencies. More robust results are being obtained through the use of credit data in CRs, CBs and CCRCs as compared to the situation in which a financial institution obtains a rating based solely on its internal database. These more robust results are possible largely because data in CRSPs reflects the situation of debtors at a broader level within the system (i.e. also with other lenders).⁵²

94. Some of the specific regulatory tools in this regard include:

- Supervisory validation of loan parameters such as probability of default (PD) and loss given default (LGD), which are being estimated by banks and other financial institutions through internal ratings-based (IRB) models in order to determine their regulatory capital requirements⁵³
- For loan loss provisioning, the traditional model based on “incurred loss” is being replaced with a forward-looking, “expected loss” (EL)-based model. In this context, regulations are requiring that the definition of a “default” include not only the default events of a certain counterparty with the relevant lender, but also with any other institution that has granted credit to that counterparty.

⁵² In more advanced national credit reporting systems, data in CRSPs reflects the situation of borrowers with most of the financial and non-financial lenders operating in that jurisdiction.

⁵³ These risk parameters are used to calculate “unexpected losses”, which are to be covered by capital. These parameters along with exposure at default (EAD) are also used to estimate “expected loss” or EL, whereby $EL = PD \times LGD \times EAD$. Expected losses are to be covered by provisions.

95. Also in the micro-prudential space, credit data can assist in calibrating regulatory measures intended for individual banks/other credit institutions in which abnormal risk levels and/or practices have been identified through stress tests or other means.

96. With regard to macro-prudential aspects, credit data has proved crucial and is therefore increasingly used for the design and calibration of policy measures (i.e. prudential instruments and tools) aimed at mitigating systemic risk. Examples include:

- Setting quantitative limits on loan-to-value (LTV) and/or loan-to-income (LTI) ratios in order to create buffers at the level of borrowers. To determine the specific loan types (e.g. mortgage loans only, other loans collateralized with movable property, etc.) to which the limit(s) will apply, as well as the limit itself, multiple analyses will be required of LTV/LTI data series and other variables to measure the potential impacts of such limits
- In addition to or in lieu of the countercyclical capital buffer (CCB), some macro-prudential authorities may use sectoral capital requirements (SCR) as an instrument to tackle cyclical risks.⁵⁴ In terms of data requirements, while the CCB is generally highly aggregated, the SCR may require the same data items to be broken-down by various dimensions. For example, SCR would require looking at residential mortgages, commercial mortgages and loans to other sectors. It may also need looking at high LTV or high LTI ratios.

97. Also in the macro-prudential context, credit data from CRSPs, especially from CBs and CCRCs, can be useful for authorities in designing regulations in connection with loans or other forms of credit granted by non-bank financial institutions and non-financial institutions (i.e. so-called shadow banking).

⁵⁴ In some cases SCR may be applied to certain lenders only (e.g. those that are not diversified).

98. While this report focuses on the prudential regulation of financial institutions, it needs to be noted that credit data is also frequently referred to or is used as an input in other types of regulations, like those that deal with specific financial services or specific product categories, or with regulatory compliance for consumer protection, among others. For example, in the EU the new Mortgage Credit Directive 2014/17/EU encourages the use of credit databases (public and private) for creditworthiness assessment and requires Member States to ensure non-discriminatory access to credit databases. In other cases, credit data is seen as one of the tools that can be included in financial regulation to achieve certain policy objectives.⁵⁵

V.3 PROBLEMS THAT CRSPS FACE FOR MAKING AVAILABLE CREDIT DATA REQUIRED BY REGULATORS, AND PROBLEMS REGULATORS FACE WITH REGARD TO BEING ABLE TO EFFECTIVELY USE THIS DATA

99. Where credit risk is concerned, whilst the types of analytical tasks performed by regulators, micro-prudential supervisors and macro-prudential authorities will differ due to the specificity of their respective duties and responsibilities, the underlying *credit data items* used in all such analyses are in essence the same. More specifically, for regulation-making purposes in the micro-prudential environment, regulators are interested in basically the same credit data items as micro-prudential supervisors. Likewise, for regulations intended to tackle macro-prudential aspects with

regard to credit risks, the underlying credit data items needed by regulators are practically the same as those used by macro-prudential authorities when performing their analyses.⁵⁶

100. As a result of these similarities, the typical problems that CRSPs face to make available the necessary data for micro and macro-prudential supervision and which were identified respectively in sections III.3 and IV.3 are also applicable to the case of financial sector regulators. So are the legal, operational and other problems that prevent micro- and macro-prudential authorities from being able to use credit data available in CRSPs effectively and which were identified in sections III.4 and IV.4 of this report.

101. Both types of problems therefore do not merit additional discussion in this chapter. It is nevertheless worth emphasizing that for financial sector regulation-making, as it has already been identified for micro and macro-prudential supervision, there is an ever growing need for granular data on the one hand, and on the other for data that allows analyzing lending activities from a systemic perspective, both types requiring more frequent updating of data. In addition, there is a requirement to be able to use all such data with unprecedented levels of flexibility and of break down possibilities, like for the calibration of regulations and other policy instruments and tools. Hence, while already important in many jurisdictions, the prominence of CRs, CBs and CCRCs in fulfilling these needs can only be expected to increase.

⁵⁵ For example, in the European Commission's work on small and medium enterprise (SME) access to finance, SME credit data is considered as a useful tool to achieve the policy objective of enhancing SME access to finance. Hence, preliminary policy proposals are being discussed on improving the availability and quality of SME credit data. For additional details see http://ec.europa.eu/finance/consultations/2015/capital-markets-union/index_en.htm.

⁵⁶ Additionally, it should be kept in mind that, as mentioned earlier, in many cases the supervisors are at the same time the regulators.

SECTION VI

CONCLUDING REMARKS, TRENDS AND KEY CHALLENGES



102. Previous chapters have discussed the ways in which credit reporting systems support financial regulation and supervision. Special emphasis has been placed on the potential difficulties that CRSPs may face in satisfying the respective data needs of financial supervisors, regulators and other authorities with financial stability responsibilities (referred to collectively as “financial authorities” in the remainder of this report), and the potential problems that all such authorities may encounter to be able to use available data in an effective manner.

103. This concluding chapter summarizes the key trends being observed in credit reporting activities in connection with the provision of data to financial sector authorities, and identifies the key challenges associated with each of those trends. A number of actions to meet these challenges is also proposed. At a more general level, the GPCR can be used to determine whether the national credit reporting system possesses all the essential features that characterize a well-developed system, so that it can be leveraged to the fullest extent possible for financial sector regulatory and supervisory purposes – in addition to other important functions it may already be fulfilling.

Trend 1 (Data) - Credit data demands by financial sector authorities continue to grow and keep becoming increasingly complex.

Highly sophisticated analytical techniques for use in financial sector regulatory and supervisory tasks, both from the micro- and macro-prudential perspectives, continue to emerge. These are allowing financial sector authorities to enhance the depth of the various analyses they perform on either a regular or ad hoc basis, as well as to look at potential problems in financial institutions from new angles. Many of these newer techniques require significant and growing amounts of granular credit data, with individual- and/or household-level data being used in some cases.

Key challenges:

- (i) The ever-growing and increasingly complex data needs of financial sector authorities require a higher degree of readiness by CRSPs, especially with regard to ensuring seamless and timely reporting of the relevant data to the authorities. A higher degree of readiness by CRSPs should not have significant implications on costs and overall efficiency.

*CRSPs should aim at fully observing General Principle 2, in particular the guidelines on reliability and efficiency.*⁵⁷

- (ii) The newer analytical techniques being used by financial sector authorities and also the eventual necessity these authorities may have to act in the market place in a timely manner and based on the most actual circumstances require credit data in CRSPs to be updated more frequently.

*CRSPs and data providers should strive at fully observing General Principle 1, in particular as regard the guidelines on timeliness of data and on accuracy of data.*⁵⁸

- (iii) Financial sector authorities need to be transparent on the use or intended use of granular credit data collected from CRSPs, in particular when sensitive or potentially sensitive data on individuals/households is involved (e.g., data on an individual's income, or data used to derive a proxy of an individual's income).

Financial sector authorities should disclose the relevant high-level policy objectives along with the specific purposes for which they are collecting sensitive data. Ideally, the permissible uses of such data by financial sector authorities should be established in a regulation.

Financial sector authorities should treat all sensitive data obtained from CRSPs as confidential and should not disclose such data to third parties.

Trend 2 (CRSPs) - CRs are being upgraded to meet the new credit data needs of financial sector authorities. At the same time, CBs and CCRCs see a growing role in the financial sector regulatory/supervisory space.

Structured data sources such as CRSPs have proved especially useful for financial sector authorities in fulfilling their duties. Financial sector authorities around the world are revamping existing CRs and other credit databases they operate, and/or are promoting or requiring improvements in CBs and CCRCs. The main reason for this is that the quality and overall usage potential of data from CRSPs is very often higher than if such data were obtained directly from each reporting institution through ad hoc, unstructured requests.

Key challenges:

- (i) CRSPs often face a variety of problems to make available high quality, comprehensive data to financial sector authorities. These include the lack of a clear and consistent interpretation of variables and/or their attributes, other data quality issues on the side of data providers, limited collection of positive credit data, limited coverage of lenders and/or debtors, and not capturing other types of credit risk exposures of regulated institutions (e.g. securities, derivatives, guarantees).

Financial sector authorities, CRSPs and data providers could devise mechanisms (e.g. incentives/penalties) to ensure there is a clear and consistent interpretation of the variables (and their attributes) on which data is collected by CRSPs, and in general ensure there is high-quality reporting by data providers.

CRSPs should work with regulators/overseers to implement the guidelines on sufficient data and on collection of data on a systematic basis from all

⁵⁷ See GPCR report, pages. 27-28.

⁵⁸ See GPCR report, page 23-24.

relevant and available sources, in connection with General Principle 1.⁵⁹ More generally, to be able to assist supervision and regulation effectively CRSPs will need to observe all the General Principles that apply to them.

- (ii) In order to improve the robustness of their analyses, financial sector authorities need to have a picture as complete as possible of debtors and lenders, for which they may need to rely on credit data from CBs and CCRCs in addition to the data in CRs (and/or in other credit databases that authorities may operate).

Financial sector authorities should look to take advantage of the specific strengths of the various CRSPs for regulatory and supervisory purposes and in this context regard them as complementary to each other, rather than as substitutes.

- (iii) Financial sector authorities may face challenges to induce change in CRSPs, especially those operated by the private sector, and in general to define and implement the oversight framework over the credit reporting system so that it continues to assist authorities in meeting their changing data and overall regulatory/supervisory needs.

Financial sector authorities should engage in meaningful and constant dialogue with CRSPs, and in general observe the Recommendations for Effective Oversight of Credit Reporting Systems included in the GPCR report.⁶⁰

Trend 3 (Authorities' use of data) – The rapid evolution of the financial sector and of regulatory and supervisory approaches are forcing financial sector authorities more than ever before to make the most out of the existing credit data.

Globalization/harmonization of financial sector regulatory and supervisory approaches, the efforts to improve the consistency and effectiveness of approaches at the national level and the fast pace of change in financial sector activities are leading financial sector authorities to focus not only on collecting more credit data, but also on fully exploiting the data that is already available in the credit reporting system. Indeed, many of the newer analytical techniques are based not only on extensive data collection, but also on the ability of the users of such techniques (e.g., financial sector authorities) to exploit all existing data as much as possible and with unprecedented flexibility.

Key challenges:

- (i) Financial sector authorities tend to face legal impediments to access and or to fully use for their various purposes the credit data available in certain CRSPs, mainly in CBs and CCRCs operated by the private sector. Difficulties in accessing credit data in foreign CRSPs are especially acute.

Financial sector authorities to promote the necessary legal and regulatory reforms at the domestic level to ensure effective access to and usage of all credit data that is relevant for their legitimate purposes in all CRSPs operating their jurisdiction.

Financial sector authorities to cooperate amongst them at the international level to facilitate and improve cross-border access by such authorities to relevant credit data in CRSPs that operate in other jurisdictions.

⁵⁹ See GPCR report, page 24.

⁶⁰ See GPCR report, pages 39-42.

- (ii) Financial sector authorities usually face challenges on the operational side to exploit existing data effectively. Difficulties range from assembling and compiling for use the data obtained from different sources (e.g. CRs, CBs and CCRCs), to CRs having limited reporting functionalities and/or a poor supporting technological infrastructure (e.g. no or poor data warehousing capabilities), to authorities having at their disposal limited tools that do not allow analyzing the data from multiple perspectives.

Financial sector authorities to develop the knowhow for using available data to its fullest extent.

Financial sector authorities to make available to their staff the necessary technical tools and overall technical infrastructure to this end.

ANNEX 1: ICCR MEMBERS THAT CONTRIBUTED IN THE PREPARATION OF THE REPORT “THE ROLE OF CREDIT REPORTING IN FINANCIAL REGULATION AND SUPERVISION”

Chairman	Massimo Cirasino (World Bank)
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Association of Consumer Credit Information Suppliers	Neil Munroe
Banco Central do Brasil	Enrico Lodi
Banco de España	Rogério Peixoto
Banque de France	Ramón Santillán
Banca d'Italia	Nuria Armas (alternate)
Banco de México	Benoit Fauvelet
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Center for Latin American Monetary Studies	Humberto Pánuco (alternate)
Central Bank of the Republic of Turkey	Marc Hollanders
Consumer Data Industry Association	Joachim Bartels
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The ICCR would like to thank Pierre-Laurent Chatain, Miquel Dijkman and Marc Schrijver (all World Bank), Jesús Saurina (Banco de España), Sani Eka Duta (Bank Indonesia), Sören Friedrich (Deutsche Bundesbank), Gerard Hartsink (Chairman, Global LEI Foundation) and all other persons and institutions that provided inputs and comments to this report in its various phases.

ANNEX 2: ANACREDIT⁶¹

In order to undertake its tasks in the framework of the ESCB/European Single Supervisory Mechanism, the ECB is promoting the setup of a technological platform for, among other purposes, the collection, storage, processing and dissemination of analytical credit data on EU-wide scale (i.e. including cross-border loans and other cross-border forms of credits within the EU).

The road map to develop the Analytical Credit Dataset (“AnaCredit”) is based on the harmonization and standardization of the collection of granular credit and credit risk data at the European level. The project is conducted jointly by the ESCB’s Statistics Committee and Financial Supervision Committee.

In this context, the Joint Task Force has been exploring user needs of the ESCB and the European Systemic Risk Board, the data availability, and the matching of needs and data availability in a medium-to-long-term perspective. In addition, the Joint Task Force has identified a set of data that will be harmonized (in terms of content and definitions) so as to ensure a better re-use and interoperability of central credit registries between themselves and with other relevant databases, as well as to provide banks with valuable information

The AnaCredit project is being driven by the following main considerations:

- Reporting structure: loan-by-loan reporting (in contrast to borrower-by-borrower) is mandatory
- Scope of reporting agents: all types of financial intermediaries to be included, with credit institutions as a priority
- Scope of borrowers: all types of borrowers to be included, with non-financial firms as a priority
- Concept of exposure: all types of exposures (e.g. financial derivatives) should be included, with loans as a priority. A link to existing/enhanced securities database is foreseen
- Data attributes and definitions: harmonized, broad scope of variables (lender/borrower attributes, exposure features, balance sheet status, loss measures, risk measures, valuation measures)
- Threshold: “as low as possible”. Could be as low as Euro 25,000.

⁶¹ Adapted from the ECB’s website.

ANNEX 3: THE GLOBAL LEGAL ENTITY IDENTIFIER⁶²

The challenges of ensuring proper business identification prompted governments around the world to convene the Financial Stability Board (FSB) to analyze the underlying problems and to create a global legal entity identifier (LEI) to uniquely identify entities that engage in financial transactions, representing the public interest.

Hence, at the Cannes Summit in 2011, the G20 provided a mandate to the FSB to lead the coordination of international regulatory work and to deliver concrete recommendations for the appropriate governance framework for a Global Legal Entity Identifier System (GLEIS), representing the public interest. The GLEIS would provide a valuable building block to contribute to and facilitate many financial stability objectives, including: improved risk management; better assessment of micro and macro prudential risks; facilitation of orderly resolution; containing market abuse and curbing financial fraud; and enabling higher quality and accuracy of financial data overall.

The FSB established two organizations to ensure that the GLEIS will be developed and maintained for the broad public good, not only by authorities of any jurisdiction but also by the private sector to support improved risk management, increased operational efficiency more accurate calculation of exposures and other needs. These two organizations are:

1. The Regulatory Oversight Committee (ROC), established in Basel in January 2013, is a group of over 60 public authorities from more than 40 countries to coordinate and oversee a worldwide framework of the GLEIS. On www.leiroc.org more information is available on the objectives and membership of the ROC. The ROC's main functions are: a) to oversee the GLEIF; and, b) to create policies for the GLEIS.
2. The Global Legal Entity Identifier Foundation (GLEIF), established in Basel in June 2014, with the purpose to act on a non-for-profit basis as the operational arm of the GLEIS. On www.gleif.org more information is available on the purpose, governance (e.g. statutes, etc.) and services of the foundation. The GLEIF together with the Local Operating Units (LOU) are the partners of the GLEIS federation. The GLEIF's main functions are: a) a rulemaking function for the legal and technical standards of the GLEIS; b) an operational function to make all LEI data of all LOUs available on www.gleif.org; and, c) the monitoring function so that the GLEIS partners and the users of the LEI data comply with the legal, operational and technical standards.

As the GLEIS partners, the LOUs implement the LEI based on three requirements:

1. Endorsement to operate as a LOU: The ROC has endorsed from October 2013 up to July 2014 so far 26 pre-LOUs (see www.leiroc.org). The GLEIF will take over the accreditation responsibility of the ROC at the latest before the year end 2015.
2. Contractual arrangement: Any LOU needs to sign the Master Agreement with the GLEIF with the legal, operational and technical requirements applicable for any LOU. It is expected that all LOUs will have signed the Master Agreement in the last quarter of 2015, and at the latest in the first quarter of 2016.

⁶² Information provided by the GLEIF.

3. Technical standard: The LOUs are obliged to make a LEI available to the registrants in the form of a reference code to uniquely identify legally distinct entities that engage in financial transactions. This reference code is a 20 digit alphanumeric number with no embedded intelligence, partitioning essential: first 4 digits allocated uniquely to each Local Operating Unit (LOU); 5th and 6th digits set to zero; the next 12-digit component is the entity-specific part; the last two digits are the check digits to uniquely identify distinct entities that engage in financial transactions. The LEIs and the data of the legal entity involved issued by any LOU are published on www.gleif.org.

The ROC members have, in addition, also made significant progress in rulemaking in their respective jurisdictions, where the LEI should be included for regulatory reporting or for other official functions. An overview of the existing and the proposed rulemaking function is available on www.gleif.org.

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