

## May 2014 Should the availability of UK credit data be improved?

A Discussion Paper



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The Bank of England would welcome comments and views on the material set out in this Paper. These will help inform the Bank's consideration of the case for improving the availability of credit data in the United Kingdom. Comments should be sent by 29 August 2014 to:

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### Contents

	Executive summary	5			
1	Introduction				
2	Motivation	9			
Box 1	International experience of different credit reporting models	11			
Box 2	What information is typically held in a UK credit reference agency?	12			
3	Improving the availability of credit data to support the provision of credit	14			
Box 3	The UK commercial real estate lending market	15			
Box 4	The UK small and medium-sized enterprise lending market	18			
4	Improving the availability of credit data to support policymaking and the				
	broader public interest	21			
5	Risks	24			
6	Options for delivery, legal framework and governance	27			
Box 5	Scope and coverage of a credit register	29			
7	Feedback on the Discussion Paper	31			
Арре	Appendix 1 Academic literature review				
Арре	ndix 2 International comparisons	37			
Box 6	Case studies of selected European central credit registers	40			

References

41

# Should the availability of UK credit data be improved?

### A Discussion Paper prepared by Bank of England staff.

### **Executive summary**

In the November 2013 *Financial Stability Report (FSR)*, the Financial Policy Committee (FPC) stated that it would consider ways to improve the diversity and robustness of market-based financing in the United Kingdom. This can be achieved by removing impediments to the provision of resilient marked-based finance and credit from a range of sources.

One such impediment may be the availability of credit information. This Discussion Paper — produced by Bank of England (hereafter 'the Bank') staff — therefore considers whether the availability of credit data in the United Kingdom, both to credit providers and policymakers, should be improved. The aim of this Discussion Paper is to elicit feedback from interested parties to help inform the Bank's consideration of the case for improving the availability of credit data.

The focus of this Discussion Paper is on the availability of information in the commercial credit market. Understanding any impediments to commercial credit supply seems especially important at the current time given the provision of credit to private non-financial corporations (PNFCs) has witnessed a sustained decline since the financial crisis (Chart 1). Indeed, in the past 18 months the five-year growth rate turned negative for the first time on record and the first quarter of 2014 saw the largest recorded fall in lending to PNFCs in a single quarter.

#### Chart 1 Five-year growth in lending to PNFCs



This decline in lending is likely to have been exacerbated by the concentration of lending in a few impaired lenders that have been recovering from the recent financial crisis. If there had been a more diverse pool of lenders to PNFCs, it is possible that the availability of credit would have remained more stable. While this Discussion Paper focuses on the commercial credit market, the Bank recognises that the issues covered may well be relevant to other credit markets and responses to this effect are welcome.

Lenders need to access borrowers' credit information as part of their assessment of the risks associated with lending. The sharing of credit data between lenders can reduce the problem of borrowers being better informed about their creditworthiness than lenders and support the ongoing monitoring of borrower risk-taking. This can help mitigate the problem of adverse selection, whereby lenders are unable to differentiate between borrowers of different risk. Access to credit data for monitoring purposes can also assist lenders in countering the effects of moral hazard, whereby borrowers may change their risk-taking behaviour once in receipt of a loan.

Reducing the effects of adverse selection and moral hazard can lead to more informed credit decisions and enhanced competition in the credit market, which should in turn lead to lower risk premia (and therefore lower lending rates) and a greater availability of credit. When credit data are not adequately shared between lenders, it can create a barrier to new entrants, inhibit the effectiveness of existing challengers by restricting their ability to assess creditworthiness and reduce the degree of competition between incumbents.

In the United Kingdom credit data are shared through credit reference agencies (CRAs). However, there are a number of closed user groups operating within CRAs that mean that some important providers of credit are not able to obtain credit data from CRA databases in a comprehensive way. For example, business current account (BCA) data can only be accessed by providers of BCAs.

In many countries, particularly in Europe, credit data are also shared through a central credit register (CCR). In most cases, CCRs are owned and operated by central banks or financial supervisors. Across the European Union (EU), 16 of the 28 member states have or are developing a CCR. A further six member states will be required to develop some form of CCR to support the move towards a single supervisory mechanism (SSM) in the euro area. A number of independent reports have identified the lack of a central repository of credit information in the United Kingdom, particularly with respect to small and medium-sized enterprises (SMEs) and commercial real estate (CRE), as a significant shortcoming.<sup>(1)</sup>

Some policy interventions are already in train to improve the availability of credit information, including an initiative by Her Majesty's Treasury (HMT) to mandate the sharing of SME credit data between lenders through CRAs. This Discussion Paper therefore considers whether any further incremental improvements could be made to the availability of credit data to assist both the provision of credit and policymaking.

In countries where CCRs exist, the mandatory reporting requirements they employ mean that they tend to achieve greater completeness with respect to the information they collect than the private-sector CRAs operating in those countries. In the United Kingdom completeness of CRA databases is less of a problem, but there are some lenders that have been less willing to share data comprehensively across all CRAs. Some degree of mandatory reporting may therefore be beneficial. Indeed this may be necessary to support the policymaking purposes considered in this Discussion Paper.

In addition to improving completeness, it may be possible that information from the public sector could support the provision of credit. For example, unlike many other European countries, the United Kingdom does not have a publicly accessible comprehensive business register. Companies House did operate such a register, but this was discontinued in 1981. Such a database would make it easier to identify and match credit data on businesses and this has led to calls for the establishment of a comprehensive business register in the United Kingdom.<sup>(2)</sup> Such a register may be particularly useful for smaller SMEs which are not required to file accounts at Companies House.

Reviving the operation of a Comprehensive Business Register in the United Kingdom may therefore make it easier to construct credit histories for business and so support the provision of credit. Making data available to CRAs and/or lenders from other existing public-sector sources, such as the Office for National Statistics' (ONS) Inter-Departmental Business Register (IDBR) or Her Majesty's Revenue and Customs' (HMRC) Value Added Tax (VAT) Register, might offer alternative methods to achieve similar benefits. Releasing tax information in an appropriate manner may also increase the amount of financial information available, particularly on smaller SMEs. However, it is important to note that making information from publicly-owned sources available to CRAs and/or lenders would raise significant issues, including privacy impacts and taxpayer confidentiality (which is a fundamental principle of the tax regime), for which appropriate governance and safeguard arrangements would need to be put in place. Moreover, making information available that has been provided on a voluntary basis may dilute incentives for reporting firms to provide information in the first place. In addition, the current legislative framework would not allow data to be made available from these publicly-owned sources.

HMT's proposal will ensure only that banks and other financial companies providing credit directly to business have greater access to credit information. Broadening access to credit data beyond this group, with appropriate safeguards, may also incrementally support the provision of credit. For example, a significant amount of SME finance is provided via trade credit. Providing trade creditors with some access to information derived from credit accounts may improve their ability to assess borrower creditworthiness.

Making appropriately anonymised credit data, such as key asset characteristics and historical loan performance, more widely available might also support the provision of credit. For example, making pooled data more widely available might support wider use of credit scoring models and the internal ratings based (IRB) approach to risk weighting, possibly levelling the playing field between incumbent and challenger banks in terms of their ability to assess credit risk and set capital requirements. Access to such data might also support investors in assessing opportunities in the securitisation market if data on both the securitised loan pools and on the sectoral performance of various asset classes could be made available. The role of credit data in supporting a safe and robust securitisation market is considered in a separate Discussion Paper.<sup>(3)</sup>

Wider availability of credit data could be used to promote a better understanding of the key loan and borrower characteristics that drive lenders' decision-making. This might support innovations which have emerged in the personal market, such as loan price comparison websites, in other credit markets. These innovations can drive greater competition between lenders and make it easier for borrowers to compare the offerings of competing banks.

Beyond incrementally improving the scope and availability of credit data to support credit provision, there are also substantial improvements that could be made to the availability of credit data for policymaking. For example, that

<sup>(1)</sup> See Large (2013) and Real Estate Finance Group (2014).

<sup>(2)</sup> See Cruickshank (2000) and Large (2013).

<sup>(3)</sup> See Bank of England and European Central Bank (2014).

there was a prolonged debate about whether credit demand factors or credit supply factors were the dominant ones in driving credit volumes in recent years is due in part to a lack of comprehensive data. Having access to credit information that included both data on loan terms and conditions at the level of the individual loan and information on the number of loan applications made and rejected would provide policymakers, including macroprudential and monetary, with the tools to monitor developments in the credit market better. This in itself would be likely to improve any policy interventions.

Access to comparable, timely credit data across banks would assist the Bank by supporting the use of macroprudential tools and provide valuable input for bank stress tests. It would also support the routine monitoring of regulated financial institutions by the Prudential Regulation Authority (PRA) and would allow the Bank to monitor deteriorations in credit underwriting standards. Beyond delivering these significant benefits, access to credit data would likely also deliver benefits for the Bank across some of its other core functions, such as the provision of central bank facilities and bank resolution. If the Bank could share these data with other European central banks, it might also be able to access information held on other European CCRs relevant to the UK economy.

Access to credit data could also make an important contribution to the work of Government, other public sector entities such as the British Business Bank and the authorities more broadly. If some access to credit data, for example in anonymised form, was given to such public authorities beyond the Bank it would support more informed policymaking by Government and possibly offer alternative ways to intervene in the credit market.

There are, however, a number of risks that may arise from seeking to improve the availability of credit data. For example, mandating that certain credit data are shared may reduce the incentives of private lenders to gather information in the first place, and making data available from public-sector sources might increase the cost to the public sector of maintaining their databases if they are to provide data to the required standard and quality. It is important, therefore, that the cost burden of any intervention falls in such a way that lenders are not deterred from collecting information and the public sector is compensated for any increased cost. There is also a risk that some borrowers would be made worse off as a result of intervention. This may be because as lenders become better informed about creditworthiness, they may discover information about certain borrowers that makes them unwilling to continue to provide credit. However, lenders may also discover positive information about other borrowers that makes them more willing to lend and so such distributional effects need to be considered in the context of the net benefit that should be delivered to society.

To the extent that the benefits considered in this Discussion Paper do outweigh the costs, a logical first step to deliver the improvements considered in this Discussion Paper might be to work towards a solution involving the CRAs. This could include taking action to improve the coverage and availability of information from these databases, which would include making data available for policymaking purposes. However, the closed user groups which operate within CRA databases may make such an option operationally more difficult, particularly with regard to policymaker access. Establishing a CCR under a public authority therefore merits consideration.

Whatever the option chosen, governance and safeguards are important considerations, given the risks around improving the availability of credit data. Safeguards are needed to ensure the security and appropriate usage of credit data, as well as to provide a mechanism for data subjects to seek corrections when the data held about them are incorrect. It is also important to note that some of the data which are useful for policymaking, such as terms and conditions, are commercially sensitive. Sharing these data between lenders may harm competition and so safeguards may also be needed to address this issue.

The Bank would welcome comments from interested parties on all aspects of this Discussion Paper. A more specific list of questions on which the Bank would particularly welcome feedback is set out at the end of this Discussion Paper. Comments should be sent by 29 August 2014 to:

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### 1 Introduction

In the November 2013 *FSR*, the FPC stated that it would consider ways to improve the diversity and robustness of market-based financing in the United Kingdom and the FPC is pursuing a number of different strands under this priority.<sup>(1)</sup> To support this priority, Bank staff are working to consider what impediments there are to the provision of market-based financing and credit from other sources, and how these impediments might be addressed.

To the extent that the availability of credit information might be one such impediment, this Discussion Paper considers whether the availability of credit information in the United Kingdom should be improved, with a particular focus on the commercial credit market.

In December 2013 the Government announced a consultation on proposals to improve the availability of credit information on SMEs.<sup>(2)</sup> If implemented, the proposals will require banks to share, through CRAs, information on their SME customers with other lenders. The intervention is intended to improve SME credit scoring and, by levelling the playing field between credit institutions such as banks and alternative finance providers, make it easier for SMEs to seek a loan from a lender other than their current bank. Such a policy could improve the availability of credit information on SMEs, and hence boost credit supply.

Separately, in the 2014 *Budget*, the Government announced plans for legislation to allow a controlled release of data from HMRC's VAT Register.<sup>(3)</sup> The principal purpose of this legislation is to allow for the release of non-financial registration data to the CRAs that will support the identification and matching of data on borrowers. This in turn should improve credit scoring on SMEs as it becomes easier to match credit data obtained from different sources.

This Discussion Paper considers whether there are any incremental improvements, over and above these interventions, that could be made to the availability of credit data in the United Kingdom in support of both the provision of credit and policymaking at the Bank and across the authorities more widely. In considering how the availability of credit data might be improved in the United Kingdom, Bank staff have sought to incorporate lessons learnt with regard to information gaps that have been exposed during previous financial crises or that have been highlighted during the course of the Bank's business-as-usual activities. Bank staff have also drawn on the extensive international experience with central credit databases, benefiting from discussions with — and insights of — a wide range of relevant authorities.

This Discussion Paper is issued for public comment and aims to elicit feedback from interested parties to help inform the Bank in its consideration of the case for improving the availability of credit data in the United Kingdom. To the extent that the issues covered in this Discussion Paper are relevant to other credit markets besides commercial finance, the Bank would welcome responses to this effect.

There are many choices to make with respect to the possible improvement of UK credit data, including the most appropriate way to achieve the improvements considered in the Discussion Paper. These choices will affect the realisation of potential benefits, and costs. For example, it may be possible to deliver a solution through improvements to the United Kingdom's existing credit reporting infrastructure, including that owned and operated by the CRAs. However, the closed user groups which operate within these institutions may make such a delivery model operationally difficult and it is therefore worth considering the case for a central credit database of the sort that exist elsewhere.

The remainder of this Discussion Paper is structured as follows. Section 2 sets out the motivation for considering whether the availability of credit data in the United Kingdom could be improved, drawing on the key conclusions of the academic literature review and international comparison presented in Appendices 1 and 2. The subsequent sections set out the improvements that could be made to the availability of credit data, and what these improvements might be expected to deliver both for the provision of credit (Section 3) and for policymaking and the broader public interest (Section 4). Section 5 considers the possible risks and unintended consequences that may arise from seeking to improve the availability of credit data. Section 6 considers the alternative models for delivering improvements to the availability of credit data, along with the required legal underpinning and possible governance structures. Finally, Section 7 outlines a set of questions on which the Bank would particularly welcome feedback from respondents to this Discussion Paper.

(2) See HM Treasury (2013).

(3) See HM Treasury (2014)

<sup>(1)</sup> See Bank of England (2013a) Financial Stability Report, November 2013.

### 2 Motivation

There is an extensive academic literature on the importance of information in the credit market and a wealth of international experience on the impact of sharing credit data on the provision of credit and policymaking. A full literature review and international comparison can be found in Appendices 1 and 2 respectively, but the key conclusions from these studies are presented here as motivation for this Discussion Paper.

The theoretical arguments in favour of sharing credit data between lenders (referred to hereafter as 'information sharing') centre on the importance of information for credit provision. These arguments have their roots in the concept of asymmetric information, ie that borrowers are better informed about their likelihood to repay than creditors. There are also benefits to policymakers from having access to credit data, which also largely have their roots in the problem of asymmetric information.

### Economic arguments in favour of information sharing between lenders

The problem of asymmetric information in the credit market has been analysed by authors such as Stigltiz and Weiss (1981) and can give rise to the following undesirable outcomes:

- Adverse selection on the part of creditors, which arises because the borrowers most likely to default are the most likely to be actively seeking credit. These borrowers tend to be more willing to accept higher interest rates than less risky debtors, who are less willing to pay risk premia, and tend therefore to be the borrowers most likely to gain access to credit if lenders are unable to differentiate between borrowers. This can be seen as an application of the work of Akerlof (1970) on asymmetric information in 'The market for 'lemons'', for which he won the Nobel Prize for Economics.<sup>(1)</sup>
- Moral hazard on the part of borrowers, where borrowers may increase risk-taking once they are in receipt of a loan.

These two effects can combine to deliver a credit market equilibrium characterised by higher prices, a lower provision of credit and higher defaults than would be the case in a perfectly competitive market without information asymmetry. In such a scenario most borrowers are worse off, since the practice of credit rationing, whereby lenders may quote an interest rate and then proceed to supply a lower amount of credit than that demanded by borrowers, leads to the majority of borrowers facing under-provision of some form.

The problem of asymmetric information is often cited as providing the rationale for the sharing of information between lenders in the credit market. Miller (2003) argues that by reducing information asymmetry, credit information sharing can enhance competition in the credit market and reduce default rates, which in turn should result in lower average interest rates and ultimately increased access to credit. Sharing credit information with indirect providers of credit might also support the provision of credit, for example by meeting the data requirements of investors in loan securitisations.

Empirical studies of the impact of credit data sharing consistently find that more information eases credit conditions, supporting the findings of the theoretical literature. A review of these studies can be found in Appendix 1.

However, such information sharing may not arise naturally. This is particularly true if lenders perceive the costs associated with sharing proprietary information on their existing borrowers to be higher than the benefits to them individually from being better able to assess credit applications from customers who have not banked with them before.

Lenders' behaviour with regard to information sharing is likely to be significantly influenced by the market structure, lenders' prevailing market shares and lenders' targeted market shares. Lenders with large market shares who are not seeking to increase their presence in the market are less likely to see the potential benefits arising to them as a result of information sharing and may consequently be less willing to participate in or even actively block any such arrangement. Information rents, whereby lenders make money from exploiting an informational advantage rather than from the inherent quality of their product or service, may also drive such behaviour.

When information sharing does not arise between providers, this can present a barrier to entry and expansion for new entrants and existing challengers. Credit providers typically need access to borrowers' financial and credit information to allow them to assess the risk associated with providing credit. Any difficulties in accessing accurate and relevant information may impede their provision of credit and ability to compete.

Such barriers to entry and expansion can also be damaging from a borrower's perspective. Where a lender has obtained an informational advantage over its competitors with respect to its borrowers, its competitors may be less willing to compete for those borrowers because they are less well placed to judge the borrower's creditworthiness. This can result in those borrowers facing a higher cost of credit than they might if there was greater competition between lenders. A reduced level of competition between lenders may in turn reduce the incentive to innovate and invest in the quality of their service provision, which may also lead to poorer outcomes for borrowers.

Akerlof, D, Stiglitz, J and Spence, M were jointly awarded the 2001 Nobel Prize for Economics for their work on asymmetric information.

The barrier created by a lack of information sharing can also restrict a borrower's ability to switch between banks, because competing banks are less able to assess the creditworthiness of those who have not previously banked with them. This may create difficulties for borrowers if their main bank decides to deleverage or otherwise reduce its provision of credit.

### Theoretical arguments in favour of regulatory access to credit information

Where information sharing does not arise naturally, there may be a role for the state in supporting the development of a transparent credit reporting infrastructure (World Bank (2013)), which also allows regulators to access credit data. There are a number of benefits that regulatory access to credit information can bring, particularly with regard to the functions of central banks, as demonstrated by international experience (Appendix 2).

For example, access to credit information facilitates the study of credit conditions and so supports the decisions of monetary and other macroeconomic policymakers. Credit data can be used to assess credit risk at both the aggregate and institutional level to support assessments of financial stability, stress testing and the supervisory monitoring of financial institutions and underwriting standards. Credit assessments can also inform the use of macroprudential tools, such as the appropriate setting for banks' countercyclical capital buffers. More broadly, credit data can be used to produce statistics that inform both policymaking across government and the broader public debate on credit issues.

### The emergence and use of credit reporting systems worldwide

In most countries, credit data are shared through either private credit bureaus (PCBs), a CCR or both. In the EU, PCBs, known in the United kingdom as CRAs, operate in 25 of the 28 member states and 16 of the 28 member states have or are developing CCRs. Of the twelve remaining member states, a further six will be required to develop some form of central credit reporting system to support the move towards a single SSM in the Eurosystem which will require a common European CCR.<sup>(1)</sup> This number will get larger still if more countries adopt the euro, since all euro-area countries will need to meet these requirements. The United Kingdom does not currently operate a CCR and credit data in the United Kingdom's PCBs are not currently shared with regulators making the United Kingdom something of an outlier in an EU context. Box 1 describes the prevalence and roles of CCRs and PCBs in an international context.

Regardless of the reasons for establishing a CCR, in many countries CCRs have both improved the quality of credit information available to the financial sector and provided data that have supported the functions of central banks and bank supervisors. In the United States, there is no CCR, but policymakers have been able to access credit data provided by the CRAs and the rules on access to CRA data in the United States permit a wider use of CRA data. For example, CRAs in the United States have been able to make summary credit data, based on the information they collect at the loan level, available to investors in securitisations. In the United Kingdom, access to credit data is more restricted and CRAs have not been able to make summary credit data available to investors in UK securitisations.<sup>(2)</sup> Box 2 describes the availability of information from UK CRAs.

A consideration of the case for improving credit data in the United Kingdom should therefore seek to address two questions:

- Given that the sharing of information is important to the provision of credit; to what extent should the availability of credit data be incrementally improved in the United Kingdom to support this purpose? Section 3 addresses this question.
- In considering whether credit data could be shared more broadly, should policymakers be given increased access to credit data to support more informed policymaking? This question is addressed in Section 4.

<sup>(1)</sup> See European Central Bank (2014).

<sup>(2)</sup> See www.publications.parliament.uk/pa/ld200809/ldselect/ldeconaf/101/ 101we07.htm.

### Box 1 International experience of different credit reporting models

CCRs and PCBs are similar concepts, but there can be important differences between the two. CCRs are public entities that are often managed by bank supervisors or central banks and typically collect information from supervised financial institutions. PCBs are typically privately owned enterprises that collect information from bank and non-bank private entities and provide a range of services, such as credit scores, to banks and non-bank lenders.

In many cases public and private credit reporting systems are complementary and play different roles (Miller (2003) and Jentzch (2008)). Many CCRs were developed to support the state's role as a supervisor of financial institutions, with loans above a certain threshold legally required to be registered at the CCR. CCRs tend to monitor loans made by regulated financial institutions and usually do not offer value-added services, such as providing analysis conducted using the data stored by the CCR.

By contrast, PCBs developed to provide detailed data on individuals to commercial lenders, amongst other purposes. They tend, therefore, to have lower thresholds than CCRs and often collect information from a wider variety of financial and non-financial entities. They may not, however, collect all of the information that policymakers would require.

Over time, the information held on many CCRs has been made more widely available and with the growth of consumer credit, the loan thresholds have in some cases been reduced or abolished. This means that in some countries CCRs now offer very similar products and services to PCBs.<sup>(1)</sup>

**Figures 1** and **2** provide an overview of the prevalence of CCRs and PCBs worldwide and within the EU. Across all regions PCBs cover a greater percentage of the population of household sector borrowers than CCRs, whereas, with the exception of South Asia, credit registers cover a greater proportion of gross domestic product (GDP) than PCBs since they include business lending which is typically larger in size.<sup>(2)</sup> This reflects the differing focus of the distinct credit reporting systems, with CCRs tending to focus on high value loans above certain thresholds which have systemic importance, and PCBs covering smaller loans available across a broader spectrum of credit institutions.

#### Figure 1 Global distribution of credit reporting systems

Status Both Only Bureaux Neither Only Register No data



Note: The Doing Business Getting Credit data set has been updated for Europe with data taken from Jentzsch (2007), which show PCBs to operate in Bulgaria, Latvia and Malta.

Sources: Doing Business Getting Credit and Bank of England calculations.

#### Figure 2 Credit reporting systems in the EU

Status (Europe) Both Only Bureaux Neither Only Register Non-EU country



Note: The Doing Business Getting Credit data set has been updated for Europe with data taken from Jentzsch (2007), which show PCBs to operate in Bulgaria, Latvia and Malta. Sources: Doing Business Getting Credit and Bank of England calculations.

The International Finance Corporation (IFC) cite Argentina, Belgium, France, Italy, Peru and Spain as examples.
 See World Bank (2013).

<sup>11</sup> 

### Box 2 What information is typically held in a UK credit reference agency?

In the United Kingdom the private sector sharing and provision of both personal and commercial credit information is well established. There are several CRAs collecting credit information from a number of public and proprietary sources and which use this information to provide analytical and data services to their customers. The three largest CRAs who provide personal credit information are Experian, Equifax and CallCredit. Experian and Equifax are also important providers of commercial credit data. Dun & Bradstreet is another major provider of commercial credit data.

### What information is available?

**Tables 1** and **2** describe the information that is typically available on individuals and businesses from CRAs. The information that is available from each CRA will differ as new sources of information are constantly being identified with the aim of improving the accuracy and depth of information in their databases. The tables show that a wide variety of identifying, financial, behavioural and contextual information is available on both individuals and companies.

The tables illustrate that there is much similarity in the information that is available on individuals and businesses. At the smaller end of the business spectrum the distinction becomes even less apparent. This is because to support an accurate assessment of the creditworthiness of sole traders and unlimited companies, information on the creditworthiness of these entities as businesses is often supplemented with information on the personal credit histories of key people within the business.

One service that CRAs provide is to match data on individuals and companies from a wide range of sources. It can be a complex and costly process to establish that a person or firm identified from one source is the same as a person of firm identified from another source. This can become increasingly complex as people or businesses move or if other important identifiers change, for example if a person or firm changes their name. When an important identifier does change, another exercise undertaken by the CRAs is to establish the reason for the change. For example if two pieces of information on a firm obtained from different sources show different addresses, it is necessary to establish whether this reflects poor data at source, a change of address since the earlier piece was submitted or other reasons such as fraud on the part of the borrower.

### Who is information available to?

Data subjects can access the information held about them in CRA databases for verification purposes and information sourced publicly is generally available to all CRA customers. However, access to the credit data obtained from proprietary sources is currently governed by the principles of reciprocity. These principles are determined by the Steering Committee on Reciprocity (SCOR), made up of credit industry trade associations, credit industry bodies and CRAs. The principles ensure that companies seeking to access shared data from CRAs receive credit performance information of the same level that they contribute and that companies contribute all the data that they have available. So for example, if a lender only contributes negative credit information (ie that pertaining to defaults or other adverse credit events) they will only be able to access negative credit information from the CRA.

There are a number of closed user groups operating within CRAs that govern, using the principles of reciprocity, access to data sourced from credit accounts. These groups prevent non-financial lenders, such as trade creditors, and indirect financial creditors, including investors in securitisations, from accessing data provided by direct financial lenders, such as banks. There are also closed user groups around specific financial products, such as BCAs, which restrict the sharing of information on those products to just those lenders which offer those products.

These arrangements can give rise to situations where some credit providers cannot access certain types of data useful for assessing creditworthiness because they are unable, rather than unwilling, to provide data. HMT have cited the lack of sharing of information on BCAs as one area where closed user groups restrict what information is shared. To address this, HMT are consulting on proposals to mandate the sharing of information on SME borrowers between direct financial lenders through the CRAs, and outside of closed user groups.

### 13

### Table 1 Selected consumer data held by CRAs

Data type	Data field	Source	Description	Access
Identifying information	Name, address, etc.	Various sources including the Electoral Roll	Used to identify and match borrowers. Identifying information comes alongside many individual pieces of data, but there are some sources from which just identifying information can be obtained such as the Electoral Roll.	All users
Financial information	Credit account data	Reporting credit institutions	Covers credit product data including type of account, repayment amount and term, amount outstanding, history of payment and, if applicable, default balance. Also includes current account information which includes debit and credit turnover and average account balance.	Governed by reciprocity
Behavioural information	Payment accounts data	Includes utility providers and telecommunication companies	Used to identify changes in payment behaviour. Also a useful identification source for those individuals that do not have a credit account reported to the CRAs.	All users
	Current account data	Current account providers	Used to monitor payment patterns, and account and overdraft usage. Often the first signs of financial stress will appear in the current account.	Governed by reciprocity
	Court information	Registry Trust	Covers information on county court judgements and other court orders issued against individuals.	All users
	Bankruptcies and individual voluntary agreements	Insolvency Service	Covers information on any outstanding bankruptcy orders or individual voluntary agreements against an individual.	All users

### Table 2 Selected commercial data held by CRAs

Data type	Data field	Source	Description	Access
Identifying information	Name, address, etc.	Various sources including the Electoral Roll	Used to identify and match companies. As with individuals identifying information comes alongside many individual pieces of data, but there are some sources from which just company registration data can be obtained, such as Companies House. CRAs will also layer on directory and social media information to verify that a company exists and to build a profile for the company.	All users
Financial information	Credit account data	Reporting credit institutions	Covers type of account, repayment amount and term, amount outstanding, history of payment and, if applicable, default balance. Also covers BCA data which can be useful in approximating cash flow from debit and credit turnover information.	Governed by reciprocity
	Financial accounts	Companies House	Covers balance sheet and income statement data.	All users
Behavioural information	Payment accounts data	Includes trade credit, trade credit insurers, utility providers and telecommunication companies	As with persons, used to monitor a company's payment behaviour. CRA analysis suggests that late payment is not necessarily an indicator of heightened credit risk. A sudden switch in behaviour from timely to late payment may be cause for further investigation. Can be useful for early identification of financial difficulty, because a borrower may be more likely to stop paying its utility bills or supplier invoices before they stop making payments on credit products.	All users
	Current account data	Current account providers	As immediately above.	Governed by reciprocity
	Court information	Registry Trust	Covers information on county court judgements and decrees issued against companies.	All users
	Bankruptcies and individual voluntary agreements	Insolvency Service	Covers information on any outstanding bankruptcy orders or individual voluntary agreements against sole traders and non-limited companies. Also covers limited company insolvencies.	All users

#### Improving the availability of credit data to 3 support the provision of credit

As discussed in Section 2, where access to credit data is restricted it can provide a significant barrier to entry and inhibit the provision of credit. This section therefore considers the extent to which the availability of credit data could be improved in the United Kingdom. It does so by considering how credit data might be incrementally improved over and above the existing credit reporting infrastructure and the policy interventions already in train.

As noted in the introduction, this Discussion Paper has a particular focus on the commercial lending sector. This market has witnessed a sustained decline in the provision of credit since the financial crisis and the first quarter of 2014 saw the largest recorded fall in lending to PNFCs in a single quarter. However, the Bank recognises that the issues covered may well be relevant to other credit markets and responses to this effect are welcome.

### The availability of credit information in the United Kingdom

In the United Kingdom, the sharing of credit data between market participants is well established and is predominantly conducted through CRAs. Box 2 provided an overview of the data that is available through CRAs.

The availability of credit information is not commonly cited as a problem in the personal and large corporate credit markets. However, there are two areas where the availability of information has been regularly cited as an issue. These are the credit markets for CRE and SME lending.

### Do respondents believe that there are significant problems with information availability in markets other than CRE and SME lending in the United Kingdom?

While the availability of information in the CRE credit market has not been identified as a significant barrier to entry, some participants in the CRE industry itself, through the Real Estate Finance Group (REFG),<sup>(1)</sup> have nevertheless called for market participants and potential new entrants to have more granular and timely information on CRE loans. Analysing this information might enable them to improve their understanding of the CRE loan market and enable them to make more informed lending decisions, both with respect to individual borrowers, but also with respect to the dynamics of the market as a whole. A better understanding and pricing of risk could also reduce cyclicality in the CRE market. Box 3 considers the importance and availability of information to the provision of credit in the CRE market.

The problem of a lack of credit data on SMEs has been highlighted by a wider range of commentators considering SME access to finance. For example, the Office of Fair Trading,<sup>(2)</sup> the 'Boosting Finance Options For Business Review' headed by Tim Breedon,<sup>(3)</sup> and the 'RBS Independent Lending *Review*' headed by Sir Andrew Large, <sup>(4)</sup> have all highlighted a lack of information about the creditworthiness of SMEs as a potential barrier to competition in the SME banking market and SME lending in particular. Box 4 considers the importance of information to the provision of credit specifically in the SME market.

The Government is taking action to improve the availability of information and ensure that information is shared more effectively among credit institutions operating in the SME credit market. As noted above HMT are consulting on proposals to mandate the sharing of data on SME borrowers by credit institutions, including banks and direct financial providers, through the CRAs and outside of closed user groups. The Government also recently announced a limited release of identifying information from the VAT register to CRAs for the purposes of assessing creditworthiness.<sup>(5)</sup>

If implemented effectively, these proposals should go some way towards addressing the problem of information not being fully shared between credit providers in the SME market. In light of the Government's action to improve the availability and sharing of information in the SME credit market, there are two outstanding questions which this section seeks to answer. These are:

- Is there further credit information, beyond that already collected by CRAs, that should be made available?
- Could any incremental improvements be made by widening access to other potential users of credit information?

### Making further credit information available

There are two main ways in which the range of information available to the financial sector might be incrementally improved. The first of these is to extend the coverage of existing credit data. The second is to make information available from publicly-owned sources.

### Extending the range of credit information available

At present the main sources of credit data in the United Kingdom are the CRAs. The firms and institutions that provide data to the CRAs are not required to do so, but the principles of reciprocity (Box 2) upon which the CRAs operate mean that, in practice, the CRAs achieve a wide informational coverage of exposures. There have, however, been some lenders that have been less willing to share data

A cross-industry group of real estate finance specialists.
 See Office of Fair Trading (2014).

<sup>(3)</sup> See Breedon (2012).

<sup>(4)</sup> See Large (2013).

<sup>(5)</sup> See HM Treasury (2014).

### Box 3 The UK commercial real estate lending market

CRE lending can be broadly defined as lending to companies whose primary revenue is derived from buying, selling, renting or developing property. The stock of CRE lending reported by UK-resident banks and buildings societies stood at just over £170 billion at end-March 2014, about £75 billion below its 2010 peak. While the market is dominated by UK-owned banks and building societies (roughly 55% of total lending), other institutions are active in the market, particularly in lending against larger properties. These institutions include foreign-owned banks, insurance companies and other non-bank lenders such as debt funds.

Commercial property played a key role in the recent global financial crisis. In the United Kingdom CRE valuations rose by around 50% between 2000 and 2006 and lending more than doubled relative to nominal GDP. Following the onset of the 2007–08 financial crisis, CRE values fell by over 40% and there was a sharp rise in non-performing CRE loans. Write-offs on CRE loans were around three times higher than write-offs on residential mortgage loans. This directly contributed to the failure of several UK banks and the UK economy experiencing its largest contraction since the 1930s.

The cyclicality of the CRE market is not new and has been at the heart of many previous crises. Economic growth drives demand to occupy CRE, making rents much more cyclical than for the housing market. This can be amplified by speculative cycles in CRE investment and development. CRE prices themselves are strongly influenced by the availability of credit: as prices rise, investors extract equity and borrow more to buy more property, further bidding-up prices. The reverse is true in a downturn. Cyclicality in underwriting standards worsens this feedback loop, with lenders more willing to offer higher loan to value ratios in an upswing.

### Information in the UK CRE lending market

As with all types of lending, information plays an important role in allowing a CRE lender to price the risk associated with a loan appropriately and monitor its ongoing performance. However, the importance of property collateral in this type of commercial lending means that the informational requirements differ in some ways to those of other types of lending. The paragraphs that follow set out the types of information that are important in the CRE market for lending purposes:

### Information on loan terms:

 This includes data on origination and maturity dates, drawn balances and facility limits, details of the loan structure (eg interest only, partially amortising or fully amortising), loan pricing, and any associated interest rate hedges.  Information on any cross collateralisation, where collateral from one loan is also used as collateral on another loan, is also important.

### Information on the borrower and related entities:

- As for other types of lending, information that allows the lender to take a view on the borrower is impotant.
- In CRE it is common for loans to be made to Special Purpose Vehicles (SPVs). In such cases information on the property company, or 'sponsor', related to the SPV is also considered.

### Information on the underlying property collateral:

- This includes data which allow the lender to assess the value of the collateral supporting the loan. Such data include the property sector, value, gross and net rental income, yield and the age of the property.
- Information which allows the lender to assess the stability of cash flows associated with the property is also crucial. Such information includes data on the level of occupancy of the property, data on the tenants (eg the tenants' credit ratings and industries of operation) and lease information (eg contractual details such as lease break and end dates and rent review dates).
- Slightly different information is also necessary for development loans, such as the expected date of completion and the extent of pre-sales or pre-lets.

#### Information on loan performance:

• As for other types of lending, this includes information on arrears, forbearance, restructuring, and impairment.

### The availability of information in the CRE market

The information outlined above is generally available to a lender on a specific transaction. But in most cases, this is private information which is unavailable to those not party to the transaction.

Published information on the UK CRE lending market is only available at the aggregate level. The Bank publishes aggregate data on lending to CRE companies by monetary financial institutions. De Montfort University also collects information on the market, and in their biannual survey, publish aggregate data on recent lending activity and typical loan terms, split in various ways (eg by type of lender or property sector). But importantly, timely data on changes in underwriting standards — in terms of the average and the distribution — are not available.

### Improving the availability of data in the CRE market

The financial crisis exposed the lack of data on CRE lending and led to calls for the establishment of a loan-level database for

CRE loans to address the issue. In particular, the REFG recently recommended that such a database be established to ensure lenders and regulators have access to timely information in order to understand the risks that are being taken and to stress test CRE portfolios appropriately.<sup>(1)</sup> The REFG also argued that such a loan-level database would reduce barriers to entry for new lenders and allow academics and other interested parties to undertake analysis and research.

Sharing data on CRE loans more widely may deliver a number of benefits, but may also give rise to a number of risks. This subsection considers these, starting with the advantages of such loan-level data which are set out below:

- It would give all parties in the CRE lending market including borrowers, lenders and regulators — information that would improve their understanding of the risks associated with the market and hence individual lending decisions. For example, timely information on the deterioration of credit underwriting standards in a market upswing might allow lenders and regulators to detect emerging risks and adjust behaviour accordingly.
- It may allow lenders to price risk better and, as a result, develop better economic and regulatory capital models.
- It would allow lenders and regulators to carry out stress tests of CRE portfolios more accurately.
- It might reduce barriers to entry for new lenders, for example by allowing them access to information on historical credit performance. This might encourage lender diversity.
- It might allow academics and others to conduct more informed analysis and research on the market.

As noted earlier, a loan-level database is not, however, without its concerns. In particular, some important issues that would need consideration include:

- Difficulties in collection: to support regulatory uses, data would need to be available that may not be routinely collected by banks for their own internal risk management or by CRAs for supporting assessments of borrower indebtedness.
- Costs of collection: at present in-depth CRE data are not routinely captured by either CRAs or regulators. Given the bespoke data requirements of CRE lending, implementing a loan-level database in this market could impose high implementation and compliance costs on both industry and regulators.
- Confidentiality: certain loan-level information would need to be subject to safeguards in order to protect commercially sensitive or personal data.
- Impartiality of the data collector: there would be a need to ensure the party collecting the data cannot use it to gain a market advantage.

What are respondents' views on our assessment of the key information required for CRE lending?

What are respondents' views on our assessment of the availability and importance of information in the UK CRE lending market?

(1) Real Estate Finance Group (2014).

comprehensively across all CRAs. Each CRA negotiates access to data separately with providers and this can lead to some gaps forming in the information that is available.

There are also some information providers who may lack the incentive to provide data to the CRAs. For example, trade credit insurers collect a range of information during the course of their normal business activities on both the providers and recipients of trade credit. However, trade credit insurance may be seen as an alternative to credit reporting because it removes some of the risk from not undertaking a diligent credit assessment, these insurers may thus lack the incentives to provide data to the CRAs. Some degree of mandatory reporting may therefore be beneficial. This may also be necessary to support the development of a loan-level database for CRE loans (Box 3), were the idea to be taken forward, and may indeed be required to support the policymaking purposes considered later in this Discussion Paper.

### Making information available from publicly-owned sources

The second way in which the information available to the financial sector might be incrementally improved is by making available information from publicly-owned sources. For example, unlike other European countries, the United Kingdom does not have a publicly accessible business register and this has been identified as a shortcoming by a number of reports. Companies House did operate such a business register, but this was discontinued in 1981.

To address this shortcoming, the Cruickshank Report<sup>(1)</sup> recommended that the Government publish business data including: location, date established, turnover and the business' VAT record. The Report argued that making such

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(1) See Cruickshank (2000).
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information available to new entrants would support their development of credit scoring models.

Reviving the operation of a business register in the United Kingdom, by Companies House or another appropriate public authority, might be one way to deliver these benefits. If not, making information available from other publicly-owned sources, such as the ONS' IDBR or HMRC's VAT register, might offer alternative methods to improve the information that is available on businesses.

The ONS' IDBR holds information gathered from other government sources and the ONS' own surveys on businesses, and includes fields such as business name, address, number of employees and turnover. Making information available from the IDBR might support the provision of credit by acting as a first step towards establishing a Comprehensive Business Register, of the sort called for by a number of reports into competition in the banking sector, including the recent *RBS Independent Lending Review*.

The Government said in *Budget* 2014 that it will legislate to provide for a controlled release of non-financial VAT registration data for specific purposes (principally credit scoring) to a small number of qualifying parties (for example, CRAs). Going beyond this, for example making certain financial data available from the VAT register such as tax liability data, could enhance the financial information on borrowers available to potential lenders. This could be particularly pertinent for smaller SMEs since, as set out in Box 4, it is much harder to source financial information on these firms.

Tax data might also be useful for the credit assessment of other borrowers, for example in the personal sector. A relative weakness of the United Kingdom compared to the United States is the lack of a unique identifier for borrowers. In the United States, Social Security Numbers are used to identify individual borrowers. If, in the United Kingdom, National Insurance numbers were made available, this might support better identification and matching of credit data.

It is important to note that making information from publicly-owned sources available to CRAs and/or lenders would raise significant issues, including privacy impacts and taxpayer confidentiality (which is a fundamental principal of the tax regime), for which appropriate governance and safeguard arrangements would need to be put in place. Moreover, making information available that has been provided on a voluntary basis may dilute incentives for reporting firms to provide information in the first place. These issues and risks are considered more fully in Section 5. In addition, the current legislative framework would not allow for data to be made available from these publicly-owned sources. Were enabling legislation to be passed, it would be necessary to put in place governance and safeguard arrangements to address the issues raised above. Such arrangements are considered in Section 6.

Would establishing a comprehensive business register in the United Kingdom benefit the provision of credit?

Could making information available from publicly-owned data sources deliver similar benefits? If so, what sources would be especially useful; and what safeguards and/or conditions should be imposed?

### Widening access to UK credit reporting systems

There are three main channels through which access to UK credit reporting systems might be broadened in support of the provision of credit over and above the existing and proposed interventions outlined above. Each of these channels are considered in turn.

### Broadening access to direct providers of credit

The market where broadening access to credit data is likely to be of most benefit to direct providers of credit is the SME credit market. This is because a large amount of SME finance is provided through trade credit (Box 4). Trade credit is an important source of finance for businesses of all sizes, but is particularly important for start-ups and small firms.

As non-financial creditors, trade creditors are currently unable to access any information derived from data on prospective SME borrowers' credit accounts provided by financial creditors, such as banks, making it difficult for them to assess creditworthiness. Were credit account data or information derived from such sources to be made available to these providers, this could support both trade and the provision of trade credit. It is important to emphasise that this need not be direct access to borrower credit account data, but rather trade creditors could be given access to credit scores that are derived from data obtained from borrower credit accounts.

It may also be possible to improve the availability of credit data to banks and other lenders that are already able to access data from the United Kingdom's existing credit reporting infrastructure by increasing access to pooled data. This might support the wider use of advanced credit scoring techniques which might improve the ability of challenger banks and new entrants to assess credit risk.

A more medium term use for such pooled data might be to support the wider adoption of the IRB approach to setting capital requirements. While there is some debate about the merits of the IRB approach, its use by larger incumbent banks means that the capital larger banks need to fund each exposure can be lower than the capital smaller banks and new entrants, which tend to use the standardised approach, need to

### Box 4 The UK small and medium-sized enterprise lending market

The UK SME credit market is highly concentrated, with the four largest banks holding an SME banking market share of approximately 80%. Market shares have been stable for a number of years, although credit volumes contracted sharply in the aftermath of the financial crisis, with outstanding lending to SMEs falling at an average annual rate of 4.25% from end-2008 to end-2011.

Within the SME credit market there is a wide range of products, serving the borrowing needs of different types and sizes of firm. The paragraphs that follow therefore split out the finance available into products supporting working capital provision, finance supporting expansion or the purchase of new assets and lending between businesses in the form of trade credit.

### Working capital provision:

- Overdrafts: committed lending lines available for immediate use and with no defined term.
- Invoice finance: short-term lending secured on invoices payable to the receiver of finance. It is the duty of the debtor to ensure invoices are paid.
- Factoring: short-term lending again secured on invoices payable to the debtor, but in this case the creditor collects payment of invoices.
- Supply-chain finance: similar to factoring, but the process is started by the ordering party. Typically cheaper than factoring, because the creditor has recourse to the ordering firm, often a larger business which tends to present less credit risk than the supplier.

### Term lending:

- Asset-based finance: medium-term lending secured wholly or partly on the equipment being financed. Includes hire purchase, leasing and refinancing.
- Medium-term unsecured lending: based upon cash flow.
- Property-based finance: medium to long-term lending based on a charge over property.

### Trade credit:

 This is business-to-business credit, which often takes the form of delayed payment, with payment made when income from the projects has been realised or when final delivery of the goods has been made. • The trade creditor often obtains insurance against default from a trade credit insurer.

At the micro-level (eg sole traders), SMEs are also often reliant upon financing obtained on the basis of personal credit assessment and personally owned assets, for example via personal loans or credit cards.

### Information in the UK SME lending market

The types of information required to assess a prospective SME loan and the relative significance attached to each information type varies according to the type of loan. In general, however, information of the following types is required.

### Identifying information:

 This allows the SME to be linked to each of the other relevant information types below. This is a more complex process in the case of SMEs than for individuals due to their ability to be founded and dissolved easily, to have multiple directors and to have ownership and subsidiary relationships with other firms.

### Financial information:

- Information that summarises the balance sheet and profit and loss account of the SME.
- Key information includes the total indebtedness of the firm, the total equity of the firm and the history of profitability of the firm.

### Behavioural information:

- Information that provides an insight into the financial management of an SME and its short-term cash flow situation, such as payment of invoices.
- Key information includes historical information on county court judgement (CCJs), defaults and recent payment performance, such as data sourced from current account usage.

### Collateral valuation (for secured lending):

- Information that allows the prediction of the salvageable value of any collateral due to the lender in the case of default.
- Over-collateralisation can be used as a 'fall back' for a lender to cover risk in the case of default and alleviate the necessity to use other information items to assess the default risk of the firm fully.

### Contextual information:

• Information that allows the lender to interpret the above data items in an appropriate way by relating it to historical data on a subset of firms that can be expected to perform

similarly. Also, any data which can be used to inform a judgemental assessment of the SME's expected performance.

 Common examples include the industry and location in which the firm operates, the competitive position it has, the customers it has and the creditworthiness of its customers. Social media data can be very important in this regard, because websites can be searched for information such as whether the firm is winning contracts.

As noted earlier, the specific requirements differ with each loan. Generally, for larger SMEs more weight is likely to be placed on financial information, since it is easier to come by and more likely to be accurate and timely. In secured lending, some providers may place more weight on the loss given default (LGD) of a transaction than the borrower's probability of default (PD), since a lack of borrower information can be supplemented with the confidence that debt can be recovered in the event of default. However, this practice is not helpful to those borrowers that are unable to offer suitable collateral to obtain secured funding.

#### The availability of information in the SME market

In the United Kingdom, the CRAs are the main alternative information source to the firm itself. The CRAs populate their databases with a variety of information sourced from both public and proprietary sources. Market intelligence suggests that it is much harder to source information on smaller SMEs than it is to source information on larger firms. This is important given that the smallest SMEs<sup>(1)</sup> account for 22% of commercial employment, 18% of value added and 12% of investment in the United Kingdom.

This situation has arisen partly because smaller firms, if they meet at least two of the following conditions, are able to submit abridged financial accounts to Companies House, containing less detailed financial information:

- Annual turnover less than £6.5 million.
- A balance sheet total of less than £3.26 million.
- An average number of employees of less than 50.

As a result of these filing requirements, direct financial creditors, such as banks, are in a better position than direct non-financial creditors, such as trade creditors, or indirect providers of finance, such as investors in securitisations, to assess the credit risk of an SME credit transaction. This is because they can access the credit data held in CRA databases provided by other direct financial creditors and in some cases may already have access to information on the SME borrower sourced from banking services they have previously provided, such as current account information.

However even then, as noted earlier, the existence of closed user groups within CRAs means that some direct financial creditors, including challenger banks, are not able to access the information held in CRA databases in a comprehensive way. To address this HMT are proposing to mandate the sharing of some key credit data between direct financial creditors through the CRAs.

If implemented, HMT's proposal will not open up access to credit data for non-financial direct lenders or indirect creditors. As these creditors are unable to access CRA credit data provided by financial institutions, they will remain in a worse position than direct financial creditors to assess SMEs' creditworthiness.

The impediments created by information asymmetries in the SME credit market may well have contributed to the market's high degree of concentration. Section 3 considers whether any improvements could be made to the availability of credit information to remove this impediment and support the provision of credit.

What are respondents' views on our assessment of the key information required for SME lending?

What are respondents' views on our assessment of the availability and importance of information in the UK SME lending market?

Using the European Commission (EC) micro-enterprise definition of less than ten employees and a balance sheet or turnover of less than €2 million.

fund equivalent exposures.<sup>(1)</sup> In some cases, the differences may not be very significant, but in others it can be substantial. An International Monetary Fund (IMF) study of globally systemically important banks' portfolio risk-weights found that the average risk-weights of portfolios assigned using the standardised approach were on average 62% higher than the average risk-weights assigned using the IRB approach.<sup>(2)</sup> This means that firms using the standardised approach were required to hold, on average, 62% more capital than firms using the IRB approach.

Many IRB models will include financial, behavioural and qualitative assessments. If pooled data could be used to address challenger banks' lack of a back book performance history this may help to support the calibration and wider use of IRB models by such challengers. Access to behavioural inputs, such as overdraft usage, might also be supported by wider access to credit information.

In theory, levelling the playing field in terms of credit risk modelling might make it more viable for small firms and new entrants to compete on price with incumbents. However, firms wishing to use this pool of data would still need to demonstrate a strong link between their own internal risk profile and processes for assigning risk exposures and those of the pool. The cost of developing the necessary knowledge and expertise to adopt an IRB approach as well as developing qualitative inputs into such models would also remain a potentially significant barrier.

### Increasing the commoditisation of direct credit provision and improving its comparability

Improving the availability of credit data may promote the greater commoditisation of banking products. For example, providing more data on SMEs could lead lenders to provide SME banking products that are more standardised, as has happened in the personal banking market. This is because it would become easier to identify how risk varies across specific types of SME borrower, as defined by the industry and region in which they operate.

Greater standardisation could itself support innovations in other banking markets of the type that have emerged in the personal banking market in recent years. The emergence of loan price comparison websites might be one such example. If these emerged in other banking markets, they could drive greater competition between lenders and make it easier for borrowers to compare competing banks' offerings to ensure they get the best deal.

### Supporting credit provision through indirect channels

Widening access to credit information may also support the provision of credit through indirect channels, such as the securitisation market. While there are already well-established securitisation markets for mortgages and commercial property loans, they are less well developed for other asset classes, such as SME loans.

If data, such as default and prepayment performance information, on both the loan pool to be securitised and loan asset classes more broadly, could be made available to investors, it may aid them in assessing investment opportunities, in time fostering deeper markets or catalysing one where no market existed previously. Indeed, evidence of the potential benefits of this type of development can be seen in the United States where Experian has partnered Standard & Poor's to provide investors in securitisations with default indices on consumer loans.

Greater standardisation, as outlined above, could also help make securitised loans more marketable to investors. For example, the *CityUK Report*<sup>(3)</sup> argues that if there could be some standardisation of terms and conditions among lenders on SME loans, this could improve homogeneity. This in turn may increase the amount of securitisation that is possible for SME loans.

What are respondents' views on whether improving and widening access to credit data could deliver the benefits suggested for the origination of credit? Are there any other types of data that, if made available, could support the provision of credit?

#### Benefits beyond credit provision

Wider access to credit information may be able to deliver benefits that go beyond supporting the provision of credit. An example of this might be the use of credit data in calculating insurance premiums, as has been done in the United States.

What are respondents' views about widening access to credit information to support other purposes, such as insurance?

### Information is necessary, but not sufficient

It should be noted that there are a number of other barriers to entry into the credit market, besides access to information. In this regard, improving the availability of credit information to the financial sector should be viewed as a necessary, but not a sufficient condition for removing barriers to entry into the credit market.

The improvements that might be made to the availability of credit data to support the provision of credit may vary significantly depending upon the option chosen for the delivery of these improvements. For example, whether done through the existing credit reporting infrastructure or through a CCR. These delivery alternatives are considered in Section 6.

<sup>(1)</sup> The IRB approach allows a bank to use its own internal model-based assessments of its counterparties and exposures to calculate capital requirements for credit risk.

<sup>(2)</sup> See Le Lesle and Avramova (2012).(3) See Ares and Co. (2013).

### 4 Improving the availability of credit data to support policymaking and the broader public interest

The final part of Section 3 considered the benefits that broadening access to credit data, for example to indirect providers of credit, might bring. Given that an important prerequisite for effective policymaking is first having the information upon which to specify a problem and then measure the success of any intervention, it is worth considering the benefits that could arise from improved policymaker access to credit data.

This section considers those benefits. It does so by first considering how access to credit data might support the Bank in carrying out its functions, before considering how wider access to credit data might support the work of other policymakers and the broader public interest. This section concludes by considering the types of information needed to support these policymaking aims.

### The use of credit data in supporting the functions of the Bank of England

The granularity of credit data available to the Bank varies significantly by asset class. For example, the Bank can access detailed and regular loan-level information on regulated mortgages from the Financial Conduct Authority's (FCA's) Product Sales Data (PSD) database, whereas the Bank only has access to aggregated firm-level statistics on the entire stock of CRE loans.<sup>(1)</sup> Within the Bank, there are a number of areas in which access to more comprehensive credit data could be useful in supporting the Bank's functions. Each of these is set out in turn.

### Macroprudential policy

First, access to comprehensive and more detailed credit information could support the work of macroprudential policymakers by providing them with the tools to develop a better understanding of developments in credit markets, which might in itself improve any subsequent interventions. For example, in the United States, the Federal Reserve has, at its disposal, a Consumer Credit Panel, which is constructed from loan-level information on a random sample of 5% of outstanding credit files sourced from Equifax. Access to this data set, which contains information dating back to 1999, enables the Federal Reserve to monitor trends in debt and credit conditions. As well as supporting macroprudential policy, access to such loan-level data in the United Kingdom would likely also be of significant interest to other macroeconomic policymakers, both monetary and fiscal.

For example, that there was a prolonged debate about whether credit demand factors or credit supply factors were the dominant ones in driving credit volumes in recent years is due in part to a lack of data. In particular, the inability to identify clearly the direction in which prices for given borrowers are moving when volumes appear to be contracting makes it very difficult to identify the driving factor. Having access to data on terms and conditions could help in resolving these debates.

Credit data might also support the work of the FPC if up-to-date information on underwriting standards and the risk mitigants associated with loans was included. This might make it easier for the FPC to assess the build-up of risks and thus judge the appropriate time for intervention. A current example of where this might deliver benefits is the FPC's monitoring of risk in the property markets.

Credit data could also be used to assess the impact of macroprudential policy and as an indicator to inform the use of FPC tools more broadly. The use of the FPC's sectoral capital requirements tool is one example of a tool that would be particularly informed by such data. Credit data could be used first to assess the build-up of risk within certain sectors, and then measure the impact of any policy response.

The Government has also proposed making the FPC responsible for setting the appropriate level for the countercyclical capital buffer (CCB). The CCB allows the FPC to require banks to hold more capital when it judges it to be the best approach to head off threats to financial stability.<sup>(2)</sup> If the FPC judges such action to be appropriate, the CCB can also be decreased to stimulate the economy.

In line with international practice, decision making on the CCB will be based in part on a credit-to-GDP gap indicator which measures the amount of credit extended to the household and corporate sectors divided by the level of GDP. Access to credit data might support appropriate interpretation of this indicator.

#### Stress testing

Second, access to comparable, timely credit data across banks would assist the Bank and the PRA in carrying out their stress-testing objectives.<sup>(3)</sup> For example, in the United States, the Federal Reserve has used credit data sourced from Equifax to estimate the PD and LGD associated with car loans. These estimates have in turn been used to inform the stress tests.

Access to granular credit data in the United Kingdom could potentially reduce the burden on reporting firms by reducing the amount of additional data the Bank might seek to collect from banks in support of future stress-testing exercises.

The Bank collects more detailed data on CRE loans from some regulated lenders in support of its stress-testing objectives, but a significant part of the CRE market is not captured by this.

<sup>2)</sup> See Bank of England (2014).

<sup>(3)</sup> See Bank of England (2013b).

The ability of the PRA to perform comparative analysis of bank loan portfolios could be improved by a greater standardisation in how banks record credit quality information. A greater availability of standardised credit data in the United Kingdom could improve the consistency of information reported and perhaps remove the need for the PRA to harmonise existing bank submissions manually. These improvements could in turn facilitate easier comparative analysis of loan portfolios in the future.

### Microprudential supervision

Third, access to detailed credit information could supplement the data that is available to the PRA in support of its microprudential supervision and risk monitoring functions. Credit information can provide useful data that highlight key trends and characteristics in a financial institution's portfolio, including changes in portfolio quality due to the introduction of new financial products. Supervisors can use these data to help them determine which areas of an institution's portfolio need closer review, thus allocating time and resources more efficiently, and to inform asset quality reviews. Credit data can also support off-site supervision by providing key risk indicators and supporting the development of early warning systems.

Access to detailed credit information could also supplement the information that is available to the PRA for assessments of business risk, by providing additional data that can be used to compute growth rates of particular business lines. Additional credit data may also support assessments of financial mitigation undertaken by banks if the information were to contain details of the capital used to fund each exposure.

### Monetary policy

Fourth, another key use of such data would be to improve the understanding of the transmission mechanism for monetary policy and to assess its impact upon both the availability of credit and bank risk-taking. This is something which has been done in Spain using the information from their CCR.<sup>(1)</sup> Credit data could also be used to investigate the channels of interaction between banks and borrowers and answer questions about whether credit is reaching the most productive and profitable firms.

As noted with respect to macroprudential policy, having access to information on terms and conditions could also support monetary policy. For example, such data might have helped explain why the average spread on bank loans to large corporates decreased rather than increased during the recent financial crisis. This could have been because higher risk corporates were being rationed out of the market, or because of restructurings of marginal loans to reduce interest burdens. However, without access to detailed pricing data these hypotheses are difficult to distinguish.

### The provision of central bank facilities

Fifth, access to credit information could also support the Bank in its provision of central bank facilities. The Bank accepts a wide range of collateral in its market operations, including pools of loans. The Bank already considers loan-level characteristics when setting an appropriate collateral 'haircut', but having access to improved economy-wide credit data may reduce some of the uncertainty about the risk associated with certain collateral pools thus allowing any corresponding precautionary conservatism in 'haircuts' to be reduced.

### **Bank resolution**

Sixth, access to credit information may support the Bank's operation of the bank resolution regime,<sup>(2)</sup> as data could be used to support both contingency planning for firm resolution and the resolution process itself. For example, in instances where the Bank may look to transfer the assets of a resolved bank to a third party, such data could assist in making an appropriate valuation of the asset portfolios. Data may also assist in assessing the systemic and local impact the failure of a particular lender may have, and hence help the Bank judge the use of which, if any, of the stabilisation tools might be most appropriate.

### Access to data on UK banks and companies from European credit registers

Seventh, policymaker access to credit data may allow the Bank to access data on the European credit exposures of UK financial institutions held on the central credit databases of other European central banks. A recent European Central Bank (ECB) decision called for a legal framework to support the establishment of a pan-European central credit database across the Eurosystem. This will support the move towards a SSM in the euro area. The database will be constructed from data taken from the central credit databases of individual Eurosystem states.

As the United Kingdom is not a member of the Eurosystem, it will not be party to this database. However, the decision does include a provision to allow those EU members whose currency is not the euro to join the database subject to a resolution of the ECB. If UK policymakers were given access to comprehensive credit data, the United Kingdom may be able to participate in the pan-European database, should it wish to. Without being able to submit data in return the United Kingdom is unlikely to be able to access European data on UK firm's borrowings in Europe. Gaining access to data from European CCRs might also improve the availability of data on UK PNFCs' borrowings from foreign banks. This would however, require the sharing of data on UK exposures with

<sup>(1)</sup> See, for example, Jimenez et al (2007).

<sup>(2)</sup> An explanation of the Bank's resolution powers can be found at www.bankofengland.co.uk/financialstability/Pages/role/risk\_reduction/srr/ default.aspx.

other European countries, which may require additional safeguards.

### Consolidation of data collections

Another possible channel through which access to comprehensive credit data may support the efficient work of the Bank is through the consolidation of data collection. Access to a comprehensive source of credit data may mean that some of the other data collections that the Bank currently undertakes could be discontinued or simplified, thereby reducing the impact on data submitters, once areas of duplication between the sources are identified. Access to credit data may also reduce the need to introduce new data returns in the future.

### The use of credit data in supporting the work of other policymakers and the broader public interest

Beyond supporting the Bank in carrying out its functions as outlined above, more widely available credit information could make an important contribution to the work of government, other public sector entities such as the Business Bank and the authorities more broadly. If access to aggregated and anonymised credit data was widened to cover additional public authorities it could inform the government's policymaking and offer alternative ways to intervene in credit markets besides guaranteeing the loans of direct credit providers.

In several countries that operate CCRs, credit data have been used as a basis for investigation in academic studies. If UK credit data were made available (in anonymised form) to academia, it could facilitate contributions on the impact of policy upon credit availability and risk-taking and the channels of interaction between various economic agents, as well as more general academic research.

If appropriately anonymised credit information or improved public statistics based on such information, were also made available to the general public, the broader public debate on the availability of credit might be improved. This in itself might generate new ideas, through crowdsourcing and other means, on how to improve the provision of credit.

### The information needed to support the work of policymakers and the broader public interest

The different uses of credit data by policymakers may require additional credit data to be collected. If a central credit reporting system were to be built from scratch, the information such a system would need to contain could be specified at the early stages of the system's development. This would ensure that the system was fit for the purposes ascribed to it by policymakers.

Delivering a central credit reporting system through the United Kingdom's existing credit reporting infrastructure is another option. However, it may not contain all of the data required to support policymakers' objectives fully. Some of the information described in this section is not currently available from CRAs, such as data on terms and conditions, capital requirements and credit risk mitigants. To obtain that information, either the scope of CRA credit data provision would need to be expanded or some other initiative would need to be undertaken, such as the establishment of a separate central credit database.

Section 6 considers the possible delivery models for the improvements considered in this and the preceding section.

What are respondents' views on credit information being made available to regulatory authorities for the purposes suggested? Could such an action deliver the benefits suggested for policymaking?

What are respondents' views on summary credit information being made available to wider Government and the general public? Could such an action lead to more informed policymaking and public debate?

### 5 Risks

The preceding sections have set out how the provision of credit, policymaking and the broader public interest might be enhanced by seeking to improve the availability of credit information. However it is important to recognise that there are a number of risks, for example in terms of costs and practicalities of implementation that would need to be considered as part of any policy intervention. This section considers what some of these risks may be and, where relevant, some possibilities for how they might be mitigated.

The risks considered in this section should by no means be interpreted as an exhaustive list, but can be placed into the following four broad categories:

- 1. Risks that may arise if the burden of collection is not properly accounted for.
- 2. The risk that data are misused.
- 3. Risks that may arise from the loss of informational advantages.
- 4. Risks to credit provision arising from the potential loss of economies of scope and/or distributional effects.

The Bank would welcome responses that shed light on the extent to which each of the issues considered in this section ought to be considered a risk in practice, as well as responses that highlight potential risks that have not been considered in this section.

### What risks might arise if the burden of collection is not properly taken account of?

In mandating that data collected by private sector institutions are shared more widely or that data held in publicly owned sources is made available, there is a risk that a burden of collection could be imposed on both the private and public sectors which is not properly accounted for. The potential impact on both the private and public sectors is considered in the following paragraphs.

### Burden on private sector institutions

While promoting wider access to credit information to support the provision of credit is an objective that can be supported in theory, there is a risk that interventions could disincentivise private institutions from collecting information in the first place.

Mandating that lenders share the credit data that they collect could remove the competitive advantage they hold over their competitors with respect to the borrower information to which they have access. The removal of this competitive advantage may mean that it is no longer worthwhile for some lenders to collect some information, which could lead to less informed lending decisions. This could in turn lead to less efficient provision of credit and higher defaults for society as a whole.

To ensure that lenders do not lose the incentive to gather information, lenders could be compensated for collecting and sharing information by those who enjoy the benefit of such information being shared. This could provide them with sufficient incentive to continue to collect information.

There might also be concern that if informational constraints have led challenger banks to target niche markets rather than challenge incumbent banks in mainstream credit markets, the removal of such constraints could lead to such niche markets being less well served in the future. However, provided there remains a commercial opportunity for lenders to serve borrowers in niche markets, it is reasonable to expect that such borrowers will continue to be served.

Another burden that may be placed on private sector lenders as a result of widening access to credit, including to policymakers, is the cost of complying with any new reporting requirements. This may be particularly true if credit data are collected for the bespoke needs of policymakers.

The increased cost burden placed on lenders would need to be weighed against the public benefits that wider access to credit information, including to policymakers, might be expected to bring. This increased cost burden also needs to be considered in light of the benefits that lenders may derive as a result of any improved credit scoring that might result from making data available from publicly owned sources.

### Burden on the public sector

Seeking to improve the availability of credit information by making available information held in publicly owned sources is likely to increase the cost burden on the public sector in two main ways.

First, making this information more accessible might place a cost burden on the public sector in terms of building the systems necessary for onward sharing of the data in an appropriate manner.

Second, there may be a difference between the quality threshold required for the uses the data are currently put to and the new potential uses these data might be put to. For example, while the production of accurate statistics is important, it might be expected that the accuracy of each entry in a database used for statistical purposes may be lower than the accuracy of each entry in a database used for credit assessment, such as those databases owned by CRAs. To the extent that the databases owned and operated by the public sector need to be enhanced to meet private sector needs, it might be reasonable to expect that the public sector will be recompensed for the costs of meeting these needs in some way.

### Could the risk of data misuse be increased?

Encouraging wider access to credit information could increase the risk that such data may be misused. For example, in Section 3 it was argued that it may be desirable to facilitate the access of trade creditors to credit information provided by banks, to enable them to assess the creditworthiness of prospective borrowers better. However, doing so increases the risk that access to credit information may be used by businesses to assess the financial position and trading status of their competitors rather than for the purposes of assessing creditworthiness.

As noted in Box 2, the sharing of credit data in the United Kingdom currently proceeds through CRAs. The principles of reciprocity, which are determined by SCOR and govern access to credit data from CRAs, ensure that credit data are used appropriately. For example, data obtained from CRAs can only be used for specific purposes, such as the prevention of borrower over-indebtedness, fraud and money laundering. The principles require that data cannot be used for other purposes, such as marketing and SCOR seeks confirmation from each CRA user that they are compliant with these principles.

If access to credit information were to be widened, it is important to consider how inappropriate usage of credit data would be prevented. This issue is addressed in Section 6 which considers the governance and safeguard arrangements that would need to be in place to ensure the appropriate use of credit data.

## Could the loss of informational advantages lead to alternative and potentially detrimental lending strategies?

As noted earlier in this section, mandating that lenders share the credit data they collect with other lenders may remove the information advantage they hold over their competitors with respect to the borrower information they have access to.

As well as potentially reducing lenders' incentives to gather data, there is also a risk that such action may encourage lenders to adopt alternative lending strategies that compensate for the loss of their informational advantage. It is possible that some of these strategies may be more risky or detrimental from the point of view of the borrower.

For example, lenders may seek to introduce longer lending contracts and/or higher product exit fees to maintain their market shares in the face of greater competition from other

players in the market. This could ultimately make it more difficult for borrowers to access credit on favourable terms and in a flexible way. There might be a role for the FCA or other public bodies in mitigating such risks.

### What risks might arise from the potential unbundling of banking services and improving lenders' ability to assess creditworthiness?

It might be argued that, at present, some lenders have effectively been bundling additional banking services together with pure credit provision to deal with the lack of credit information.

For example, it has been argued that the poor availability of credit information in markets such as SME banking has caused lenders to adopt alternative strategies to compensate for the lack of information to assess borrower creditworthiness effectively.<sup>(1)</sup> Relationship banking, which involves a greater degree of interaction between the bank and SME than transactional banking, and which can involve the provision of business and financial advice in addition to the pure provision of credit, is one such strategy.

### Could the unbundling of banking services have adverse effects on the provision of these services?

Relationship banking may have emerged as a viable lending strategy in the SME banking market as a result of the presence of informational constraints. In the presence of such informational constraints, it is possible that economies of scope mean that the average cost of providing credit to SMEs alongside the associated business and financial advice is lower than the average cost of purely providing credit to SMEs and business advice separately. This may be because it is more difficult to assess an SME borrower's creditworthiness outside of an ongoing banking relationship.

If the availability of credit information were improved, it may make it easier for lenders to assess the creditworthiness of an SME borrower without entering into an ongoing advice-based relationship with that borrower. This may incentivise lenders to lend to borrowers without bundling in other services such as ongoing business and financial advice. However, given the value that some SME borrowers place on these other services, it is important that those borrowers are still able to access relationship-based banking services following any improvement being made to the availability of credit information.

The extent to which relationship banking would continue following such improvements would depend on the significance of the economies of scope that may arise from providing business and financial advice alongside pure credit provision. It might be reasonable to expect that, even with an

<sup>(1)</sup> See International Committee on Credit Reporting (2014).

improved availability of credit information, the total average cost to a single lender of providing both credit and business or financial advice in a single transaction is likely to be lower than the total average cost to two providers of separately providing credit and business or financial advice. If that were true, there is little reason to suppose that relationship banking would not continue as a viable lending strategy following improvements to the availability of credit data.

### Could lenders' improved ability to assess creditworthiness affect the ability of some borrowers to access credit?

However, even if relationship-based banking were to continue following improvements being made to the availability of credit information, there might still be some borrowers that are made worse off.

It may be that if lenders were able to separate out the provision of credit from the business and financial advice that accompanies relationship-based banking, they might charge more for banking products that incorporate business and financial advice than for banking products that do not. Although improvements in the availability of credit information should lead to a lower cost of the full range of banking services for society overall, it may be that those borrowers which particularly benefited from any cross subsidisation of bundled banking services may face a higher overall cost of those services. There may also be other distributional effects arising from improvements in the availability of credit information that mean that some borrowers receive less credit than they did previously. This is because as lenders become better informed about borrower creditworthiness, they may discover negative information about certain borrowers that makes them unwilling to continue to provide credit to these borrowers.

However, lenders may also discover positive information about other borrowers that makes them more willing to lend and so such distributional effects ought to be placed in context of the net benefit that should be delivered to society as a whole and some of the borrowers concerned in the form of lower impairments. This in turn should lead to lower risk premia since lenders have to cover fewer defaults when setting interest rates.

To the extent that improvements in the availability of credit information did lead to distributional effects whereby certain groups of borrowers were left relatively underserved by the banking sector, it is possible these problems could be mitigated by other future public policy interventions.<sup>(1)</sup>

How material do respondents believe the risks considered in this Discussion Paper are? And are there any potentially significant risks that have not been considered in this Discussion Paper?

It is important to note that CRAs themselves are not responsible for the awarding of trade credit limits. They only make recommendations to lenders on what the size of the limit should be.

### 6 Options for delivery, legal framework and governance

This section considers the alternative models for delivering the potential benefits from greater availability of credit information identified in the previous sections, and the risk associated with these models. Three central questions to be answered are:

- What would the delivery model be, who would operate it and how would it interact with the current range of information providers?
- What legal framework would be required?
- What would the governance arrangements be, and what safeguards would need to be in place to ensure the appropriate use of data?

Each of these questions addresses a key issue upon which respondents' views are sought. A range of options are laid out below to provide a basis for responses.

### **Delivery model**

A logical first step to deliver the improvements set out in this Discussion Paper might be to consider a solution involving existing CRAs, which would make use of the existing credit reporting infrastructure and expertise and be less costly relative to other options. However, the closed user groups which operate within CRA databases may make such an option operationally difficult, particularly with regard to policymaker access. This section therefore considers the pros and cons of various delivery models, each of which is considered in turn.

One option is the creation of a central credit database, such as a CCR (Box 5) owned and operated directly by a public authority:

### Pros include:

- The public authority would retain full control of the infrastructure resulting in direct accountability.
- Designing from scratch provides a blank canvas from which to draw up a specification and it may be easier to make changes to and introduce new types of data.
- It may be possible to make use of some existing infrastructure, eg existing data collections, such as the FCA PSD dataset.

### Cons include:

- Most expertise would have to be developed or brought in, and little use would be made of existing expertise.
- The infrastructure would either have to be developed from scratch or in the case of the PSD, substantially expanded.

 This would be a relatively high cost option, particularly given the investment needed in the supporting infrastructure and building the required expertise to match data obtained from different sources effectively.

Another option is outsourcing the operation of a new CCR to a third party (possibly a CRA), chosen via a competitive tender:

#### Pros include:

- · Makes use of existing information and expertise.
- Ability to specify what information is collected.
- Likely to be a relatively less costly option. Less expertise would need to be developed.

### Cons include:

- The new infrastructure, for which the authority would retain ownership, could be significantly expensive.
- Likely to create an uneven playing field between CRAs.

A third option is supplementing existing CRA databases with key pieces of missing information, such as terms and conditions, and mandating that data be made more widely available, but no centralised database created.

### Pros include:

- Makes full use of currently available information, expertise and credit reporting systems.
- Avoids duplication of service provision.
- Likely to be the least costly option.

### Cons include:

- Does not offer a complete blank canvas from which to build a specification.
- Could create unnecessary duplication of service provision between rival CRAs.

What do respondents think would be the most appropriate model for delivering the improvements set out in this Discussion Paper? Who should operate it and how would it interact with the current range of information providers?

What are respondents' views about the likely costs associated with each of the possible delivery options considered in this Discussion Paper?

### Legal framework for the delivery

Although in principle a private entity could establish a centralised database of credit information by entering into

arrangements with lenders to obtain the required information, this has not yet occurred. Moreover, public sector needs may differ from the data needs of the private sector; suggesting that legislation would be required in order to put such arrangements in place.

The nature of such legislation would vary depending on which of the above delivery options were chosen. Nevertheless, in each case it is likely that the legislation would need to address some key issues. For example, the legislation would need to specify which entity would be responsible for the delivery (whether an existing entity or a new entity), and ensure that the entity has sufficient powers to gather the required information.

Legislation would also have to specify the uses to which the information could be put, safeguards for confidentiality, the extent to which onward disclosures could be made and in what form, for example to providers of credit. Depending on the option chosen, the legislation may also need to address other matters, such as the extent to which outsourcing is permissible and funding.

An option enabling private sector providers of credit information to perform this role would also need to consider other legal matters, such as the need for regulatory safeguards.

Although the Bank, the PRA and the FCA have a variety of information gathering powers and confidentiality provisions, it is likely that even if one of these bodies were to be chosen as the entity responsible for the establishment of a central credit database, some changes to current primary legislation would be required.

### Governance and safeguards

Were a solution to be delivered through current CRA models, it could build on the governance and safeguards that already exist to ensure the appropriate security and use of the credit data that CRAs collect. These may need to be enhanced if additional data are made available and the usage widened, but there would be no need for a completely new governance and safeguard framework.

Were a solution to be delivered through the establishment of a central credit database, there are already safeguards in legislation to provide for data protection and to set an appropriate balance between the public benefits of information disclosure and individual rights of privacy. Nevertheless, given the sensitive nature of credit data, the governance of the infrastructure and the safeguards placed around its operations would be critical.

Governance might be supported by the selection of a body to be responsible and accountable for the operation of the database. The safeguards might include the creation of a regulator, with a right of direction over the operators of the database, to whom complaints could be put by its subjects or users. The safeguards could ensure that the usage of data, once collected, is embedded in the functions of the public authorities able to access it. This mitigates the risk that the data, once collected, are not used. To the extent that, subject to enabling legislation, data could be released from publicly-owned sources, safeguards would also be needed to ensure the appropriate usage of such data.

In addition to the delivery, legal and governance consideration identified in this section, another question that would need to be dealt with in due course is how the delivery of the improvements considered in this Discussion Paper might be funded, taking account of the considerations discussed in Section 5.

If a solution were delivered through existing CRAs, what improvements, if any, would need to be made to their existing governance and safeguards?

Were a solution to be delivered through a central credit database, what do respondents think would be the most appropriate governance model for the database? And, what safeguards would be required?

### Box 5 Scope and coverage of a credit register

If it were decided that the improvements outlined in this Discussion Paper were best delivered through a CCR, there would be a number of issues to consider around its scope and coverage. The main dimensions of these are:

- Scope breadth: which loan classes should be included?
- Scope depth: what kinds of information should be included?
- Coverage which institutions should be required to contribute?

Each of these dimensions is examined in this box. The role chosen for the CRR with regard to whether it is to support the provision of credit, policymaking or both will be an important driver of these dimensions. If the concept of a CCR is developed further in the United Kingdom, a fuller assessment of the relative weaknesses, costs and benefits of other jurisdictions' approaches should be undertaken.

### Scope — breadth

The short-term improvements that a central credit database might deliver for the availability of information to credit providers are most likely to accrue to credit markets where the lack of information has been identified as being the most acute, such as those for CRE and SME loans. Attempting to improve the availability of credit information on individuals and large corporates may not deliver many short-term benefits to the provision of credit. However, in the longer term, it may be possible to support the provision of credit across asset classes both through direct means, by improving data coverage, and through indirect means, such as providing appropriately anonymised credit data to investors in securitisations.

For policymaking purposes, there is a case for a broad coverage of asset classes, since many of the micro and macroprudential policymaking purposes would benefit from information on all asset classes. **Figure A**, which presents a highly stylised view of the scale of the benefits various types of credit register might be expected to deliver, shows that the more complete coverage of a traditional credit register, of the type that exists elsewhere, is likely to be able to deliver more improvements, both for the availability of credit and policymakers, than one focused on a particular asset class. It is important, however, to recognise, that at least for policymakers, there is already effectively a credit register for mortgages, the FCA's PSD, although data from this source is not made available outside of the authorities. Figure A Stylised view of the impact of coverage upon the provision of credit and policymaking





Another dimension to breadth is whether or not additional exposures, other than loans ought to be included in the scope of a CCR. Trade finance facilities or derivatives are examples of other exposures that might usefully be included. However, including such additional facilities would increase the reporting burden, the required size of the database, and the cost of the supporting infrastructure.

Which exposures do respondents think should be included in any UK central credit database, were one to be built?

### Scope — depth

The scale of benefits derived from any central credit database will depend on the level of the data collected, but deeper data collection would increase costs to some degree. Where CCRs operate in other jurisdictions, they typically focus on collecting detailed loan-level information, rather than gathering particularly detailed information on the characteristics of the borrower. Typically this loan-level information includes default status, loan types and maturity at a minimum.

As noted in Section 4, a key gap in what is currently collected by the United Kingdom's private credit reporting systems for corporate credit — from a policymaker's perspective — is information on terms and conditions. In order to be able to assess trends in credit and distinguish between demand and supply factors, some information on prices would be needed. This would help policymakers to determine whether increases in the pricing of loans reflected an increase in the risk characteristics of borrowers or other factors.

To support this further, information on non-price terms and conditions would also be beneficial. For example, information on collateral, covenants and capital held against exposures could support any assessments made of the risk mitigation actions taken by regulated financial institutions. In order to deliver further benefits, it may also help to collect some information on the characteristics of the borrowers to which the exposures relate. For example, information on geographical location and economic sector might help the loan data to be contextualised better. This is illustrated by **Figure A** which shows that an expansive credit database, collecting information on both the exposure and the associated borrower is likely to deliver the greatest benefit to both the provision of credit and policymaking.

# Do respondents think that, if built, a UK central credit database ought to collect broader data than solely that pertaining to exposures? If so, why?

### Coverage

The trade-off between costs and benefits as regards institutional coverage is relatively clear. The more institutions that are required to contribute data, the more expensive the supporting infrastructure would need to be. But a greater institutional coverage would support a more comprehensive data set.

Although currently the vast majority of credit is provided by banks, this may change in the future, so limiting coverage to the banking sector could reduce the database's usefulness over time. If coverage is limited to banks it would also be important to consider how exposures to or from related entities, such as special purpose vehicles will be captured. The bullets below set out some benefits which may be reduced by limiting coverage to banks.

#### Contestability:

- As non-bank credit provision is non-trivial and could grow

   it would be impossible to be sure that the database
   provides a full picture of total indebtedness.
- A large amount of SME lending is provided through trade credit. Not collecting at least some data on this form of financing would make it difficult to assess the true health of the SME credit market.

### Macroprudential:

 Any database would retain significant macroprudential usefulness since banks are key subjects of macroprudential regulation.  However, the Bank would like to monitor developments outside the regulated banking sector.<sup>(1)</sup> Also, as more areas of the financial sector, such as finance companies and peer-to-peer lenders become regulated, a database covering only regulated banks may become outdated.

#### Microprudential:

- The database would retain significant microprudential usefulness.
- To the extent that non-banks, that are still nonetheless regulated entities, become more significant providers of credit in the future, some benefits would be lost.

### Monetary policy:

 At present, a database receiving information from the regulated financial sector alone is likely to be sufficient for assessing the transmission mechanism of monetary policy, but that could change if non-regulated entities increase in significance.

### Public policy:

- A central database could not be used to replace current statistical data gathering techniques unless it had full coverage. But that said, even partial coverage might avoid the need for additional collections that would otherwise be required, such as those needed to inform the use of FPC tools.
- As exposures originated by non-banks could be systematically different from those originated by banks there would be a possibility of drawing misleading conclusions from the database's information if non-banks were not captured.

Were one to be built, which institutions do respondents think should be required to report to a UK central credit database?

As part of its medium-term priority on market-based finance, the FPC is looking at the regulatory perimeter.

### 7 Feedback on the Discussion Paper

The Bank would welcome comments from interested parties on the different considerations for improving the availability of credit data set out in this Discussion Paper. The Bank hopes to engage with a broad range of stakeholders, including other public authorities, banks, credit reference agencies, industry bodies, market participants, academics, foreign regulators and other interested parties.

Although the Bank is keen to elicit views on all aspects of this Discussion Paper, it particularly welcomes feedback on the questions explicitly set out in the text — and repeated in the list below. In addition to this specific list of questions, the Bank would also be interested in views from respondents on the extent to which the issues covered in this Discussion Paper are relevant to other credit markets, besides the commercial credit market.

- Do respondents believe that there are significant problems with information availability in markets other than CRE and SME lending in the United Kingdom?
- What are respondents' views on our assessment of the key information required for CRE lending?
- What are respondents' views on our assessment of the availability and importance of information in the UK CRE lending market?
- Would establishing a comprehensive business register in the United Kingdom benefit the provision of credit?
- Could making information available from publicly-owned data sources deliver similar benefits? If so, what sources would be especially useful; and what safeguards and/or conditions should be imposed?
- What are respondents' views on our assessment of the key information required for SME lending?
- What are respondents' views on our assessment of the availability and importance of information in the UK SME lending market?
- What are respondents' views on whether improving and widening access to credit data could deliver the benefits suggested for the origination of credit? Are there any other types of data that, if made available, could support the provision of credit?

- What are respondents' views about widening access to credit information to support other purposes, such as insurance?
- What are respondents' views on credit information being made available to regulatory authorities for the purposes suggested? Could such an action deliver the benefits suggested for policymaking?
- What are respondents' views on summary credit information being made available to wider Government and the general public? Could such an action lead to more informed policymaking and public debate?
- How material do respondents believe the risks considered in this Discussion Paper are? And are there any potentially significant risks that have not been considered in this Discussion Paper?
- What do respondents think would be the most appropriate model for delivering the improvements set out in this Discussion Paper? Who should operate it and how would it interact with the current range of information providers?
- What are respondents' views about the likely costs associated with each of the possible delivery options considered in this Discussion Paper?
- If a solution were delivered through existing CRAs, what improvements, if any, would need to be made to their existing governance and safeguards?
- Were a solution to be delivered through a central credit database, what do respondents think would be the most appropriate governance model for the database? And, what safeguards would be required?
- Which exposures do respondents think should be included in any UK central credit database, were one to be built?
- Do respondents think that, if built, a UK central credit database ought to collect broader data than solely that pertaining to exposures? If so, why?
- Were one to be built, which institutions do respondents think should be required to report to a UK central credit database?

### Appendix 1 Academic literature review

This appendix provides a summary of the key academic literature on credit information and credit reporting systems. It first considers the importance of information in the credit market and the rationale for encouraging the sharing of credit information, before considering the different structures through which such information sharing has been achieved and the evidence on what types of data ought to be shared. The appendix then reviews the empirical literature on the impact of sharing credit information before considering whether there is a case for regulatory access to credit data.

### The importance of information in the credit market

Several authors, including Stiglitz and Weiss (1981), have argued that one of the fundamental characteristics of credit markets is asymmetric information. Asymmetric information can arise in credit markets because borrowers are more informed about their financial situations than lenders (ie the borrower is better informed about their ability or willingness to repay than their lender). This can make it difficult for lenders to differentiate between more or less creditworthy borrowers (Miller (2003)). The problem of asymmetric information can result in the following sub-optimal credit market effects (World Bank (2011)):

- Adverse selection: whereby the borrowers who are most likely to default may be more likely to gain access to credit than more creditworthy borrowers. There are two main drivers of adverse selection: (1) less creditworthy borrowers may be the borrowers most actively seeking loans: and (2) less creditworthy borrowers may also be more likely to be willing to accept higher risk premia than more creditworthy borrowers.
- Moral hazard: whereby borrowers may behave differently once in receipt of a loan than they had indicated prior to receipt, for example by increasing their risk-appetite.

The resulting credit market outcome can be characterised by misallocation of credit, higher default and interest rates and a lower provision of credit than would be the case in the absence of asymmetric information, affecting both the profitability of lenders, and the welfare of society as a whole.

One way in which risk-averse lenders may seek to counter the problems of adverse selection and moral hazard is by lending only a fraction of the amount that borrowers can afford to repay. This is known as credit rationing and can occur when lenders quote an interest rate on loans and then proceed to supply a smaller loan size than that demanded by borrowers (Jaffee and Russell (1976)).

Asymmetric information can also have implications for the competitive dynamic of credit markets. Stiglitz and Weiss (1981) argued that, due to informational problems, banks will seldom seek to compete for the customers of their competitors. This is because if a bank tries to attract the customers of an incumbent by offering a lower interest rate, it may find that its offer is countered by the incumbent when the customer being competed for is a good credit risk, but may not be matched if the borrower is not a profitable customer of the incumbent. Hence the competing bank may only succeed in attracting the least profitable customers.

Lenders sometimes seek to address the asymmetric information problem by demanding collateral. However, it is common for new firms, microentrepreneurs, and SMEs to lack significant fixed assets that could be used as collateral (Love and Mylenko (2003)). Mitigating this, physical collateral can be supplemented by the 'reputational collateral' of a good credit history that borrowers are able to build up in the presence of credit information sharing (Miller (2003)).

Asymmetric information can also make lenders more reliant on manual underwriting and relationship-based decision-making. The costs of this personal screening and decision-making approach are high relative to an automated scorecard approach, and can provide a powerful disincentive to lend. This may be particularly true if the loans amounts are modest.

### The rationale for encouraging information sharing in the credit market

Using credit information to screen potential borrowers and monitor those borrowers to whom credit is granted is an effective method by which lenders can address the problems of asymmetric information.

Several authors have argued that credit information sharing can have a number of benefits for the credit market:

- Information sharing may positively alter borrower behaviour and put creditors in a better position to assess default risk, countering adverse selection and moral hazard and improving repayment rates (Stiglitz and Weiss (1981), Pagano and Jappelli (1993), Padilla and Pagano (2000), Jappelli and Pagano (2002), de Janvry, McIntosh and Sadoulet (2010)).
- A good credit history facilitates access to credit and can in some cases reduce the need for debtors to provide collateral. Borrowers who understand this are motivated to make payments on time to ensure continued access to credit on favourable terms. If credit information is shared, this enables borrowers to access credit outside of established lending relationships (Miller (2003)).

• When information is not shared it becomes more difficult for borrowers to switch between banks. Borrowers may therefore curtail their efforts for fear of facing higher interest rates from their current bank in the future. Banks can correct this incentive problem by committing to share their private information with other lenders. (Padilla and Pagano (1997)).

The academic literature is not, however, universal in promoting the sharing of credit information. For example, Vercammen (1995) argues that welfare effects decrease over time with data sharing. He argues that making timely payments delivers future benefits to borrowers (lower interest rates) through reputational effects when credit data are shared. However, he argues that these effects are strongest when lenders are uncertain about a borrower's creditworthiness, ie when the adverse selection problem is at its greatest. This may mean, therefore, that as information is shared and adverse selection becomes less of a problem, the importance of reputational effects falls. Vercammen argues that this may justify policies to restrict data sharing and preserve some degree of adverse selection and through that the benefits arising from reputational effects. One such policy is to restrict the length of historical data it is possible for lenders to obtain from credit bureaus to a fixed number of years.

Gehrig and Stenbacka (2007) argue that information exchange may not promote the efficiency of credit markets. The distinguishing feature of their analysis is that they consider banking markets that initially exhibit information symmetry among competitors, whereas the majority of the academic literature concentrates on markets initially characterised by information asymmetry. In their framework banks have to compete for informational advantages, whereas the dominant literature exogenously assigns informational endowments. Hence in this framework, there is a strong incentive to acquire information through the formation of lending relationships, and hence to competition. This stimulus is reduced by information exchange.

To the extent that the sharing of credit information in the credit market ought to be encouraged, the development of credit reporting systems (CRSs) is one method by which to achieve this. In their Credit Reporting Knowledge Guide, the IFC (2012) argue that by reducing information asymmetry, CRSs can enhance competition in the credit market and reduce default rates, which in turn should result in lower average interest rates and ultimately increased access to credit.

An improved flow of information can provide the basis for quicker fact-based credit assessments, and facilitate access to credit and other financial products to a large number of borrowers with good credit histories. Creditors are generally able to access credit reporting information at a fraction of the cost and time of traditional lending mechanisms (World Bank (2011)). In a competitive market, the benefits of credit reporting are often passed on to borrowers in the form of a lower cost of credit, which in turn has a positive impact on productive investment spending (World Bank (2011)).

Membership of a CRS entails both costs and benefits from the perspective of lenders. There is a benefit of having more accurate information about potential borrowers but that needs to be weighed against the loss of the information advantage they hold over their competitors with regard to their existing customers.

The conflicting incentives of lenders with respect to the sharing of credit data mean that information sharing between private lenders may not arise naturally, even if, from a public perspective the benefits outweigh the costs. Similarly, where credit reporting does exist, larger banks may sometimes have an incentive to prevent equitable access to credit information through anticompetitive pricing or the formation of closed user groups, despite the positive efficiency implications that improved access to credit information would have on the financial system as a whole. This might create an important rationale for state intervention to support the development of a transparent credit reporting infrastructure (World Bank (2013)).

#### Different types of credit reporting systems

Much of the above discussion referred to generic CRSs. As noted in Section 2, there are two main types of CRS, CCRs and PCBs. Across all regions, PCBs cover a greater percentage of the population than CCRs, whereas with the exception of South Asia, CCRs cover a greater proportion of GDP than PCBs since they are more likely to include lending to larger corporates (World Bank (2013)). This reflects the differing focus of the distinct credit reporting systems, with CCRs tending to focus on high value loans above certain thresholds and PCBs covering smaller loans available across a broader spectrum of credit institutions.

Miller (2003) and Jentzsch (2007) argue that public and private credit reporting systems are in many ways complementary and perform different roles. CCRs are generally developed to support the state's role as a supervisor of financial institutions, with loans above a certain threshold legally required to be registered at the CCR.

CCRs tend to monitor loans made by regulated lenders and usually do not offer value-added services to the private sector. By contrast, PCBs have developed to provide detailed data on individuals to commercial lenders for the purpose of credit assessment. They tend, therefore, to cover smaller loans than CCRs and often collect information from a wider variety of financial and non-financial entities. Over time, however, the information held on CCRs has been made more widely available and with the growth of consumer credit, the loan thresholds have often been reduced or abolished. In some countries CCRs now offer very similar products and services to PCBs.  $^{(1)}$ 

In most cases, CCRs are owned and operated by central banks or other financial supervisors. Nevertheless, there are cases where the operation of the CCR has been outsourced to a private sector party. Unlike PCBs which often operate under voluntary arrangements, financial institutions are mandated to report to CCRs. This means that CCR coverage is generally limited to regulated lenders, since the central bank usually has no authority over unregulated sectors. Where a significant amount of credit is provided by unregulated lenders, CCRs may therefore not be able to provide a complete picture of borrower indebtedness and as a result the information they are able to provide may not be sufficient for assessing creditworthiness or for macro policymakers. Unlike PCBs, credit registers typically provide reports at low or no cost. Of the 82 registers surveyed by Doing Business, only fourteen charge a fee for their services.

There is typically a stark contrast between the information available from CCRs and PCBs. CCRs tend to focus on requiring lenders to report high value loans above thresholds which in some cases are very high, for instance in Germany the threshold is set at €1.5 million. In line with their historical role as a supporter of the supervision of the financial system, CCRs tend to record more detailed information about the type, terms and structure of individual loans (World Bank (2013)).

By contrast, PCBs rely not only on information submitted by credit institutions, but also collect a wide range of financial and non-financial data from a variety of other sources. PCBs have an incentive to compete on the comprehensiveness of their databases and so have a natural incentive to increase the number of sources from which they obtain information. PCBs are geared towards supporting credit approval and their focus is more on building individual borrower profiles. There is typically no threshold set on the value of the loans reported to PCBs, and greater detail is sought on the borrower and repayment patterns. Financial information is combined with relevant non-financial information, such as CCJs, to build a more complete picture of a borrower's creditworthiness.

### Evidence on types of information

Much of the academic literature does not go into great detail about the types of information that ought to be shared through CRSs. A case is often made, however, for the sharing of both positive and negative borrower data. Negative reporting means that only information on unfulfilled financial commitments, such as defaults or arrears, can be obtained. Positive reporting means that the negative information is supplemented with information on an individual's open and closed credit accounts. Examples of positive information include on-time payments, credit limits, exposure type and detailed reports on the prospective borrower's assets and liabilities.

Investigating the impact of both positive and negative reporting, Barron and Staten (2003) found that credit scoring models using both positive and negative data were associated with a higher provision of credit and a lower number of defaults than credit scoring models using only negative data.

The IFC (2012) cite the examples of China, Hong Kong and South Korea as an illustration of the importance of both positive and negative reporting. In the late 1990s these countries experienced a significant increase in defaults in retail credit which the IFC attributed to a combination of reckless lending practices and the unavailability of positive information. Although negative credit information was available. lenders were not aware of the level of indebtedness of existing and prospective borrowers. As competition in the credit card market increased and banks marketed credit cards more aggressively, many borrowers accumulated several credit cards. Consumers would often open a credit card account specifically for the purpose of paying off the debt accumulated on an existing credit card. This borrowing proved unsustainable and resulted in a large number of credit card defaults. Following the Asian crisis of 1997, these countries moved to a more complete system of both positive and negative credit reporting.

The weight of the literature is clearly in favour of the sharing of both positive and negative credit information. However, there are some authors who have argued that just negative information should be shared. For example, Padilla and Pagano (2000) argue that if a creditworthy borrower knows their bank will disclose both negative and positive information, the positive credit information could reduce the incentive of the borrower to avoid default.

However, it is unlikely that a borrower who has recently defaulted would be considered to be of high credit quality by their bank or other lender. There may be some creditworthy borrowers with a historical default, but given that in the United Kingdom, defaults are only recorded for seven years, this may not affect their creditworthiness.

Historical credit data can also be an important factor for the availability of credit because past behaviour can often be a reliable predictor of future behaviour (Miller (2003)). In many countries, banks commonly grant credit to a firm only after the firm has had an account with a bank for at least six to twelve months, which allows the creditor bank to observe the firm's cash flow. This can be seen as an argument in favour of sharing both historical and current data.

<sup>(1)</sup> The IFC cite Argentina, Belgium, France, Italy, Peru and Spain as examples.

Djankov, McLiesh and Schleifer (2007) identify six characteristics of CRSs that encourage increased private credit provision. These are similar to the factors measured by the Doing Business depth of credit information index:<sup>(1)</sup>

- Both positive and negative data are collected.
- Data on both firms and individual borrowers are distributed.
- Data from retailers, trade creditors, utilities and financial institutions are distributed.
- Five or more years of historical data are available.
- Data are collected on all loans of value above 1% of income per capita.
- · Laws provide for borrowers' rights to inspect their own data.

Girault and Hwang (2010) identify the minimum set of information that a public CRS should contain for the purposes of supporting supervision and risk monitoring. They argue that a public CRS should be able to provide timely information on each borrower and their corresponding credits. Information on any risk mitigation measures should also be included for the purposes of estimating the severity of losses in the event of default. This is especially important for those central banks or supervisors charged with the validation of banks' use of IRB models, as these data can be used to verify or revise banks' LGD estimates.

Girault and Hwang (2010) also argue that the coverage of public CRSs must be as wide as possible and must receive data from all financial intermediaries. They further argue that it is important that the design of public CRSs is flexible, to allow for the monitoring of new forms of credit as they emerge.

### Empirical studies of the impact of credit reporting systems

In addition to the theoretical papers on the importance of credit information, there have been several empirical papers that have sought to investigate the impact of CRSs on credit markets. Using data for 24 countries, Galindo and Miller (2001) used an econometric approach to estimate the impact of CRSs upon financial constraints. Of the five components of their credit reporting index, they found that the type of information available from a CRS, the amount of information available from a CRS and the number of institutions able to access CRS data had a significant impact upon the easing of financial constraints. But that neither the type of exposure collected by a CRS nor the type of report offered by a CRS (whether loan-level or aggregated) have a significant impact upon the easing of financial constraints.

Investigating the impact of information sharing upon lending and defaults across countries, Jappelli and Pagano (2002) found that bank lending is higher and default rates are lower in countries where information is shared. This result holds, regardless of the public or private nature of the information sharing mechanism. The authors interpret this result as indicating that public and private CRSs are substitutes. Thus the benefit for credit supply of establishing a CCR in countries where PCBs are already present is likely to be low.

Using data provided by Dun & Bradstreet, a global business PCB, to investigate the value of private sector business credit information sharing in the United States, Kallberg and Udell (2003) found that the payment information generated by Dun & Bradstreet had significant power in predicting firm failure. Their results also suggest that the value of information provided by CRSs goes beyond information that is otherwise available to lenders, such as information contained in borrower financial statements.

Combining firm level data with data on public and private CRSs, Love and Mylenko (2003) found that the existence of a private CRS is associated with lower financing constraints, but that the existence of a public CRS does not seem to have a significant effect on these perceived financing constraints.

Love and Mylenko (2003) suggest that their findings are consistent with their proposition that the main goal of most public CRSs is to support banking supervision. In this case, they argue that the CRS would be likely to focus on monitoring large exposures that could potentially have systemic effects. The public CRS would therefore be unable to provide detailed information on the creditworthiness of consumers and small businesses and thus would be unable to support a lowering of financing constraints.

Djankov, McLiesh and Schleifer (2007) used data on CRSs from 129 countries to investigate cross-country determinants of private credit. Using a simple regression approach, they found that the presence of CRSs is associated with a higher ratio of private credit to GDP and that this ratio rises following the introduction of CRSs.

The impact of CRSs upon adverse selection and moral hazard was investigated by de Janvry, McIntosh and Sadoulet (2010) in their regression analysis of a Guatemalan microfinancier that rolled out its use of the data provided by a private CRS in ten separate waves. The authors found that, with respect to the adverse selection problem, rejection rates rose 15% when the lender first used the CRS, but this was more than compensated by new loans made to borrowers with whom the microfinancier had not previously had a relationship. Overall, the microfinancier increased its loan book by 27% without a

decrease in the performance of its loan portfolio. With respect to moral hazard, the authors identified a modest and temporary improvement in repayment performance when borrowers became aware of the CRS.

The weight of evidence from the empirical literature clearly supports the development of CRSs to alleviate the problem of asymmetric information and support the provision of credit. However, no clear consensus arises from those studies that have made distinction between public and private CRSs. Some of the studies discussed in this sub-section find that public CRSs do not have a significant impact on relieving financing constraints. The authors of these studies argue that this is likely to be because of the focus of public CRSs on supporting prudential regulation and supervision, rather than on supporting the provision of credit.

### The case for regulatory access to credit information

While many studies have highlighted the role that credit data can play in supporting the provision of credit, there have also been a number of studies that have set out the benefits that regulatory access to credit information held within CRSs can bring, particularly with regard to the purposes of central banks.

Central banks can use the data contained within CRSs to identify trends in lending. CRSs can be used in support of monetary policy to get a better understanding of the behaviour and different reactions of the economic agents who use the credit market in search of financing to carry out their investment projects (Artigas (2004)). From a macroprudential standpoint CRSs can contribute to raising the stability of the financial system as a whole by providing a more comprehensive view of borrower creditworthiness and facilitating appropriate analysis of aggregate underwriting standards.

CRS data can also play an important role in the prudential supervision and risk monitoring functions of supervisory bodies (IFC (2012)), supporting both on and off-site monitoring of risk. Of 34 central banks or bank supervisors operating a public CRS surveyed by the World Bank,<sup>(1)</sup> 33 indicated that CRS data is used for bank supervision, mainly to determine the total indebtedness of borrowers across the system. When asked how important CRS data were for strengthening supervision, 23 central banks/supervisors indicated that they were very important, with a further ten stating that they were somewhat important.

Girault and Hwang (2010) argue that the existence of a public CRS is a key factor to enhance the supervision and regulation of the financial system. Supervisors can use the information contained within CRSs to monitor the credit risk undertaken by an individual institution, by a peer group of financial institutions, or by the financial system as a whole. This can help to identify discrepancies in the ratings assigned to borrowers by different banks (World Bank (2011)). Supervisors can also use credit information to assess the quality of loan portfolios and get a holistic picture of the concentration of risk exposures (for example, by sector, geographic distribution, type of borrower or type of credit).

Credit data can provide useful sample data that highlight key trends and characteristics in a financial institution's portfolio, including changes in portfolio quality due to the introduction of new financial products. Supervisors can use these sample data to determine which areas of an institution's portfolio require closer review and thus allocate time and resources more efficiently.

Credit data can also support off-site supervision by providing indicators, supporting the development of early warning systems, enabling the stress testing of bank portfolios and facilitating the calibration of capital ratios (Centre for European Policy Studies — European Credit Research Institute (2013)). The information contained within CRSs can be seen as a crucial factor for modelling (calculating and validating) the PD of different borrowers, as a framework for monitoring LGD and as a reliable yardstick with which to verify banks' estimates of exposure at default (Artigas (2004)).

Basel III gives the authorities increased responsibilities which could be supported by CRSs (Girault and Hwang (2010)). One such responsibility is the identification of systemically important financial institutions, the criteria for which include the institution being large and highly interconnected. Another is deciding on the appropriate level for the countercyclical capital buffer, one indicator of which is the ratio of credit to GDP.<sup>(2)</sup> The information gathering requirements to support these responsibilities are demanding, but could be supported by CRSs. In the absence of a CRS there would likely be a need for additional data collections.

Several academics papers have also employed CRS data to good effect, using them as a source for data upon which to base their research. A notable example is the use of loan-level data in the Banco de Espana's CCR to investigate the impact of Monetary Policy upon credit risk.<sup>(3)</sup> This indicates the value of making CRS data available to academia and the broader public.

Source: World Bank Survey of Public Credit Registries conducted between 1999 and 2000.

<sup>(2)</sup> See Bank of England (2014).

<sup>(3)</sup> See, for example, Jimenez et al (2007).

### Appendix 2 International comparisons

This appendix considers the varying purposes of CCRs worldwide and how these impact upon the key features of CCRs, which are also highly varied between countries. Box 6 presents case studies on the CCRs of selected European countries.

### The prevalence of CCRs worldwide

The prevalence of CCRs has been increasing worldwide. Across the globe, 90 countries now have publicly-owned CCRs (Box 1). Within the EU, 16 of the 28 member states have or are developing CCRs.

The number of CCRs will increase further in Europe, as the ECB has decided to establish a pan-European central credit database for the Eurosystem to support its move towards a SSM. This decision will require those central banks of member states that do not operate a CCR, and whose currency is the euro, to develop some form of central credit database. This will result in a further six EU countries establishing a CCR or equivalent central database of credit information. If the Eurosystem is widened to include additional EU member states, the number of European countries operating central credit databases would likely increase further.

More broadly, of the 90 countries that currently operate a CCR, 35 also have PCBs. This supports the finding in the academic literature (considered in Appendix 1) that CCRs and PCBs play different roles and can be complementary. A World Bank survey<sup>(1)</sup> corroborates this finding, with responses showing CCRs being established in many countries that already have PCBs. For example, many Latin American countries have set up CCRs, despite already having well-established PCBs. Even in Germany, where the world's first credit register was established, the existence of PCBs pre-dated the establishment of the CCR.

### The purpose of CCRs

Where CCRs have been established in other countries, they have usually been set up to support one of two purposes: (1) to provide data to support the work of central banks and bank supervisors; and (2) to improve the quality of credit information available to the financial sector.

Of the respondents to the aforementioned World Bank survey, 46% stated that the main reason for wanting to establish a CCR was to support bank supervision, with a further 34% stating that the desire to improve the quality of credit information available to the financial sector was the main reason.<sup>(2)</sup>

### Improving the quality of credit information available to the financial sector

Whatever the main reason for their original establishment, CCRs are often used to support both of the purposes described above. In most countries, data from the CCR have been made available to finance providers. Typically this information sharing proceeds on a reciprocal basis, ie only those institutions that report data can access the CCR.

Information from the CCR, such as borrower total indebtedness is often made available to reporting institutions to support them in their assessments of borrower creditworthiness. Eighty-eight per cent of the CCRs surveyed by the World Bank distribute at least some of the credit data they collect back to the financial institutions that report the data. This is true of many of the countries where supporting bank supervision has been given as the main reason for establishing a CCR.

In some countries the CCR has even branched out into the provision of value-added service that in most countries are provided only by PCBs. For example, using data from its CCR, the Banque de France produces ratings of a business' creditworthiness that it then makes available to lenders for the purposes of credit assessment (Box 6). French lenders are not required to use these ratings in their credit assessment, but as there are no PCBs in France and because these ratings form the basis of collateral eligibility for a bank's refinancing operations with the Banque de France, they often do.

The Banque de France is unique in Europe in producing credit ratings for borrowers whose data are collected in its CCR, but the central banks of some Latin American countries provide similar value added services, such as the construction of borrower ratings, using the data collected in their CCRs. This practice can be controversial because lenders can argue, in the event of their failure, that the ratings provided by the supervisor were inaccurate.

### Using CCR data to support the work of policymakers

The other key use of CCR data has been to support the work of central banks and bank supervisors. For example:

- In countries that operate them, CCR data have been used to study credit conditions with a view to supporting the decisions of monetary policy makers.
- CCR data on the risk associated with loan portfolios are often used at both the aggregate and institutional level to support assessments of financial stability and the on and off-site monitoring of individual lenders.

Source: World Bank Survey of Public Credit Registries conducted between 1999 and 2000.
 See Miller (2003).

• CCR data have often been used to produce statistics on credit information that are used by the authorities and that are made available for public consumption to support wider policymaking and public debate about the availability of credit.

The different purposes for which CCRs have been established and the different uses for which CCR databases are employed have given rise to many differences in the features of CCRs between countries. The following section considers some of the key features of CCRs and how they vary across countries.

### The distinguishing features of CCRs

CCRs share many common features. They are typically operated by central banks or bank supervisors, and reporting is often mandatory. As noted earlier, CCR data are typically used to support the work of both macro and microprudential policymakers and to provide the financial sector with information to support the provision of credit.

Despite these common features of CCRs worldwide, there are some important distinctions between them. The remainder of this appendix focuses on three of the more important distinctions; namely, the reporting threshold, the data collected and the reporting model of the CCR.

### The reporting threshold

A common distinguishing feature of CCRs is the threshold above which reporting institutions are required to report data on their exposures. In some cases the reporting thresholds are sufficiently high that they exclude a large amount of exposures to individuals and SMEs and only collect data on the exposures to largest companies. For example, in Germany the reporting threshold is currently set at €1.5 million (Box 6). In other countries the reporting threshold is set very low or there is no reporting threshold at all. For example, in Latvia there is no threshold, so all exposures are reported.

The level at which thresholds are set often reflects the original purpose of the CCR. Where the intention was to improve the quality of information available to the financial sector the reporting threshold is often very low or there is no threshold at all. This is to ensure that information is available to lenders on all potential borrowers, including consumers looking for small unsecured loans and overdrafts.

Where the main purpose of establishing a CCR was to support the work of the central bank and bank supervisors, the reporting threshold is often higher. This might be because bank supervisors are interested in using CCR data to identify their regulated institution's exposures to their largest borrowers, or to identify large exposures that could present a threat to the resilience of the firm.

### Data type: positive or negative

Another common distinction between CCRs is the type of data they collect. The most important decision to make in this regard is whether to collect only negative information or to collect both positive and negative information.<sup>(1)</sup>

CCRs which only collect negative data, such as information on bad debts, have often been referred to as 'black-lists' of less creditworthy borrowers. The Banque de France's National Database on Household Credit Repayment Incidents is an example of a CCR collecting only negative information.

Of the central banks and bank supervisors surveyed by the World Bank, 31 of the 41 respondents stated that their CCRs collected both positive and negative information. Previous international experience of negative-only reporting (see Appendix 1 for an example on the Chinese, Hong Kong and South Korean CCRs) suggests that collecting both positive and negative information is important.

### Borrower-by-borrower versus loan-by-loan

A third common distinction between CCRs is whether data are collected on a borrower-by-borrower or loan-by-loan basis. Borrower-by-borrower reporting means that loans to the same borrower are aggregated and reported to the CCR on an individual borrower basis. The burden of matching borrowers to the correct data falls on the reporting institution. Loan-by-loan reporting means that exposures are not aggregated before being reported to the CCR and are reported at the level of an individual loan. This means that the CCR must aggregate the data for each borrower if data at the borrower level are to be analysed.

The advantage of borrower-by-borrower reporting is that it allows bank supervisors to track the exposures of the country's largest borrowers and the exposure of regulated financial institutions to their largest borrowers more easily. The reporting requirements may also be less burdensome and the lower volume of records means that maintaining the supporting infrastructure may be less expensive. The Portuguese CCR is an example of a CCR operated on a borrower-by-borrower reporting basis (Box 6).

The main advantage of loan-by-loan reporting is that it is possible to analyse statistics or data items that only make sense when attached to an individual loan. Perhaps the most obvious example is the rate of interest, but other examples include maturity and collateral information. Loan-by-loan reporting involves a much higher number of records and may make maintenance of the supporting infrastructure more expensive. The French and German CCRs are examples of CCRS that operate on a loan-by-loan reporting basis (Box 6).

<sup>(1)</sup> The distinction between positive and negative reporting was defined in Appendix 1.

It may be possible with borrower-by-borrower reporting to track the performance and associated metrics of an individual loan within the CCR, provided that a unique identifier is given to each exposure aggregated under the borrower-by-borrower approach. This is the approach taken in Portugal (Box 6).

### Box 6 Case studies of selected European central credit registers

### The French CCR

The Banque de France operates a CCR which was established in 1946 for the dual purposes of supporting financial institutions in their credit assessment and providing monetary policy makers with credit information that could be useful in their decision-making.

The CCR has a minimum reporting threshold of €25,000 and collects both positive and negative credit information on all companies from banks, specialised financial institutions and factor and leasing companies. Data are submitted monthly on a loan-by-loan basis. The CCR does not collect information on individuals; a separate database also operated by the Banque de France and entitled 'the National Database on Household Repayment Incidents' collects negative credit data on individuals. No positive credit data on individuals are collected in France.

Since 1982, the French CCR has been part of a larger information system operated by the Banque de France on non-financial companies (FIBEN). FIBEN combines public data, such as information on court judgements, with credit information submitted to the CCR.

A feature unique to FIBEN among CCRs in Europe is that the data it collects are used to produce credit scores. These scores on company creditworthiness are available to credit providers. FIBEN scores are only available for companies; there is no source, public or private, of personal credit scores in France. Banks are not obliged to use FIBEN scores in their credit assessments, but in practice they often do as these scores form the basis of collateral eligibility for a bank's refinancing operations with the Banque de France.

### The German CCR

The Bundesbank operates a CCR which was established in 1934 to supply banking supervisors with an overview of large borrowers and individual credit institutions and to help keep the banking system as a whole stable and smoothly functioning.

The minimum reporting threshold of €1.5 million is the highest in Europe. The CCR covers individuals, non-financial companies, financial institutions and public institutions. Both positive and negative data are collected from credit institutions, insurance companies, finance and leasing companies and other financial services companies. The CCR operates on a loan-by-loan basis, but the reporting requirements are set on a borrower basis. This means that a borrower's credit exposures are reported quarterly to the CCR on a loan-by-loan basis when the sum of their credit exposures exceeds €1.5 billion.

Data from the CCR are used by the Bundesbank to support banking supervision, monetary policy, the assessment of financial stability, economic research and the production of statistics. The CCR can also be accessed by credit institutions for the purposes of credit assessment and risk management. However, given the high reporting threshold it is unlikely to be very useful in assessing the creditworthiness of consumers or smaller SMEs.

### The Portuguese CCR

The Banco de Portugal operates a CCR which was established in 1978 with the purpose of providing credit information to the financial sector. Initially the CCR covered firms only, but this coverage has since been extended to individuals. The main reason for the CCR's development was to improve the quality of credit information available to the financial sector.

The CCR has a minimum reporting threshold of  $\in$ 50, one of the lowest in Europe. The CCR collects both positive and negative information from banks, finance companies and credit card issuers. Unusually, the Banco de Portugal also has a power to designate institutions that are required to report to the CCR. This power was granted following the recent financial crisis, after some reporting institutions sold portfolios of non-performing loans during the crisis to institutions operating outside of the regulated financial sector.

The CCR operates on a borrower-by-borrower reporting basis, with credit exposures aggregated by reporting institutions for each borrower and reported monthly to the CCR. However, each aggregated loan is assigned a unique ID making it possible to track the performance of individual loans. The Banco de Portugal is also able to use the Portuguese Business Register to classify the economic sector of operation of the borrowers reported to the CCR. This is because different reporting institutions may classify the same borrower differently.

Financial institutions are able to access CCR data both to monitor loans already granted and to assess the creditworthiness of new borrowers. CCR data can also be used for the purposes of supervision, supporting monetary policy, the analysis of financial stability, the production of statistics and economic research.

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