Consultation Paper on the Proposal to set up a Commercial Credit Reference Agency

Hong Kong Monetary Authority

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EXECUTIVE SUMMARY

Purpose

This paper sets out for the purpose of public consultation the findings of the Hong Kong Monetary Authority (HKMA) Study on the proposal to set up a Commercial Credit Reference Agency (CCRA) in Hong Kong.

Background

2. The Study on the CCRA proposal was one of the initiatives mentioned in the HKMA Policy Response to the Banking Sector Consultancy Study published in July 1999. The initiative was aimed at addressing the need for authorised institutions (AIs) to have better information about their customers and, in particular, about their customers' levels of indebtedness following the increasing number of corporate failures in Hong Kong.

3. The HKMA has researched the theoretical aspects of a CCRA, interviewed AIs and credit reference agencies in Hong Kong and visited major CCRAs in Germany, Malaysia, Mexico and the US to gain an in-depth understanding of their operations. A Survey was also conducted in April 2000 among 50 major AIs to obtain their views on the desirability and feasibility of establishing a CCRA.

The need for a CCRA

4. The Study finds that the establishment of a fully-fledged CCRA would bring about significant benefits to Hong Kong in terms of improving AIs' credit risk management and reinforcing borrower discipline, thereby enhancing the soundness and stability of the banking system as a whole. Corporate borrowers would also benefit from higher credit transparency resulting in more competitive loan pricing. To some extent, a CCRA may also allow lenders to reduce reliance on collateral and may increase their willingness to lend to small and medium-sized enterprises (SMEs). This would benefit individual AIs in terms of increased lending opportunities. The HKMA therefore believes that a CCRA would be a desirable addition to the banking infrastructure in Hong Kong.

5. According to the results of the Survey, most AIs consider that there are quite serious shortfalls in the sharing of borrowers' credit information in Hong Kong, including a lack of comprehensive information about borrowers. In particular, they agree that there is a lack of comprehensive and up-to-date information about the SMEs operating in Hong Kong. On the other hand, there is a widespread recognition of the desirability of establishing a fully-fledged CCRA in Hong Kong. A large majority of AIs consider that a fully-fledged CCRA would improve their credit assessment and enhance their ability to detect problems encountered by customers in advance. It therefore appears that there is no shortage of market desire for information, but at present the market is not satisfying this demand.

6. Several factors, including data confidentiality and competitive concerns, account for this market failure. As a result, the channelling of funds to the corporate sector (particularly the SMEs) has been hampered. In many countries, this problem has been overcome by government authorities mandating submission of borrowers' information by financial institutions to a CCRA. The confidentiality and competitive concerns are addressed either by government directly taking part in the governance of the CCRA or establishing a regulatory framework to supervise the operation of such entities.

7. In light of the above, the Study considers that there is a case to establish a fully-fledged CCRA in Hong Kong based on mandatory participation of all AIs in sharing of borrowers' information, and appropriate institutional safeguards to enhance public confidence in data confidentiality.

Design features for the CCRA

8. Apart from mandatory participation, the consultation paper also identifies the following important design features in relation to the establishment of a fully-fledged CCRA and a number of possible options under each design feature. The HKMA has an open mind on these various options and would welcome the views of the public on these issues:

(i) **Institutional options for setting up a CCRA:** the paper identifies four broad options for establishing a CCRA in line with the principle that there should be adequate institutional safeguards to ensure data confidentiality and fair pricing. These include:

- a publicly-owned CCRA (possibly via the HKMA);
- a self-regulated CCRA owned by the industry (possibly via the Hong Kong Association of Banks (HKAB));
- a self-regulated CCRA owned by the industry and the public sector (possibly via a joint venture between the HKMA and HKAB); and
- a regulated CCRA owned by the private sector.

The HKMA would welcome views on which institutional option might suit Hong Kong better.

(ii) **Scope of coverage of the CCRA:** it needs to be decided whether the CCRA should start by collecting information about all borrowers or should begin with more limited scope. One option is for the CCRA to cover initially the credit exposures (both positive and negative information) relating to SMEs (broadly defined as all non-listed companies). When the CCRA has fully bedded down, the scope of coverage can be expanded to cover other corporate entities such as non-blue chip listed companies. **Views are sought on the scope of coverage of the CCRA, in particular whether it should begin by collecting positive and negative information relating to SMEs and other non-listed companies.**

(iii) **Legal arrangements for disclosing customer data:** there are two possible options for this. If no new legislation is enacted, AIs would need to obtain consent from their customers for disclosing their credit information to the CCRA when they apply for a new loan or renewal of an existing facility. In this way, the CCRA should be able to build up a reasonably comprehensive database on borrowers in a year or so. If new legislation is to be introduced, as will be the case if a regulatory framework is to be established, consideration should be given to enabling disclosure of customer information by law. **Views are sought on whether explicit legislative provision for disclosure of customer data to the CCRA is preferred.**

9. The HKMA is now consulting the public on this proposal. Any interested party is invited to submit views to the HKMA for the attention of the following before 15 September 2000.

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CHAPTER 1

INTRODUCTION

1.1 The Financial Secretary announced in the Budget Speech on 8 March 2000 that the HKMA would study a proposal to set up a CCRA in Hong Kong. This paper discusses the main findings of the HKMA Study on the proposal and sets out for the purpose of public consultation a proposed framework for establishing a CCRA.

Background of the Study

1.2 In July 1999, the HKMA released its Policy Response to the Banking Sector Consultancy Study. This contained a package of policy initiatives to improve the safety and soundness of the banking sector, one of which was to undertake a study in the first half of 2000 to evaluate the feasibility of establishing a CCRA in Hong Kong. This initiative was aimed at addressing the need for AIs to have better information about their customers and, in particular, about their customers' levels of indebtedness following the increasing number of corporate failures in Hong Kong.

1.3 In a number of countries, this issue has been addressed in the form of a central credit register which provides information to lending institutions on the overall indebtedness of commercial enterprises. In these countries, credit registers are designed to provide timely information to lending institutions on borrowings by corporates and other non-bank enterprises and as a source of prudential information for the purpose of bank supervision.

1.4 The benefits of such a system were felt to warrant further consideration in the present environment in Hong Kong. Accordingly, the HKMA undertook a detailed study in early 2000 to determine the costs and benefits of such a scheme and the form that it should take if it is considered desirable to set up such a scheme in Hong Kong.

Methodology of the Study

1.5 In the course of the Study, the HKMA conducted desktop research on the theoretical aspects of a CCRA, interviewed selected AIs and the credit referencing industry in Hong Kong, and visited major CCRAs in Germany, Malaysia, Mexico and the US to gain an in-depth understanding of their operations. A Survey was also conducted in April 2000 among 50 AIs to obtain their views on the establishment of a CCRA (see Annex A). These 50 AIs comprised 45 licensed banks, 2 restricted licence banks and 3 deposit-taking companies which are active in the commercial loan sector. Together, they account for about 80% and 75% of the sector's Hong Kong dollar and foreign currency denominated loans respectively.

1.6 The results of the Study are presented in the following chapters and annexures:

Chapter 2 : provides an analysis of the desirability of establishing a CCRA in Hong Kong.

Chapter 3 : addresses the practical issues involved in establishing a CCRA and sets out a proposed framework for a possible scheme.

Chapter 4 : outlines the way forward in implementation.

Annex A : provides a summary of the banking industry's views on the establishment of a CCRA in Hong Kong based on the results of the Survey and interviews.

Annex B : presents the empirical evidence from overseas research studies supporting comprehensive information sharing.

Annex C : summarises the functions and institutional features of selected major CCRAs in other countries.

In order to reduce the volume of this paper, the annexures are only available on the HKMA's web site at http://www.info.gov.hk/hkma.

CHAPTER 2

DESIRABILITY OF ESTABLISHING A CCRA IN HONG KONG

2.1 In summary, the Study finds that the establishment of a fully-fledged CCRA would bring about significant benefits to Hong Kong in terms of improving banks' credit risk management and reinforcing borrower discipline, thereby enhancing the soundness and stability of the banking system as a whole. Corporate borrowers would also be likely to benefit from higher credit transparency resulting in more competitive loan pricing. To some extent, a CCRA may also allow lenders to reduce reliance on collateral and may increase their willingness to lend to SMEs. This would benefit individual AIs in terms of increased lending opportunities. The HKMA therefore believes that a CCRA would be a desirable addition to the banking infrastructure in Hong Kong, although it should be stressed that the CCRA by itself cannot be a substitute for prudent credit assessment by AIs. In addition, there are significant secondary benefits such as:

(i) enabling the development of more sophisticated credit management tools such as credit scoring models, which may in turn help banks to develop their internal rating systems; and

(ii) potential development of supervisory tools, e.g. to check adequacy of provisions for a particular sector or industry.

2.2 These benefits can be supported by the empirical evidence that the HKMA has been able to collect from academic research, experience from overseas CCRAs and market participants' views as shown from the CCRA Survey. Explanation for each of these is provided below.

Empirical evidence from research studies

2.3 It is generally believed that asymmetric information between borrowers and lenders can prevent efficient allocation of credit. A number of problems may emerge as a result, including:

(i) lenders are unable to observe the characteristics of borrowers, which hampers lenders' ability to assess the riskiness of loans and price their lending accordingly;

(ii) borrowers may relax their efforts to avoid default in the absence of an effective market discipline in the credit market, resulting in a moral hazard problem. The consequence is that lenders may ration credit or charge higher borrowing rates in anticipation of a higher than otherwise default rate in their portfolio as a whole; and

(iii) in the absence of an effective information sharing mechanism between lenders, customers may obtain credit from multiple sources, thus further increasing the risk of default by borrowers and the credit risk for the banking sector as a whole.

2.4 In many other countries, the problem of asymmetric information has been addressed by the setting up of a credit reference agency. Credit reference agencies are information brokers that specialise in the collection, maintenance and dissemination of information about the creditworthiness of borrowers, thus facilitating information exchange between lenders.

2.5 There are a number of academic studies that have examined the impact of information sharing. Generally, these studies find that information sharing entails significant benefits in terms of the following (please refer to Annex B for details of these studies):

(i) **it enhances lenders' knowledge of borrower characteristics and facilitates more accurate prediction of repayment probability.** As a result, it enables lenders to distinguish good borrowers from bad borrowers and price their loans accordingly;

(ii) **it increases the demand for credit.** More efficient and competitive pricing should lead to increased demand for credit especially from customers with a good credit history, whose incentives to borrow are suppressed as they get charged more than they deserve in the absence of information about their creditworthiness. AIs will also be more willing to lend to higher quality customers. This benefits both lenders and borrowers; and

(iii) **it reinforces borrower discipline and reduces defaults.** When lenders exchange default information, default becomes a signal of bad quality and carries the penalty of higher interest rates or even refusal of credit. This mechanism serves to reinforce borrower discipline to repay and thus reduces moral hazard and the overall default rate.

Overseas and Hong Kong experience

2.6 Apart from examining the theoretical merits of a credit reference agency, we have also looked at the situation in overseas and local markets to assess whether there is a case for establishing a CCRA in Hong Kong.

Overseas experience

2.7 For many other countries, although the functions and features of their CCRAs vary (see Annex C), the experience has so far been positive. In Mexico, for example, the main reason for establishing a credit reference agency was to rectify the widespread culture of non-payment. Many people / entities borrow excessively but avoid repayment even if they have the means to do so. Because of political factors, it is not always easy to prosecute such debtors in an effective manner. Under the scheme, creditors are required by law to create a reserve amount equivalent to the credit if it is granted without verifying the borrower's credit record via the agency. In effect, therefore, all banks participate in sharing credit data with the agency. As a result, banks' knowledge of borrower characteristics is improved and they are now in a better position to target and price their customers, thereby reducing disincentives for borrowers to avoid repayment. The Mexican authorities point out that since the founding of the agency in 1997, bad debts have declined by around 30%, though it is not clear how much of this improvement is attributed to the agency or other factors, e.g. general improvement in the economy. However, the agency appears to be a success judging from the positive response from the industry. Against this background, the credit reference agency in Mexico has set out to introduce more products in the near future.

2.8 In Germany, the credit reference agency was introduced in the 1930s when banks had insufficient information about the overall indebtedness of their major borrowers and frequently encountered difficulties when such

enterprises collapsed. The establishment of the agency was intended to address the systemic risk posed to the banking sector by major borrowers. Credit institutions are therefore required to report to the agency on a quarterly basis those borrowers whose indebtedness to them amounted to DM3 million or more at any time during the three-month period. According to the Deutsche Bundesbank, the agency is now widely accepted as an important piece of banking infrastructure which helps to enhance the safety and soundness of the banking system. Provision has also been included in the Banking Act to enable the Deutsche Bundesbank to share the credit data collected with relevant parties in other EU states after the entry into force of the relevant EC Directive.

2.9 In Malaysia, the credit database was established by the central bank in the early 1980s largely as a supervisory tool to monitor the large exposures and non-performing loans of banks. Access to the data is largely confined to supervisory staff for checking adequacy of provisioning and performing sectoral stress analysis, but provision has also been made in the legislation to enable the central bank to share such data with other credit institutions. According to the authorities, the agency has functioned well as a supervisory tool, which helps to identify prudential concerns at an early stage arising from institutions' exposure to a particular group of companies or segment of the economy.

2.10 In short, the different backgrounds leading to the establishment of credit reference agencies in different countries may result in different institutional features of such agencies. But the experience so far seems to be satisfactory, and the agencies seem to have achieved their desired objectives.

The Hong Kong situation

2.11 Although by no means unique to Hong Kong, experience over the past few years has highlighted a number of weaknesses in the commercial loan market. Before the Asian financial crisis, some companies accumulated large amounts of debt from a number of AIs which ultimately proved to be unsustainable. At the time such loans were granted, AIs did not always have sufficient information about the borrower's overall debt exposure. In hindsight, some of these decisions might have been different had more information been available at the time the loans were approved.

2.12 Another issue is that many smaller companies have experienced difficulties in obtaining bank finance, particularly in the aftermath of the crisis.

This can be seen from the Survey on the Financing Situation of SMEs published by the HKMA in June this year, which identified a gap between the demand for bank credit by SMEs and the supply of funds by AIs. SMEs complained that AIs relied excessively on collateral in lending to SMEs and that while AIs had increased consumer lending recently as the economy recovered, they remained unwilling to lend to SMEs. AIs, however, maintained that they had to be more prudent in lending to SMEs because of a number of unfavourable characteristics. These include the relatively high level of delinquencies, inadequate information disclosure, poor transparency and accounting standards, lack of discipline in the use of credit facilities and the low level of cost-effectiveness of such lending.

2.13 The process of financial intermediation in respect of the SME loan market therefore seems to be less than efficient because of, among other things, the lack of information. The respondents to the SME Survey suggested a number of measures to increase the supply of bank lending to SMEs and enhance the role of market forces, including the establishment of a CCRA for SMEs.

2.14 The above findings are reinforced by the CCRA Survey results which show that there is a lack of transparency in the corporate sector in Hong Kong for credit assessment purposes. In particular, a predominant number of the respondents considered that there was a lack of reliable and up-to-date information about the SMEs (96%)[1].

2.15 The HKMA believes that a CCRA can address this problem to some extent by improving the quality and quantity of information flows among lenders. To the extent that there is more credit data in the market, AIs should be willing to lend more. This would also encourage borrowers to perform better, which in turn would benefit AIs. It therefore appears desirable to establish a CCRA in Hong Kong to facilitate a more efficient provision of credit to the corporate sector. This view also seems to be widely supported by the banking industry. Around 90% of the respondents in the CCRA Survey agreed that a fully-fledged CCRA would improve their credit management. At the same time, 70% of them agreed that enhanced transparency of borrowers would enhance their confidence in lending and improve the allocation and pricing of credit.

[1] SMEs are defined as non-listed companies for the purpose of the Survey.

CHAPTER 3

PROPOSED FRAMEWORK FOR A CCRA

3.1 At present, there are only limited commercial credit reference services available in the Hong Kong market, based largely on the voluntary supply of information by trade creditors, public records, and company interviews. Very few AIs participate by contributing information. Accordingly, the coverage of borrowers' information is quite restricted. This in turn weakens the interest of other AIs in participation. To a very large extent, AIs in Hong Kong continue to rely on information given by borrowers for credit assessment purposes.

3.2 Most respondents of the CCRA Survey also confirm that there are quite serious shortfalls in the existing credit reference services including a lack of comprehensive information about borrowers (72%). On the other hand, there is a widespread recognition of the merits of establishing a fully-fledged CCRA. 90% of the respondents consider that such an initiative would improve their credit assessments and enhance their ability to detect problems encountered by customers in advance. Therefore, there appears to be a market failure in Hong Kong in the sense that the market has not been able to bridge the significant gap between the strong desire of AIs for more information about their borrowers and the inadequate extent of information sharing. This may also have played a part in the market failure to channel bank funding to tap the opportunities in the SME sector.

3.3 Based on the CCRA Survey results and the related interviews with AIs, the HKMA believes there are two main reasons for this market failure:

(i) data confidentiality (AIs' reluctance to entrust sensitive customer information to an entity in which they may lack confidence); and

(ii) competitive concerns (AIs' fear of loss of business to competitors).

3.4 In order to address these two issues and to proceed further, a number of important design features of the CCRA will need to be considered. These include:

- the nature of participation by lending institutions;
- the institutional options for establishing the CCRA;
- the scope of coverage of the CCRA; and
- the legal arrangements for disclosure of customer information.

Nature of participation by lending institutions

3.5 One of the key issues for consideration is whether it should be made mandatory or voluntary for AIs to share borrower information with the CCRA.

3.6 According to interviews with AIs, most agree that data confidentiality and competitive concerns are the main factors that have inhibited information sharing. AIs are concerned that the data they supply to a credit reference agency may be accessible by their competitors while they do not have similar access if their competitors will not contribute. Moreover, in order to be able to contribute information to a credit reference agency, AIs must seek their customers' consent to do so. Unless every AI participates, this may drive customers to their competitors, which could give a competitive edge to the non-participating AIs over the participating ones.

3.7 This is probably why, despite the clear merits of a CCRA, which are recognised by the vast majority of market participants, the market is not reacting. It follows that in order to kick start this desirable piece of market infrastructure, it appears to be necessary to make it mandatory for AIs to contribute data to a CCRA. In fact, according to the CCRA Survey, most respondents (58%) would support mandatory participation in sharing credit data. A further 20% supported encouragement to participate by the HKMA through regulatory means. Only 22% supported participation on an entirely voluntary basis. The need for mandatory participation is further illustrated by the fact that 35% of the respondents (including some major banks) said that they would not participate if it is not mandatory for all, which could undermine the effectiveness and viability of the CCRA.

3.8 The HKMA further notes that in a large number of countries, public authorities have mandated lending institutions to participate in CCRAs either through legislative or regulatory means. Although in some countries such as the US there are no mandatory requirements for commercial information sharing, this may be because the credit culture is more established and there is higher transparency in corporate borrowing, e.g. more companies tend to obtain finance from the equity and capital markets where they are subject to stringent disclosure requirements.

3.9 In view of the above, **the HKMA proposes that it should be mandatory for AIs to contribute information to a CCRA in order to establish a more comprehensive database and a level playing field among AIs**. **Mandatory participation in sharing information can be achieved by various means. One option is to legislate to require AIs to disclose requisite information to a CCRA. Alternatively, the HKMA can attach a condition to the authorization of AIs requiring them to do so.** (Breach of a condition of authorization is a ground for revocation under the Banking Ordinance.)

Institutional options for establishing the CCRA

3.10 Another crucial issue to be considered is whether the CCRA should be owned by the private sector, the public sector or the banking industry.

3.11 The overseas experience shows that the institutional arrangements for CCRAs vary across countries. Where CCRAs have been set up in the form of public credit registers (where participation is compulsory and the rules are imposed by regulations), they are usually owned by central banks or the banking supervisory authorities (e.g. France, Germany). In Sri Lanka, the CCRA has been set up under statute with 51% of the issued share capital held by the Monetary Board, 30% by commercial banks and the remaining 19% by other lending institutions (i.e. quasi-public ownership). In South Korea, the CCRA was established in 1995 by the Korean Federation of Banks (i.e. industry ownership). In Mexico, the CCRA was set up in 1997 as a joint venture between major Mexican banks with minority participation by Dun & Bradstreet and Trans Union (i.e. quasi-industry ownership). In the US, the CCRAs are in private ownership.

3.12 In the CCRA Survey, 58% of the respondents indicated that they preferred the CCRA to be in public ownership. 20% preferred the CCRA to be owned by the industry association. Only 10% preferred it to be in private ownership. This preference for public ownership seems to be attributable to the concern about data confidentiality. But to some extent, the ownership issue may also hinge on whether the scheme is voluntary or mandatory. There may be concerns about the HKMA mandating submission of banks' customer data to a private entity, particularly if the latter is unregulated. Such an entity would be in a strong monopoly position, which might give rise to doubts about whether the service would be fairly priced. These doubts would be mitigated if there were to be more than one CCRA and therefore competition in the provision of the service. However, it is not clear that the Hong Kong market would be capable of supporting more than one CCRA, and to the extent that it was, this would give rise to fragmentation and perhaps defeat the objective of having a comprehensive database.

3.13 For the purposes of this consultation paper, it is assumed that there would be only one meaningful CCRA in Hong Kong to which AIs would be required to submit information. As a result, in considering the options for the structure and ownership of this institution, it would be necessary to observe the following principles:

(i) there should be adequate institutional safeguards to protect the data disclosed to the CCRA in view of the confidentiality and sensitivity of the data; and

(ii) there should be an institutional framework overseeing the running of the CCRA (e.g. pricing policies) in view of its potentially monopolistic position in the market.

3.14 In line with these principles, the HKMA has identified the following institutional options for further consideration:

(i) a publicly-owned CCRA (e.g. owned by the HKMA through the Exchange Fund[2]);

(ii) a self-regulated CCRA owned by the industry (e.g. HKAB);

[2] Use of the Exchange Fund can be justified on the ground that a CCRA is an important piece of market infrastructure which can help to maintain or promote the stability of the banking system.

(iii) a self-regulated CCRA jointly-owned by the industry and the public sector (e.g. a joint venture between the HKMA and HKAB); and

(iv) a regulated CCRA owned by the private sector.

(i) Publicly-owned CCRA

3.15 This refers to a CCRA which is majority owned and controlled by a public authority e.g. the HKMA. It would be possible for other parties (e.g. a private sector credit reference agency) to take a minority equity participation. This strategic partner could then provide the systems and expertise to establish and operate the CCRA. Alternatively, the publicly-owned CCRA could outsource its operations to a private sector agency through an open competitive tender. The role of the public sector owner would be to provide the governance of the CCRA and to provide strategic and policy direction, e.g. over issues such as data confidentiality and pricing.

3.16 The majority of AIs in the CCRA Survey are supportive of this option. There are certain advantages to this model. For example, public ownership of the CCRA may provide more comfort to AIs in contributing sensitive borrower information, and to the data subjects in the ability and willingness of the CCRA to properly handle the data. The pricing of services should be less of a concern as the public sector owner may be more likely to strike a balance between a fair return on investment and the long-term development of the CCRA as an important piece of banking infrastructure. However, the principal counter argument is that public ownership could be perceived as government intervention which might be criticised as going against Hong Kong's philosophy of free markets. Moreover, public ownership may not be the only way to address the data protection issue. Other alternatives to deal with this issue are possible, e.g. a private sector agency subject to proper regulation.

(ii) A self-regulated CCRA owned by the industry

3.17 This refers to a CCRA wholly or majority owned by the banking industry, possibly via HKAB. There are precedents for this model, e.g. the interbank clearing service was owned by HKAB before the introduction of the

Real Time Gross Settlement system in 1996 (since when the clearing house has been jointly-owned by the HKMA and HKAB). Like the first option, it is also possible for a private sector credit reference agency to take a minority equity participation as a strategic partner.

3.18 Section 12 of the HKAB Ordinance empowers the HKAB Committee to make rules that are binding on its members relating to the conduct of the business of banking after such consultation with the Financial Secretary as he shall consider appropriate. In the past a number of important rules have been made under this section, e.g. the Clearing House Rules and the Rules on Interest Rates and Deposit Charges. It therefore appears possible for HKAB to make rules prescribing the manner in which member institutions should participate in a CCRA[3]. The explicit requirement for such rules (and any future alterations of these) to be subject to prior consultation with the Financial Secretary should also engender public confidence in information sharing between banks. Likewise, it also appears possible for HKAB to set up a subsidiary company to provide the CCRA service and to devise a set of rules for this entity to ensure data confidentiality and fair pricing.

(iii) A self-regulated CCRA jointly-owned by the HKMA and HKAB

3.19 The third option is a hybrid model of ownership involving both the public sector and the industry, which arguably combines the merits of both options. The presence of the HKMA may give banks and the public confidence in governance and data confidentiality issues. To some extent, this model might alleviate concerns about government intervention. The banking sector, with representatives on the board and participation in decision making, may feel more comfortable on commercial issues such as fair pricing. A strategic partner could be brought in or the operation could be outsourced as mentioned in option (i) above. There is also a clear precedent for this model in that the Hong Kong Interbank Clearing Limited is a body which is 50% owned by the HKMA and HKAB.

[3] The HKAB rules are not binding on non-bank AIs which would also participate in sharing data with the CCRA. One way to address this issue would be for the CCRA to extend the same set of rules to other non-bank participants by contract. Such an arrangement has already been adopted in relation to the access of restricted licence banks to the Real Time Gross Settlement system operated by Hong Kong Interbank Clearing Limited (a company jointly-owned by the HKMA and HKAB).

(iv) A regulated CCRA owned by the private sector

3.20 This option is a more market-oriented solution. However, a crucial question that needs to be addressed is whether the private sector agency needs to be regulated if submission of AIs' data is to be mandatory. If both data users (AIs) and data subjects (borrowers) are not too concerned about data protection and pricing, then it should in theory be possible for the private sector agency to be unregulated and to rely on its self-regulation to guard against improper conduct. However, if market participants feel that self-regulation by a private sector agency cannot satisfactorily address their concerns, then the agency would need to be subject to some form of regulation by a trusted authority.

3.21 There are two possible ways to regulate a private sector CCRA. The first involves the establishment of a licensing and regulatory regime for credit reference agencies. Any company which wishes to offer commercial credit reference service will need to be licensed so that the HKMA can specify the company for mandatory contribution of data by banks. It should also be subject to a set of prescribed rules and regulations to protect data confidentiality etc. An authority will need to be appointed to supervise the operation of CCRAs and specific legislation will need to be enacted to provide for the supervisory framework. This approach is adopted in India. Draft legislation has been proposed to extend the remit of the Reserve Bank of India (the central bank in India) to supervise the operation of credit reference agencies (both commercial and consumer). There is no restriction on the number of agencies that can be licensed. In fact, the Indian authorities consider that the regulatory framework should provide for the establishment of a number of agencies to cater for the needs of different market segments and the large geographical area of India. While this model may be appropriate in India, its suitability in Hong Kong is questionable. As noted above, Hong Kong is a smaller market and it may not be viable to have more than one CCRA, particularly if its coverage is relatively limited (see section below). Should there be only one agency, it may not be cost effective to establish a fully-fledged supervisory regime just for regulating it.

3.22 An alternative option would be to grant a franchise to a private sector agency which is subject to regulation by terms contained in the franchise agreement. A franchise is the right granted by the Government to a private sector company to provide an essential public service. Since an essential public service is involved, a franchise is usually granted under specific legislation and the franchisee is usually subject to regulatory oversight by a public authority.

Under this option, a public authority, e.g. the HKMA, can grant a franchise to a private sector agency pursuant to an open competitive tendering process. The regulation of the agency can be provided under the franchise agreement instead of legislation as in the licensing option. The right conferred upon the franchisee does not need to be exclusive in order to provide flexibility in dealing with changes in operating and market environments. The right remains in the hands of the authority to change the franchisee or to grant new franchises in the future. This option may be a more proportionate measure if it is contemplated that there would only be one CCRA in the Hong Kong market. The open tendering process would also be conducive to competitive pricing. However, as the HKMA does not at present have the power to grant franchises, primary legislation is likely to be required. The HKMA would still need to devote resources to supervising the franchisee(s). This option therefore may not be much more cost effective than the licensing approach.

3.23 While a private sector model is generally preferable on grounds of principle, it is for market participants to voice their opinions on whether they would feel comfortable with mandatory submission of information to a privately-owned CCRA. To the extent that there are reservations on this, these might be alleviated by licensing or franchise arrangements, though this would involve putting a regulatory structure in place which might take time. Public or semi-public ownership might be a simpler solution to some of the governance issues, but there may be philosophical objections to this (although it should be noted that there is already a precedent for joint HKMA-HKAB ownership of financial infrastructure). **The HKMA has an open mind on these various options and would welcome the views of market participants.**

Scope of coverage of the CCRA

3.24 In theory, it would of course be preferable for the CCRA to capture as much information as possible so that it could provide comprehensive credit data to AIs for credit assessment purposes. The CCRA Survey results also suggest that a majority (84%) of the respondents consider it desirable in principle for the CCRA to cover all commercial customers regardless of their size of operation. However, they also expressed concerns on the practical difficulties that a wide scope of coverage might cause. For instance, over 55% of respondents were worried that coverage of larger corporations could drive

lending offshore. There is also a view that lending institutions can arrive at an understanding of their large customers' financial position on a bilateral basis.

3.25 If there is not to be complete coverage of all companies, at least in the initial stages, the question arises as to the group of customers on which the CCRA should initially focus. There are a number of options for this. However, when asked in the Survey about their preference on the scope of coverage if the CCRA were initially to collect information on certain customers only, most institutions (92%) would prefer to start with SMEs.

3.26 As noted earlier, this reflects AIs' view that problem loans are relatively high among SMEs and transparency is relatively low. These drawbacks help to explain some of the apparent caution of AIs in lending to SMEs. Over 80% of respondents to the Survey believed that the availability of more credit data on SMEs would increase their willingness to lend to such companies and reduce reliance on collateral. This should result in a win-win situation for both lenders and borrowers.

3.27 The SME Survey indicated diverse views among the four SME associations on the usefulness of a CCRA. Two associations favoured the establishment of such a system in the belief that AIs would become more confident in lending to SMEs with more information. Such a system would also prevent banks from lending to weak companies, so that resources could be channeled to better companies. As the overall risk of SME loans decreased, AIs would become more willing to grant loans to the sector. On the other hand, one association was not in favour of the setting up of a CCRA system in the near term. It believed that the system could result in a reduction in loans to SMEs, as the aggregate borrowings, some of which were previously not disclosed to particular AIs, would now be made known to all AIs. Although this would help AIs better contain their lending risk, such a system could threaten the financial situation of some financially weak SMEs. Another association was also concerned about the loss of privacy of SMEs if such a system was introduced.

3.28 Such objections need to be carefully considered. However, it does not appear that a lack of transparency designed to protect financially weak companies is the best way to promote a healthy growth in lending to the SME sector as a whole. As noted above, there is a general view among AIs, which is shared by at least two of the SME associations, that more transparency through the medium of a CCRA would promote a more confident attitude on the part of

lenders. As regards the concern about the loss of privacy of SMEs, this could be addressed by the kind of institutional arrangements described earlier, along with rigorous rules on the operation of the CCRA, including safeguards on the confidentiality of data.

3.29 The question of how SMEs should be defined would need to be addressed. For the purposes of the CCRA Survey, they were broadly defined as non-listed companies. If participation is to be mandatory, a very clear definition will need to be adopted with as little room as possible left for individual AIs' discretion. One possibility is to adopt the same definition as in the Survey, i.e. all non-listed commercial entities. The argument is one of simplicity and clarity. Another reason is that non-listed commercial entities are not subject to disclosure requirements such as the listing rules and are arguably less transparent. This would mean involvement of some large companies but this would be helpful in extending the comprehensiveness of the data.

3.30 It has also been suggested by some AIs that the CCRA should also capture the borrowings of non-blue chip listed companies. The loan delinquency ratio for such loans is quite high. Most AIs (84%) consider that there is a lack of updated and reliable data on such companies for credit assessment purposes. Furthermore, compared with SME loans, lending to such companies may be covered by security to a smaller extent. AIs may therefore suffer a greater loss in the event of default. These are all respectable arguments. On the other hand, it can be argued that since credit facilities to these companies are larger, bilateral credit assessments are more justified compared with SMEs. It can also be argued that being listed companies, their standards of disclosure should be higher. There is also a practical problem of defining the target group of companies. On balance, it seems desirable to exclude such companies from the initial scope of coverage until the CCRA has fully bedded down.

3.31 As to the range of collectible data, it is proposed that AIs should report both negative and positive information relating to their SME customers to the CCRA. According to the CCRA Survey, it appears that most AIs would support the reporting of positive and negative data. Positive data may include the amount of credit facilities granted, the outstanding balance and monthly repayment amount as well as any lending guaranteed by the borrower. Negative data may include overdue aging reports (e.g. amount overdue by more than 30 days, 60 days, 90 days, etc.) and number of delinquencies over a period of time. In addition, suggestions have also been made that the CCRA should disseminate

information relating to the individual owners of commercial enterprises (see paragraph 3.36) and public information such as writs, petitions, bankruptcy orders, etc.

3.32 **Views are sought on the scope of coverage of the CCRA, in particular whether it should begin by collecting both positive and negative information relating to SMEs (and other non-listed companies**).

The legal arrangements for disclosure of customer information

3.33 It also needs to be decided whether there should be explicit legislation to enable AIs to share customers' data with the CCRA.

3.34 Around 28% of respondents to the CCRA Survey indicated that they were bound by existing contracts not to disclose information on their commercial customers to a credit reference agency. Even if there is no explicit contractual restriction, it is generally believed that AIs are under a common law duty to keep their customers' information in confidence. In most other countries where CCRAs are established by the central banks or regulators, regulated financial institutions are mandated by law to report credit data of their customers to the CCRAs and the CCRAs are empowered by law to share that data with the lending institutions for credit assessment purposes, thus over-riding any contractual or common law restrictions on disclosure of customer information.

3.35 Legislation is certainly an option in view of overseas experience. If it is decided to create a legal framework for the regulation of the CCRA, then it seems expedient to provide the legal backing for disclosure of customer information in the legislation as well. On the other hand, it may be possible for AIs to obtain the consent of their customers to disclose their data to the CCRA when they apply for a new loan or seek renewal of their existing facilities. The disadvantage of this option is that the CCRA would not be able to capture all existing credit data as soon as it is set up. But since loan facilities (for SME customers at least) are generally renewed on an annual basis, the CCRA should be able to build up a reasonably comprehensive database in a year or so. Most AIs with which the HKMA has discussed this issue consider that this is a feasible option.

3.36 Another question that needs to be considered is whether credit data relating to owners of commercial customers who are natural persons should also be reported. This is because the creditworthiness of the company and the owners is sometimes inseparable (e.g. in the form of guarantees). The Privacy Commissioner for Personal Data confirms that the handling of personal data (e.g. relating to owners/shareholders) pertaining to a credit assessment for or in connection with a commercial credit is not subject to the specific requirements of the Code of Practice on Consumer Credit Data issued in February 1998. However, personal data, including those relating to owners/shareholders of organizations which are to be part of the proposed CCRA, would still be subject to the general compliance requirements of the Personal Data (Privacy) Ordinance (e.g. unless there is consent from the data subject, the personal data collected can only be used for the purpose for which it was collected or a directly related purpose). It would therefore be necessary to keep in touch with the Commissioner to ensure that the data collection requirements under the CCRA would be in line with the data protection principles under the Personal Data (Privacy) Ordinance.

3.37 **Views are sought on whether explicit legislative provision for disclosure of customer data to the CCRA is required or whether the option of obtaining customers' consent at the time of granting or renewal of credit facilities would be workable. In addition, comments are requested on the issue of whether credit data relating to the owners of companies should also be reported to the CCRA**.

CHAPTER 4

CONCLUSION & WAY FORWARD

4.1 In light of the experience of the past few years, the HKMA considers that the establishment of a CCRA would significantly strengthen the efficiency of the commercial loan market in Hong Kong, particularly in respect of the SME sector. The resulting increase in the availability of quality information could bring significant benefits to AIs in terms of better credit risk management and to corporate borrowers in terms of more competitive loan pricing. To some extent, the CCRA may allow lenders to reduce reliance on collateral and may increase their willingness to lend to SMEs. The HKMA believes that a CCRA is a desirable piece of banking infrastructure, although it should be stressed that the CCRA by itself cannot substitute for prudent lending practices by banks.

4.2 The lack of market initiatives to establish a CCRA in the past has been due to concerns over data confidentiality and business competition. The HKMA believes that these concerns can be addressed by mandating AIs' submission of data to the CCRA and designing an appropriate framework to safeguard the sound operation of the CCRA.

4.3 The HKMA is now consulting the public on the proposal to establish a CCRA in Hong Kong. Any interested party is invited to submit its views to the HKMA for the attention of the following before 15 September 2000:

Banking Development Division
Hong Kong Monetary Authority
30/F, 3 Garden Road
Central
(Reference: CCRA)

(Fax No.: 2878 1887; Email: ccra@hkma.gov.hk)

4.4 Subject to the views from the public consultation, the HKMA will set up a working party with representatives from the banking and other relevant industries to resolve the technical and institutional issues involved in the establishment of a CCRA.

ANNEXURES

Please note that the annexures to this paper are only available on the HKMA's web site at http://www.info.gov.hk/hkma.

Annex A

THE BANKING INDUSTRY'S VIEWS ON THE ESTABLISHMENT OF A CCRA

As part of the Study, a Survey was conducted in April this year to collect information with respect to the banking industry's use of credit reference services and views on the desirability and feasibility of establishing a CCRA in Hong Kong. A total of 50 AIs were surveyed which account for about 80% and 75% of the total Hong Kong dollar and foreign currency denominated commercial loans extended by AIs respectively. The findings are hence considered representative of the banking industry at large.

2. Part A presents an overview on the use of credit reference services in existence by individual AIs. Part B summarises the AIs' comments on the strategic, operational, legal and ownership issues in connection with establishing a CCRA. Part C provides a statistical summary of the AIs' delinquency ratios with respect to loans made to different types of commercial enterprises and a breakdown of commercial loans by size of aggregated exposures. Full survey findings are at Enclosure 1.

Part A – Use of existing credit reference services

3. 78% of the respondents used credit reference agencies (CRAs) in existence to assess their commercial customers. The most common types of information obtained from the CRAs were public records (92% of the users) such as court petitions and bankruptcy orders, followed by negative data (69% of the users), i.e. payment arrears and defaults. About 50% of the users also sought information on the customers' business profiles and financial records, collateral pledged to other lenders and risk ratings assigned by the CRAs.

4. Although around 60% of the respondents indicated that they find the existing services "quite useful", an equally significant portion of them also indicated that there are quite significant shortfalls in the existing services such as the lack of comprehensive information (72%) and high charges for the services (51%). Another 36% of the respondents did not consider the information received up-to-date. In our interview with banks, most of them indicated that the existing services are not widely used.

5. A predominant number of the respondents (96%) considered that there is a lack of reliable and up-to-date information about small to medium sized enterprises (SMEs), notably in respect of audited financial statements, details on

non-payments to other creditors, facilities granted by other creditors, shareholding structure and credit records of the directors, majority shareholders, etc.

6. 84% of the respondents also agreed on the lack of information about non-blue chip listed companies (NBCs). In the interviews, some bankers pointed out that these companies' interim reports are fairly basic, consisting mainly of profit and loss account information. Hence, the availability of more up-to-date and comprehensive information about the NBCs' financial position and their indebtedness between publications of annual reports would be desirable.

7. On the other hand, AIs were less concerned with the lack of information about blue chip listed companies (BCs) (51%) and overseas multinational corporates (MNCs) (56%), with concerns focusing mainly on the total levels of their indebtedness. In the interview, some banks pointed out that the returns on such relationships would normally justify credit assessment on a bilateral basis.

Part B – Desirability and Feasibility of a CCRA

Desirability

8. In summary, there is widespread recognition of the merits of establishing some form of a CCRA for the banking sector. Around 90% of the respondents agreed that a CCRA would improve their credit assessment, enhance their ability to detect problems encountered by customers in advance and improve Hong Kong's operating environment for lending institutions. A lesser but still significant proportion of respondents (70%) also agreed that the enhanced transparency would improve their allocation and pricing of credit, thereby benefiting customers with a good credit record.

9. On the other hand, a sizeable percentage of the respondents were concerned with disclosing information to the CCRA which might lead to adverse customer reaction (52%) and loss of businesses to competitors (42%). One respondent pointed out that the scheme could be unfair to the larger institutions as they would have to provide most of the information.

10. Some AIs (26%) were also concerned that the CCRA might drive customers away from seeking funds in Hong Kong. However, such concerns focused mainly on BCs and MNCs. This may be attributable to the greater abilities of such companies to tap funds from overseas markets.

Coverage and range of collectible information

11. Most respondents (84%) considered it desirable to cover credits to all commercial enterprises regardless of their size. A few larger banks were however opposed to the coverage of BCs and MNCs: one of them pointed out that the size of their borrowings would justify the traditional bilateral credit assessment.

12. When asked to give their preference on the scope of coverage by the CCRA if it were initially to collect information on certain customers only, most respondents preferred the CCRA to start collecting information in respect of the SMEs (92%) followed by NBCs (44%). On the other hand, only 10% and 12% of respondents supported the coverage of BCs and MNCs respectively during the initial phase of the CCRA's operation. A number of AIs commented that it might be easier to start with collecting information on the SMEs and NBCs.

13. On the range of collectible information, the banking industry's view as a whole was that the CCRA should disseminate a wide range of information to users (see Box 1). 82% of AIs agreed that the information would enhance their internal ratings systems if they could be provided in a systematic and cost-effective manner. However, a few AIs pointed out that the quality of information, such as its accuracy, timeliness and completeness, would be of equal importance to their internal ratings systems.

Box 1

- Customers' profile and financial information, e.g. balance sheet, profit and loss account
- Breakdown of customers' indebtedness, e.g. maturity, facility type, interest rate
- Information on collateral pledged by customers, e.g. type and market value of collateral
- Negative data, e.g. delinquencies, defaults
- Positive data, e.g. credit outstanding, number and terms of facilities, number of creditors
- Interconnectedness of customers belonging to the same business group / conglomerate
- Profiles and credit history of the directors, major shareholders, guarantors, etc
- Public records, e.g. writs, petitions, bankruptcy orders
- Ratings by the CCRA as a summary indicator of the risk of individual customers

14. 94% of AIs agreed that the CCRA should cover a customer's on- and off-balance sheet information. Over 70% of them replied that AIs' lending to one another should not be captured by the CCRA since they were subject to regulatory oversight.

Impact on SMEs

15. 56% of the respondents replied that SME loans were secured by collateral "to a large extent" and 42% replied "to some extent" currently. Overall, around three-quarters of the respondents believed that the CCRA would increase

their willingness to lend to SMEs and reduce their reliance on collateral. However, there remained a number of AIs (including a few major ones) which did not share this view: their credit assessment would not rely solely on the CCRA information. When there was insufficient quality information, collateral provided an additional means of comfort to banks.

Legal and ownership issues

16. Around a quarter of the respondents replied that they were bound by existing contractual agreements to not disclose information about their commercial customers to the CCRA. In addition, some replied that it was their fiduciary duty to keep knowledge and information on their customers in confidence. A few AIs pointed out that in certain cases there were special clauses in the contractual agreements to forbid the disclosure of information, e.g. syndicated loans, corporate workout programmes.

17. Around 60% of AIs believed that participation in the CCRA should be mandatory. 22% replied that it should be entirely voluntary and 20% replied that the HKMA should encourage participation through regulatory guidelines. If participation in the scheme were voluntary, only 65% of AIs would intend to participate in it.

18. On the question of ownership, 58% of the respondents preferred the CCRA to be in public ownership. A few AIs mentioned that this would be the best means to ensure data security and fair pricing. 20% preferred the CCRA to be owned by the industry association. Only 10% preferred it to be in private ownership.

Part C – Quantitative assessment

19. The weighted average loan delinquency ratios, as measured by the ratio of loans overdue for more than 3 months to total outstanding loans, of the following categories of loans (Note 1) of the surveyed AIs as at 31 December 1999 were approximately (Note 2):

Loans to:	Loan delinquency ratio (%)	Loans outstanding as % of total commercial loans
i) SMEs	15.1	47.0
Ii) Non-blue chip listed companies	10.6	21.5
Iii) Blue chip listed companies	0.4	20.4
Iv) Overseas multinational corporations	6.8	11.0
v) All commercial loans	10.2	

20. A breakdown of surveyed AIs' commercial credit exposures (including both on- and off-balance sheet items) by size of aggregated facilities extended to individual commercial customers, as at 31 December 1999, is as follows (Note 3):

Size of aggregated credit facilities per commercial customer	Number of commercial customers	Amount involved (HK$ million)
<= HK$1M	66,938	22,398.1
> HK$1M – HK$2.5M	18,043	30,293.1
> HK$2.5M – HK$5M	13,483	47,596.0
> HK$5M – HK$10M	10,316	70,267.6
> HK$10M – HK$50M	12,486	247,330.8
> HK$50M – HK$100M	2,031	135,443.1
> HK$100M	2,466	918,392.8
TOTAL	125,763	1,471,721.5

Enclosure 1

Survey on Desirability and Feasibility of a Commercial Credit Reference Agency (CCRA)

SURVEY RESULTS

Part A – Use of existing credit reference services

1. Do authorised institutions (AIs) make use of existing credit reference services to assess commercial customers?

78.0% Yes
22.0% No *(go to Q. 6)*

2. In respect of those institutions using such credit reference services, what information do they obtain from them?

92.3% Public records, e.g. writs, petitions, bankruptcy orders
69.2% Negative data, e.g. delinquencies, defaults
53.9% Customers' profile and financial information, e.g. balance sheet, profit and loss account
51.3% Ratings as a summary indicator of the risk of individual customers
46.2% Customers' collateral pledged to other lenders, e.g. collateral type, market value
48.7% Profiles and credit history of the directors, major shareholders, guarantors, etc
25.6% Interconnectedness of customers belonging to the same business group / conglomerate
20.5% Positive data, e.g. credit outstanding, number and terms of facilities, number of creditors
15.4% Breakdown of customers' indebtedness to other lenders, e.g. maturity, facility type, interest rate

3. How useful is the information obtained from the credit reference services in facilitating assessment of commercial customers?

35.9% Not quite useful
61.5% Quite useful
2.6% Very useful

4. Are there any problems with the existing credit reference services?

71.8% Information obtained not comprehensive
51.3% Services too expensive
35.9% Information obtained not up-to-date

5. Do AIs provide the following information to the credit reference services at present?

32.0% Negative data, e.g. delinquencies, defaults
10.0% Positive data, e.g. credit outstanding, number and terms of facilities
4.0% Customers' collateral pledged to the AI, e.g. type of collateral, market value
4.0% Profiles and credit history of the directors, major shareholders, guarantors, etc
2.0% Breakdown of customers' indebtedness to the AI, e.g. maturity, facility type, interest rate

6. Is there currently a lack of reliable and updated information about the following types of customers (see Note 1)?

i) SMEs:
96.0% Yes
4.0% No

ii) Non-blue chip listed companies:
83.7% Yes
16.3% No

iii) Blue chip listed companies:
51.0% Yes
49.0% No

iv) Overseas multinational corporations:
56.2% Yes
43.8% No

Part B – Desirability and feasibility of a CCRA

7. Do AIs agree in principle that the formation of a CCRA which maintains reasonably comprehensive commercial credit information and enjoys wide participation by lending institutions would improve their credit assessment?

90.0% Agree
6.0% Disagree
4.0% No views

8. AIs' agreement with the following arguments in favour of a CCRA.

i) Improve banks' knowledge of the financial status and indebtedness of their customers:
98.0% Agree
2.0% Disagree

ii) Improve banks' ability to detect problems encountered by a customer in advance:
90.0% Agree
6.0% Disagree
4.0% No views

iii) Improve banks' allocation and pricing of credit, which should benefit those customers with a good credit track record:
70.0% Agree
20.0% Disagree
10.0% No views

iv) Promote corporate sector transparency, thereby improving Hong Kong's operating environment for lending institutions:
92.0% Agree
2.0% Disagree
6.0% No views

9. AIs' agreement with the following arguments against a CCRA.

i) Passing information to a CCRA may lead to loss of customer information and market share to competitors:

42.0% Agree
42.0% Disagree
16.0% No views

ii) Passing information to a CCRA may lead to adverse customer reaction:

52.0% Agree
30.0% Disagree
18.0% No views

iii) Formation of a CCRA may discourage customers, particularly overseas multinational corporations, from seeking funds in Hong Kong:

26.0% Agree
50.0% Disagree
24.0% No views

10. If all AIs are required to report credit information about their commercial customers to a CCRA, will it discourage the following customers from seeking funds in Hong Kong?

i) SMEs:

4.0% Yes, to a large extent
24.0% Yes, to some extent
72.0% No

ii) Non-blue chip listed companies:

6.0% Yes, to a large extent
32.0% Yes, to some extent
62.0% No

iii) Blue chip listed companies:

8.0% Yes, to a large extent
48.0% Yes, to some extent
44.0% No

iv) Overseas multinational corporations:

10.0% Yes, to a large extent
50.0% Yes, to some extent
40.0% No

11. Is it both desirable and feasible for a CCRA to cover commercial customers which are banks or financial institutions?

[Some institutions may, for example, consider it unnecessary to report information of customers which are financial institutions to the CCRA since the latter are already subject to regulatory oversight.]

26.0% Yes.
74.0% No. If so, which of the following should not be covered by the CCRA:
- 74% Banks
- 30.0% Financial institutions other than banks

12. Is it both desirable and feasible for a CCRA to cover all commercial customers regardless of their size of operation (e.g. SMEs vis-à-vis listed companies)?

[Some institutions may consider information about SMEs more important than the others because of a lack of information about them. Others may consider information about listed companies more important because the latter can and do often borrow from multiple banks.]

84.0% Yes
16.0% No. If so, which of the following should not be covered by the CCRA:
- 16.0% Blue chip listed companies
- 12.0% Overseas multinational corporations
- 8.0% Non-blue chip listed companies
- 2.0% SMEs

13. Is it both desirable and feasible for a CCRA to cover a commercial customer's on- and off-balance sheet items?

94.0% Yes
6.0% No.

14. What information should be disseminated by a CCRA?

96.0% Public records, e.g. writs, petitions, bankruptcy orders
94.0% Negative data, e.g. delinquencies, defaults
76.0% Positive data, e.g. credit outstanding, no. and terms of facilities, no. of creditors
74.0% Breakdown of customers' indebtedness, e.g. maturity, facility type, interest rate
72.0% Information on collateral pledged by customers, e.g. type of collateral, market value of collateral
72.0% Interconnectedness of customers belonging to the same business group / conglomerate
72.0% Profiles and credit history of the directors, major shareholders, guarantors, etc
64.0% Customers' profile and financial information, e.g. balance sheet, profit and loss account
64.0% Ratings by the CCRA as a summary indicator of the risk of individual customers

15. Currently, do institutions assign internal ratings as a summary indicator of the risk inherent in individual commercial credits?

64.0% Yes, in respect of all or most commercial credits
14.0% Yes, in respect of some commercial credits
22.0% No

16. If a CCRA can disseminate information (such as those items in Q.14) in a systematic and cost-effective manner, do AIs think such information would be useful to enhancing their institution's internal ratings systems?

81.6% Yes
18.4% No

17. Should a CCRA assign ratings as a summary indicator of the risk of individual customers for banks' reference?

59.2% Yes
40.8% No

18. Are AIs' credit exposures to SMEs usually secured by collateral (in comparison with listed companies)?

56.0% Yes, to a large extent
42.0% Yes, to some extent
2.0% No

19. In AIs' views, other things being equal, will the availability of more information through a CCRA reduce their reliance on collateral in lending to SMEs?

4.0% Yes, to a large extent
76.0% Yes, to some extent
20.0% No

20. In AIs' views, other things being equal, will the availability of more information through a CCRA increase their willingness to lend to SMEs (whether or not collateral is taken)?

12.0% Yes, to a large extent
72.0% Yes, to some extent
16.0% No

21. Do AIs maintain the following information about their commercial customers?

98.0% Aggregated credit facilities of individual customers
94.0% Aggregated credit facilities of individual customers which belong to the same business group / conglomerate
90.0% Business turnover of customers
90.0% Asset size of customers
86.0% Information on whether a customer is listed or not
36.0% Number of staff employed by customers

22. If a CCRA were initially to collect information on certain customers only, which of the following should be initially covered by it?

92.0% SMEs
44.0% Non-blue chip listed companies
10.0% Blue chip listed companies
12.0% Overseas multinational corporations

23. Following on from Q.22 above, how should such customers be quantitatively defined for reporting to the CCRA?

70.0% By business turnover of the customers
58.0% By asset size of the customers
42.0% By size of credit facilities
28.0% By whether or not a customer is listed
8.0% By number of staff employed by the customers

24. Are there any contractual agreements in place which prevent AIs from disclosing commercial credit information to the credit reference services?

28.0% Yes
42.0% No
30.0% In certain cases

25. What are AIs' views on the preferable legal ownership of a CCRA?

58.0% Public ownership (e.g. HKMA)
20.0% Industry ownership (e.g. Hong Kong Association of Banks)
10.0% Private ownership (e.g. existing credit reference agencies)
12.0% No particular views

26. Should participation in a CCRA be made mandatory for AIs?

22.0% No, participation should be entirely voluntary
20.0% No, but the HKMA should encourage participation through regulatory guidelines
22.0% Yes, and it should be limited to authorised institutions only
36.0% Yes, and it should also include other financial institutions such as finance companies and securities companies in Hong Kong

27. Assuming that participation in a CCRA would not be mandatory for AIs, would they still participate in such a scheme?

65.2% Yes
34.8% No

Part C – Quantitative assessment

28. The weighted average loan delinquency ratios, as measured by the ratio of loans overdue for more than 3 months to total outstanding loans, of the following categories of loans of surveyed AIs as at 31 December 1999 were approximately (Note 2):

Loans to:	Loan delinquency ratio (%)	Loans outstanding as % of total commercial loans
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29. A breakdown of surveyed AIs' commercial credit exposures (including both on- and off-balance sheet items) by size of aggregated facilities extended to individual commercial customers, as at 31 December 1999, is as follows (Note 3):

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> HK$2.5M – HK$5M	13,483	47,596.0
> HK$5M – HK$10M	10,316	70,267.6
> HK$10M – HK$50M	12,486	247,330.8
> HK$50M – HK$100M	2,031	135,443.1
> HK$100M	2,466	918,392.8
TOTAL	125,763	1,471,721.5

Explanatory Notes

Note 1:

The survey classified commercial enterprises in Hong Kong into four general categories: small and medium sized enterprises (SMEs), non-blue chip listed companies, blue chip listed companies and overseas multinational corporations. These are very broad terms and the HKMA considers these enterprises to have the following key characteristics:

- **SMEs:** these enterprises are usually non-listed, have very limited funding sources apart from main shareholders' equity and bank loans, and are subject to relatively low disclosure standards. According to this definition, large non-listed companies may be grouped in this category. This may explain the large share of loans to SMEs (47% of total commercial loans).

- **Non-blue chip listed companies:** these enterprises are listed on the Stock Exchange of Hong Kong (SEHK). They are subject to the SEHK's disclosure requirements. They may have limited access to the capital market but may be in a position to obtain credit facilities from multiple banks.

- **Blue chip listed companies:** these enterprises are listed on and subject to the disclosure requirements of the SEHK (as well as may be constituent stocks of the Hang Seng Index). They may have external credit ratings and have easy access to the capital market. Public Sector Entities (e.g. MTRC, KCRC, HKMC) which display similar characteristics are also grouped in this category.

- **Overseas multinational corporations:** this category includes those enterprises which are based outside Hong Kong and have international operations. It includes those subsidiaries / offices of overseas based corporates operating in Hong Kong, e.g. IBM Hong Kong. These enterprises or their overseas parent / head offices should have easy access to the capital market.

The above classification may or may not match with individual institutions' own classification of commercial customers.

Note 2:

The findings are based on 34 AIs which have provided valid figures to the HKMA for analysis. While the figures should be fairly representative of the industry as a whole, they are at best approximates only since the institutions may have adopted varying definitions of the different categories of commercial enterprises in this question.

Note 3:

The findings are based on 42 AIs which have provided valid figures to the HKMA for analysis.

Annex B

EMPIRICAL EVIDENCE FROM RESEARCH STUDIES SUPPORTING COMPREHENSIVE INFORMATION SHARING

A number of studies conducted in overseas countries have proven the predictive value of credit information provided by a well established credit reference agency in reducing default rate and increasing lending.

2. One of these studies was conducted by a major credit reference agency in the UK, which compared the bad debt charge of a given credit portfolio under three scenarios (i.e. not using CRA data, using negative CRA data only, and using both negative and positive CRA data). In order for the comparisons between the three scenarios to be valid, the comparisons were carried out at the same reject rate for each credit portfolio. The bad rates were then measured at the particular reject rate for each portfolio. The study showed that default rate could be significantly reduced with the use of negative and positive credit information provided by a credit bureau (see below). Although the study only made use of consumer credit data, the theory should equally apply to commercial credits.

Asset Quality for new Personal Loan, Cheque, and Credit Card accounts after 18 months trading.	Expected bad rate @ - 18 months		
	Personal Loans (Reject Rate = 40%)	Cheque Accounts (Reject Rate = 15%)	Credit Cards (Reject Rate = 33%)
1. Asset quality with no CRA data.	Bad Rate = 7.3%	Bad Rate = 6.8%	Bad Rate = 8.4%
2. Asset quality with negative CRA data.	Bad Rate = 5.6%	Bad Rate = 5.0%	Bad Rate = 6.8%
Reduction in bad debt (2 vs. 1)	25.3%	27.4%	20.7%
3. Asset quality with positive and negative CRA data.	Bad Rate = 4.7%	Bad Rate = 4.3%	Bad Rate = 5.6%
Reduction in bad debt (3 vs.1)	38.0%	38.4%	35.9%
Reduction in bad debt (3 vs. 2)	16.9%	15.1%	19.2%

In addition to the reduction in bad debt charges quoted above, it can be conservatively assumed that collections/recovery costs are reduced proportionally.

3. Another study commissioned by the Centre for Studies in Economics and Finance, University of Salerno, Italy in 1999 reached a similar conclusion[1]. The study gives a cross-country comparison of the effect of credit reference service on the credit market. The empirical analysis was built upon a specially designed data set collected via questionnaires sent to 49 different countries. These countries cover a wide range of credit reference practices – some have no credit bureaux at all; others have credit

[1] Jappelli and Pagano, "Information Sharing, Lending and Defaults: Cross-country Evidence", Centre for Studies in Economics and Finance, Working Paper No. 22, 1999. Please see here for the full report.

bureaux of different forms (either privately run or public credit registers or a combination of both). In order to test the theoretical hypothesis that information sharing among banks may increase lending and reduce defaults, the study collected a wide range of statistics from these countries as far as possible on data such as bank claims on the private sector, loan loss provisions, GDP, growth rates and other relevant indicators. The results showed that there is a notable difference in bank lending and default rate depending on whether (i) no credit bureau existed; (ii) only negative information was exchanged or (iii) both negative and positive information was shared (see below).

Variable	Total Sample	No Information Sharing	Negative Information Only	Negative and Positive Information
Bank Lending / GDP(%)	60.53	31.10	67.57	66.42
Loan Loss Provisions / Total Loans (%)	0.88	1.31	0.86	0.81
Log GDP	7.19	5.96	6.77	7.79
GDP Growth Rate (%)	3.45	4.53	2.87	3.38
Rule of Law	7.24	4.80	8.14	7.59
Creditor Rights	2.15	3.14	2.20	1.83
French Origin	0.40	0.43	0.20	0.48
German Origin	0.12	0.00	0.00	0.22
Scandinavian Origin	0.10	0.00	0.30	0.04
English Origin	0.37	0.57	0.50	0.26
Number of observations	40	7	10	23

4. However, the correlation needs to be qualified e.g. information sharing is found in countries with higher GDP per capita, better law enforcement and safeguards for creditor rights, which may well themselves be correlated with bank lending and default. To control for the effect of these variables, a regression analysis was performed in the study. The conclusion was still that the breadth of credit markets is correlated with information sharing. Total bank lending scaled by GDP is larger in countries where information sharing is more solidly established and intense. This relation persists even when one controls for other economic and institutional variables such as economic size and growth rate, rule of law and protection of creditor rights. The analysis also showed that defaults are mitigated by information sharing although the correlation is slightly weaker than in the case of bank lending owing probably to the limitations of the study's proxies for defaults. There also seems to be no material difference in the impact of private or public arrangements to share credit information.

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WORKING PAPER no. 22

Information Sharing, Lending and Defaults: Cross-Country Evidence

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CSEF WORKING PAPER no. 22

Information Sharing, Lending and Defaults: Cross-Country Evidence

Tullio Jappelli* **and Marco Pagano***

Abstract

Theory predicts that information sharing among lenders attenuates adverse selection and moral hazard, and can therefore increase lending and reduce default rates. To test these predictions, we construct a new international data set on private credit bureaus and public credit registers. We find that bank lending is higher and proxies for default rates are lower in countries where lenders share information, regardless of the private or public nature of the information sharing mechanism. We also find that public intervention is more likely where private arrangements have not arisen spontaneously and creditor rights are poorly protected.

JEL Classification: D82, G21, G28.

Keywords: information sharing, credit market, default rate.

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* CSEF, University of Salerno and CEPR

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Appendix

1. *Introduction*

A large body of literature shows that asymmetric information between borrowers and lenders can prevent the efficient allocation of credit. Lenders are often unable to observe the characteristics of borrowers, including the riskiness of their investment projects, and this induces adverse selection problems. Lenders may also be unable to control the actions that borrowers take after receiving a loan. A borrower may relax his effort to prevent default or hide the proceeds of his investment to keep from having to repay his debts. Even a solvent borrower may try to avoid repayment if the lender cannot observe or sanction his actions. The consequence is that lenders may ration credit or charge high borrowing rates.

It is often assumed that the only way lenders can overcome these informational problems is to produce information about their customers via screening and monitoring. For instance, they can interview applicants, visit their business before and after granting the loan, and gather information from public records. If lenders operate on a large scale, these data can be used for statistical risk management to grant and price loans on the basis of past performance.

Most of the literature neglects exchange of information with other lenders as an alternative way to learn about one's own customers. This exchange can be voluntary or imposed by regulation. When it occurs spontaneously, it is effected by information brokers, known as "credit bureaus", which operate on the principle of reciprocity, collecting, filing and distributing the information supplied voluntarily by their members. In many countries a great deal of informational exchange also occurs via "public credit registers". These are generally managed by central banks, with compulsory reporting of data on borrowers which are then processed and returned to the lenders.

Previous theoretical research, summarized in Section 2, shows that information sharing between lenders can foster credit activity and increase borrowers' incentives to repay, but no empirical investigation of such effects exists to this date. To fill this gap, in this paper we use a new international database to test if the presence of credit bureaus or public credit registers increases lending activity and reduces defaults.

Sections 3 and 4 describe our data set, which we collected via questionnaires directed to private credit bureaus and central banks. We document that borrower coverage and the type of data exchanged vary

considerably over time and between countries. Lenders commonly exchange data about past defaults or arrears. Sometimes they also share data about customers' outstanding liabilities, maturities, and details about borrowers' credit history. In Section 5 we test if private and public information sharing affect bank lending, and in Section 6 whether they also affect non-performing loans and credit risk. We find that information sharing is associated with broader credit markets and lower credit risk, but not with a significantly lower fraction of non-performing loans.

The empirical analysis reveals that private and public information sharing arrangements have no differential effect on credit market performance. One way to interpret this finding is that public credit registers and private credit bureaus are substitutes. This leads us to investigate directly whether the absence of private credit bureaus prompts regulators to establish public credit registers or to widen the scope of their operation. Probit and Tobit regressions reported in Section 7 show that these hypotheses are consistent with the data. Section 8 summarizes our main findings.

2. Review of Theoretical Models

Recent theoretical research suggests a threefold effect of lenders' exchange of information about borrowers. First, credit bureaus improve banks' knowledge of applicants' characteristics and permit more accurate prediction of repayment probability. This allows lenders to target and price their loans better, easing adverse selection problems. Second, credit bureaus reduce the informational rents that banks could otherwise extract from their customers. They tend to level the informational playing field within the credit market and force lenders to price loans more competitively. Lower interest rates increase borrowers' net return and augment their incentive to perform. Third, credit bureaus work as a borrower discipline device: every borrower knows that if he defaults his reputation with all other potential lenders is ruined, cutting him off from credit or making it more expensive. This mechanism also heightens borrowers' incentive to repay, reducing moral hazard.

Here we review these three effects of information sharing. In the pure adverse selection model developed by Pagano and Jappelli (1993), information sharing improves the pool of borrowers, decreases defaults and reduces the average interest rate. In the model, each bank has private

information about the credit worthiness of local residents but no information about immigrants, who therefore face adverse selection. If banks exchange their private information about residents, they can lend safely to immigrants as well, so the default rate decreases. The effect on lending is ambiguous, however. The volume of lending may increase or decrease, because when banks exchange information about borrowers' types, the implied increase in lending to safe borrowers may fail to compensate for the reduction in lending to risky types. Banking competition tends to strengthen the positive effect of information sharing on lending: when credit markets are contestable, information sharing reduces informational rents and increases banking competition, which in turn leads to greater lending. [1]

The other two effects arise in the presence of moral hazard. Information sharing can reinforce borrowers' incentives to perform, either via a reduction of banks' rents or through a disciplinary effect. The exchange of information between banks reduces the informational rents that banks can extract from their clients within lending relationships. Padilla and Pagano (1997) make this point in the context of a two-period model where banks are endowed with private information about their borrowers. This informational advantage confers to banks some market power over their customers, and thereby generates a hold-up problem: since banks are expected to charge predatory rates in the future, borrowers exert low effort to perform, leading to high default and interest rates, and possibly to the collapse of the credit market. By committing to exchange information about borrowers' types, they restrain their own future ability to extract informational rents. This reduces the probability of default of each borrower and the interest rate he is charged, and increases total lending relative to the regime without information sharing.

An effect on incentives exists even when there is no hold-up problem. This effect is present when banks, instead of exchanging information about

[1] This model also delivers predictions about lenders' incentives to create a credit bureau. Lenders have a greater incentive to share information when the mobility of credit seekers is high and when the potential demand for loans is large. Technical innovations that reduce the cost of filing, organizing and distributing information should foster credit bureaus' activity. Banking competition, by contrast, might inhibit the appearance of credit bureaus: with free entry, a bank that supplies information about its customers to a credit bureau is in effect helping other lenders to compete more aggressively. This reduces the expected gain from information sharing and could deter the creation of a credit bureau. Pagano and Jappelli (1993) bring international and historical evidence to bear on these predictions.

borrowers' types, communicate to each other data about past defaults. Padilla and Pagano (1999) show that this creates a disciplinary effect. When banks share default information, default becomes a signal of bad quality for outside banks and carries the penalty of higher interest rates. To avoid this penalty, entrepreneurs exert more effort, leading to lower default and interest rates and to more lending.[2]

In this model, disclosing information about borrowers' quality, instead, has no effect on default and interest rates, in contrast with the result of Padilla and Pagano (1997). Ex-ante competition is assumed to eliminate the informational rents of banks anyway, so that their customers' overall interest burden cannot be reduced further. As a result, when information about their quality is shared, borrowers have no reason to change their effort level, and equilibrium default and interest rates stay unchanged. Information sharing about borrowers' characteristics can even reduce lending. When they share information, banks lose all future informational rents and therefore require a higher probability of repayment to be willing to lend. So the credit market may collapse in situations in which it would be viable under no information sharing.

This suggests that sharing data on defaults rather than borrowers' characteristics can have quite different effects on the probability of default. The disciplinary effect arises only from the exchange of default information. To the extent that banks also share data on borrowers' characteristics, they actually reduce the disciplinary effect of information sharing: a high-quality borrower will not be concerned about his default being reported to outside banks if these are also told that he is a high-quality client. But, as discussed above, exchanging information about borrowers' characteristics may reduce adverse selection or temper hold-up problems in credit markets, and thereby reduce default rates.

On the whole, all three models agree on the prediction that information sharing (in one form or another) reduces default rates, whereas the prediction concerning its effect on lending is less clear-cut. However, even the prediction about default is unambiguous only if referred to the probability of default of an individual borrower. When one considers the

[2] In this model there is no holdup problem because initially banks have no private information about credit seekers, and ex ante competition dissipates any rents from information acquired in the lending relation.

average default rate, the prediction may be overturned by composition effects. Suppose that information sharing gives access to credit to lower-grade borrowers. Even though each borrower's probability of default is lower, the aggregate default rate may increase because the relative weight of lower-grade borrowers increases. Since the data used in the empirical tests in the next sections concern aggregate measures of the default rate, this composition effect may introduce a bias against the prediction of the models.

The empirical evidence on these predictions will be presented in Section 4. Before turning to the evidence, we proceed to describe the main features of private and public information sharing arrangements, and their diffusion around the world.

3. Private Information Sharing Arrangements

In a number of countries, lenders (banks, finance companies, credit card companies, retailers, suppliers extending trade credit) routinely share information on the creditworthiness of their borrowers through credit bureaus, information brokers that in some cases are set up and owned by the lenders themselves and in others operated independently for profit by a third party. Lenders supply the bureau with data about their customers. The bureau collates this information with data from other sources (courts, public registers, tax authorities, etc.) and compiles a file on each borrower. The lenders that contribute data can later obtain a return flow of consolidated data about a credit applicant by requesting a "credit report" from the bureau. Nowadays this two-way flow of data between lenders and the bureau is effected electronically.

It is the exchange of information between lenders that distinguishes a credit bureau from other agencies that collect and process valuable information from public sources and private investigators. Credit bureaus often do collect and process such data, but this is not their distinguishing characteristic.

Lenders who provide their private information to credit bureaus are granted access to the common database insofar as the data provided are timely and accurate. Credit bureaus are exposed to a potential conflict of interest, especially when they are owned by the lenders themselves: each

lender would like to exploit the information provided by other lenders without disclosing his own. This explains why sanctions are invariably threatened to any credit granter who fails to supply data or provides inaccurate information. Sanctions range from fines to loss of membership and hence denial of access to the bureau's files. In other words, credit bureaus are based on the principle of reciprocity, which is generally stated in the contractual agreement between the bureau and credit grantors.[3] Most credit grantors do supply their information regularly, particularly those that have accounts receivable on tape.

Around the world, arrangements of this type are found both in the household credit market and in business lending, in varying degrees and with different institutional features. These are described and documented below.

3.1. Personal Loans and Small Business Loans

Personal and small business loans are characterized by a large number of applicants whose desired loan size is not large enough to warrant individual assessment. In these markets, screening can benefit greatly from statistical analysis of applicants' characteristics and credit histories as predictors of repayment, and such analysis is feasible precisely because of the large number of standard loans. Credit bureaus, which pool data from many lenders and for several years, own the ideal database for estimating statistical models of risk management, which explains why credit bureaus have generally originated precisely in the consumer credit market. They are now increasingly active in the small business and trade credit markets as well.

[3] There are exceptions, however. At one time, American Express declined to share its information with the credit bureaus, but because it was willing to buy reports in large quantities, the bureaus kept on selling reports to that firm. This situation later changed and American Express now provides data on its own customers.

FIGURE 1. A STANDARD CREDIT REPORT ON AN INDIVIDUAL

Source: Credit Reference Association of Australia Limited

FILE NUMBER – 64610042 REF 3664-3186
HARRISON, THOMAS, RONALD, M,M, KRISTINA
SUBJECT BORN – 100850, LIC NO-2421PS
SPOUSE BORN – 250164
EMPLOYMENT – SERVICEMAN, GAZEBO WHOLESALERS PL
ADDRESS – 35, LAND, BONNYRIGG, NSW
PREVIOUS – 48, GERORGE, DANDENONG, VIC

DIRECTORSHIP DETAILS
DATE
130886 MRT – GEZEBO WHOLESALERS PL (IN LIQ.) CC-64608113

MEMBER DEFAULT REPORTS

DATE	NAME	AC	AMNT	DF	REF. NO.	DTR PAID
140388	STANDARD CHART LOSS REC NSW	L	5431	PD	LLR0040LS	MRT
040687	AGC FIVE DK NSW	L	7314	R	L1070515135	MRT
260186	ESANDA ADMIN SYD NSW	RM	6448	RL	241174159	T&K

JUDGEMENTS

DATE	NAME	AMNT	DF	PLAINT. NO.	DTR PAID
150487		9037	DJ	15648/86/METN	MRT

NOTE: Alleged debt(s) may have been paid since recorded, or are possibly disputed. check with creditors for confirmation.

CREDIT ENQUIRIES

DATE	NAME	AC	AMNT	DTR	REFERENCE NUMBER
140688	CITYCORP FIN HURTSVILLE NSW.	L	8727	T&K	
131287	AGC FIVE DOCKK NSW	L	8700	T&K	
231087	JAOHN'S MOTOR NSW	HM	7000	T&K	
111186	WESTPAC WESTERN NSW	CC	0	MRT	
221185	ITICORP FIN SYDNEY NSW	L	1717	MRT	
150685	PERMANENT FIN CORP NSW	HB	15300	MRT	
310784	AGC FIVE DOCK NSW	L	18000	MRT	
230484	ESANDA ADMIN VIC	RM	19000	MRT	

KEY TO THE INITIALS USED IN THE REPORT

AC	- ACCOUNT TYPE	L	- LEASE ACCOUNT
M	- MONTHLY ACCOUNT	HM	- HIRE PURCHASE MOTOR VEHICLE
T	- TERMS ACCOUNT	RM	- REAL ESTATE MORTGAGE
HB	- HIRE PURCHASE BOAT	CC	- CREDIT CARD
AMNT	- AMOUNT OWING OR APPLIED FOR	DF	- REASON FOR REPORTING
PD	- REGULAR PAYMENT DEFAULT	R	- REPOSSESSION
RL	- REPOSSESION LOSS	DJ	- DISTRICT COURT JUDGEMENT
LA	- LEGAL ACTION	DTR	- WHO IS THE DEBTOR
MRT	- DEBTOR IS MR. T. HARRISON	T&K	- DEBTOR IS THOMAS AND KRISTINA

FIGURE 2. A STANDARD CREDIT REPORT ON A COMPANY

Source: Credit Reference Association of Australia Limited

FILE NUMBER – 6261150
BRANDY WHOLESALERS P/L
REG OFFICE –3, SMITH, PENRITH,NSW

INCORPORATION DETAILS

DATE INCORP	REGISTRATION NUMBER	STATE REGISTERED
180285	234322-78	NSW

CORPORATE AFFAIRS SEARCH

DATE	DATE LAS RETURN	SHARED ISSUE	PAID CAPITAL
130688	101286	1,000,000	$840,000

DIRECTORSHIP DETAILS

DATE		FILE NUMBER
100688	THOMAS GARDNER	CN-26579545
100688	SAMUEL HARVEY	CN-88502222

NOTE: Directohip details were obtained from corporate affairs comm. records

MAJOR SHAREHOLDERS

DATE	NAME	SHARES HELD
100688	CAROLINE NOMINEES P/L	385,000
100688	THOMAS GARDNER AN ASOCIATES P/L	422,000
100688	SAMUEL HARVEY	28,000

SECRETARY

DATE	NAME
100688	JOHN CAMPBELL

MEMBER DEFAULT REPORTS

DATE	NAME	AC	AMNT	DF	REFERENCE NO.	PAID
020787	AGC COMMERCIAL LEASE	L	6000	LA	45903	1186P

NOTE: Alleged debt(s) may have been paid since recorded, or are possibly disputed. check with creditors for confirmation.

SECURITIES

DATE	CREDITORS	TYPE	AMT	SECURITY	REFERENCE
100188	STATE BANK OF NSW	RM	387900	LAND PENRITH	323425362

CREDIT ENQUIRIES

DATE	NAME	AC	AMNT
130488	CORPORATE LEASING SERV NSW	L	185000
180787	J.B.C. IMPORT AGENCY VIC	M	20000

KEY TO THE INITIALS USED IN THE REPORT

AC	- ACCOUNT TYPE	L	- LEASE ACCOUNT
M	- MONTHLY ACCOUNT	DF	- REASON FOR REPORTING
RM	- REAL ESTATE MORTGAGE	LA	- LEGAL ACTION
AMNT	- AMOUNT OWING OR APPLIED FOR		

A credit bureau can issue several kinds of credit report, depending on the information gathered, the type of credit application (consumer credit, house mortgage, small business loan, etc.) and, most importantly, the amount of detail requested by the lender. Reports range from simple statements of past defaults or arrears – "black" or "negative" data – to detailed reports on the applicant's assets and liabilities, guarantees, debt maturity structure, pattern of repayments, employment and family history – "white" or "positive" data. Naturally the price of a credit report depends on the amount of detail. Prices for basic credit reports are currently quite low, averaging about 1 dollar in the United States and the United Kingdom, 2 dollars in Italy, and more than 3 dollars for local credit bureaus in Argentina.

Figures 1 and 2 give examples of the most basic type of credit report, reproduced from a publication of the largest credit bureau in Australia, which only collects and reports negative information. Figure 1 shows an individual credit file for a person with several credit problems: three members of the bureau reported default, there was a debt judgment, and he appears as director of a failed company. The bottom part of the report shows previous queries to the bureau by various lenders. Figure 2 refers to a small company. It shows the main shareholders and directors, with cross references to the individual files that the bureaus has recorded in their names. The company has been reported as insolvent by a bureau member and has pledged a security over its assets to a bank.

The more sophisticated credit bureaus also use statistical models to produce and sell "credit scoring" services, by which they rate borrowers according to characteristics and credit history. Such scores were initially developed by credit grantors mainly for deciding on applications. Where positive information is also available, the models are now intensively also used to promote financial instruments, price loans, and set and manage credit limits.

To gather more information about their operations around the world, we sent a questionnaire (reported in the Appendix) to credit bureaus in 49 countries.[4]

[4] The list of countries is given in Tables 1 and 2 and is the same as in La Porta et al. (1997). This choice is dictated by the need to merge our data on information sharing with data on other institutional determinants of lending and default.

TABLE 1. PRIVATE CREDIT BUREAUS AROUND THE WORLD

Figures are based on a questionnaire sent to the main credit bureaus in each country, whose names are not reported for reasons of confidentiality. When two or more credit bureaus responded for the same country, the information was merged as follows. The starting date refers to the oldest credit bureau in the country. The type of information shared refers to the 1990s and is defined as "black" (B) if it refers to defaults and arrears, and "white" (W) if it also includes other information, such as debt exposure. Credit reports are the number of credit reports issued by all the credit bureaus in the country (if available); otherwise, by the credit bureaus responding in that country.

Country	Starting Date	Type of Information Shared	Credit Reports: Level / Percent of Population (year)
Argentina	1950	B-W	1.2 / 3.4 (1997)
Australia	1930	B	5.8 / 34.0 (1990)
Austria	1860	B-W	N/A.
Belgium	1987	B	10.6 / 104.8 (1998)
Brazil	1996	B	200.0 / 128.3 (1997)
Canada	1919	B-W	24.0 / 82.7 (1998)
Chile	1990	B-W	7.0 / 49.3 (1997)
Denmark	1971	B	2.6 / 50.3 (1996)
Finland	1900	B	3.5 / 70.2 (1990)
France	none		
Germany	1927	B-W	48.0 / 59.1 (1996)
Greece	none		
Egypt	none		
Hong Kong	1982	B	N/A.
India	N/A.	N/A.	N/A.
Ireland	1963	B-W	0.8 / 22.5 (1996)
Israel	none		
Italy	1990	B-W	2.6 / 4.6 (1996)
Japan	1965	B-W	149 / 121.5 (1990)
Jordan	none		
Kenya	none		
Mexico	1997	N.A.	N.A.
Netherlands	1965	B-W	9.8 / 64.1 (1996)
New Zealand	N/A.	B	N/A.

Country	Starting Date	Type of Information Shared	Credit Reports: Level / Percent of Population (year)
Nigeria	none		
Norway	1987	B	0.5 / 12 (1990)
Pakistan	none		
Peru	1995	B-W	N/A.
Philippines	1982	B	N/A.
Portugal	N/A.	B-W	N/A.
Singapore	1978	B	N/A.
South Africa	1901	B-W	N/A.
South Korea	1985	B-W	N/A.
Spain	1994	B	N/A.
Sri Lanka	none		
Sweden	1890	B-W	2.2 / 26.0 (1990)
Switzerland	1968	B-W	1.7 / 24.1 (1997)
Taiwan	1975	B-W	N/A.
Thailand	none		
Turkey	none		
United Kingdom	1960	B-W	60.0 / 104.8 (1989)
Uruguay	1950	B	N/A.
United States	1890	B-W	600.0 / 228.1 (1997)
Venezuela	N/A.	N/A.	N/A.
Zimbabwe	none		

We have received responses from credit bureaus in 39 countries; for 4 more, we obtained data from other sources (Internet sites, published information, etc.).[5] The data obtained are reported in Table 1, which displays, by country, the year in which credit bureaus were first established, the type of information exchanged (black or white) and the number of credit reports issued by credit bureaus.

The table shows that in some countries lenders exchange a massive amount of negative and positive information in the consumer credit market: Canada, the United States, the United Kingdom, Japan, Germany, South Africa, Sweden and Switzerland have the highest number of credit reports

[5] Detailed information on European countries is reported in a background paper (Jappelli and Pagano, 1999).

per person, and lenders have exchanged information for decades at least and in many cases the better part of a century. Credit bureaus have also operated for several decades in Argentina, Brazil, Finland, the Netherlands, and Australia but on a smaller scale. In Italy credit bureaus are a relatively new phenomenon, but have taken on growing importance in recent years. In some Latin American and Asian countries, credit bureaus are in their infancy, either non-existent or operating on a small scale and exchanging mainly black information.

Our questionnaires also elicit qualitative information on the structure and evolution of the credit bureau industry, that is not reported in the table. In most countries there is a strong concentration. A few countries have just one large credit bureau (Australia, Germany, Argentina, Brazil, Finland, and Ireland). In the U.S., U.K., and Japan competition is limited to two or three large vendors. This process of concentration is relatively recent. Where the industry has the longest history (e.g., in the U.S.), it began with local credit bureaus, progressively merging into larger entities. This reflects economies of scale (the larger the credit bureau, the more complete and accurate its information), as well as recent advances in information technology and the elimination of barriers between local credit markets. In the early 1990s concentration began to extend beyond national boundaries: the top three U.S. bureaus (Equifax, Experian and Trans Union) acquired national credit bureaus throughout in Latin America and in parts of Europe and Asia.The questionnaires also gather information on ownership structure. In the U.S., Brazil and Argentina the major credit bureaus are for-profit operations owned by private entrepreneurs, although there are also several local non-profit bureaus owned by chambers of commerce or merchants' associations. In Japan and in most of Europe, credit bureaus are typically incorporated as private companies owned by a consortium of lenders. In Finland and Belgium, they are operated or licensed by government agencies. With the process of cross-border acquisitions of local credit bureaus, especially by the large U.S. vendors, the industry is becoming increasingly profit-oriented.

The international differences in the presence and activity of credit bureaus have several complementary explanations. Pagano and Jappelli (1993) document that the number of credit reports per capita are largest where household mobility is highest. This accords with the idea that the benefit of establishing a credit bureau is greatest where each bank is confronted by a large number of unknown customers, which is the case in countries where borrowers are very mobile.

Fear of competition may also inhibit information sharing. When lenders agree to supply data to a credit bureau they lose the monopoly power attached to exclusive customer information, unless they are well protected by other barriers to entry. So lenders' incentives to pool information are greater when local credit markets are segmented by regulation, as in the United States, than when banks are free to compete nationwide, as in most European countries.

A further element that has historically affected the development of credit bureaus is the degree of privacy protection accorded prospective borrowers. The activities of credit bureaus are regulated almost everywhere so as to prevent violation of privacy and civil liberties. Privacy laws contemplate a wide range of consumer guarantees, such as limits on access to files by potential users, bans on white information (e.g., in Finland and Australia), compulsory elimination of individual files after a set time (7 years in the United States, 5 in Australia), bans on gathering certain kinds of information (race, religion, political views, etc.) and right to access, check and correct one's own file.[6]

A final element bearing on the development of credit bureaus is the degree of protection of creditor rights. Where the legal and judicial systems give poor protection to creditors, debtors may be tempted to default on their obligations even when they have the means to repay. As we argue in Section 2, credit bureaus can attenuate moral hazard in credit relations, by creating a private disciplinary system in place of defective public sanctions.

[6] As far as access limits are concerned, there appear to be three levels of privacy protection. The replies to our questionnaire indicate that there are low-protection countries, such as Argentina, where anyone can access all debtors' data regardless of the purpose of investigation. In such medium-protection countries as the United States, data can be accessed only for an "admissible purpose", essentially the granting of credit. A higher level of privacy protection may be embodied in the further requirement of the borrower's explicit consent to access his file. This principle is enshrined in the legislation of several European countries and in the Directive 95/46 of the European Parliament on "the protection of individuals with regard to the processing of personal data and on the free movement of such data". In some countries (such as France, Israel and Thailand) safeguards for consumer privacy are so strong that regulation has impeded the emergence of private credit bureaus.

3.2. Corporate Loans

The information needed to assess the creditworthiness of companies is by its very nature more complex and less standardized than for households. Therefore in the case of business loans credit bureaus generally take a more active role in the production of information, collating credit market data received from lenders and suppliers together with balance sheet data and information from the company itself and from public sources about shareholders and managers. The positive component of a credit report for a company is typically much larger than for an individual, and the nature of the credit bureaus in this market segment is different. Rather than provide standard credit reports and statistical risk management, here credit bureau become rating agencies, gathering and processing information from a variety of sources, including lenders and suppliers.

This very active role in the production, processing, and marketing of information may explain why the credit agencies that treat corporate loans are typically profit-oriented businesses, not lenders' cooperative arrangements. The largest of these agencies worldwide is Dun & Bradstreet (D&B). Formed in 1933 through the merger of two credit reporting agencies (R. G. Dun & Co., formed in 1841, and the Bradstreet Company), today D&B maintains a global database that covers 48 million businesses, 10 million of them in the United States. It provides a wide range of services, from the assessment of credit risk and suppliers' reliability to the management of credit and accounts receivables. A standard D&B business information report (available online via the Internet) contains payment history, financial condition, business history, management experience, details on lines of business, parent company and subsidiaries, public records, etc.

4. Public Credit Registers

All countries have public registers for real estate collateral (mortgages) to protect the seniority rights of collateralized creditors, and bankruptcy information is publicly disseminated to alert present creditors and potential

new lenders.[7] These can be considered as basic forms of publicly enforced information sharing. But in several countries government authorities have taken a much more active role in fostering the exchange of information between lenders, creating formal public credit registers (PCRs), which operate in many respects like credit bureaus.

The PCRs are managed by central banks (except in Chile, Costarica and Peru, where they are operated by the banking supervisory authorities, and in Finland, where it is contracted out to a private company). Access to the PCR is granted only to authorized central bank staff (mainly for surveillance reasons and under tight confidentiality rules) and to the reporting financial institutions.[8] This creates a two-way flow of data between credit grantors and the PCR, much as in the case of private credit bureaus.

TABLE 2. PUBLIC CREDIT REGISTERS AROUND THE WORLD

Figures are based on a questionnaire sent to central banks. The data reported to the register are defaulted loans (D), arrears (A), total loan exposure (L), interest rates (R), and guarantees (G). The exchange rates used to convert the minimum reporting threshold into dollars are those of September 1, 1998.

Country	Starting Date	Number of Subjects Covered	Credit Reports Issued	Minimum Reporting Threshold (US$)	Data Reported by Participating Institutions
Argentina	1991	4,000,000	N/A.	50	D, A, L, G
Australia	none				
Austria	1986	55,585 (1997)	10,267 (1997)	430,700	L, G
Belgium	1985	360,000 households (1997), 400,000 firms (1990)	3,550,000 households (1997)	223 for households, 27,950 for firms	D, A (consumer and mortgage credit only)

[7] In some countries, public registers also exist for unpaid IOUs and tax liens.

[8] In Argentina and Finland not only financial institutions but also the general public can access the PCR. In Chile the data are also made available to a private credit bureau. In Israel and Greece a database on large loans is collected for supervisory reasons only by the central bank, but this information is not made available externally.

Country	Starting Date	Number of Subjects Covered	Credit Reports Issued	Minimum Reporting Threshold (US$)	Data Reported by Participating Institutions
Bolivia	1989	N/A.	1,300,000	0	D, A, L, R, G, repayments
Brazil	1997	N/A.	4,000,000 households 6,000,000 firms	0	D, A, L
Canada	none				
Chile	1975	2,200,000 households 600,000 firms (1998)	Information transferred to a private credit bureau	0	D, A, L, G, risk class, sector, type of debt, etc.
Colombia	1994	N/A.	N/A.	N/A.	N/A.
Denmark	none				
Finland	none				
France	1989 for households, 1984 for firms	370,000 (1990)	5,400,000 (1990)	118,293 (1990)	D, A for households, L, G, undrawn credit facilities for firms
Germany	1934	1,200,000	1,800,000	1,699,800	L, G
Greece	none				
Egypt	none				
Hong Kong	none				
India	none				
Ireland	none				
Israel	1975	15,000	N/A.	169,500	D,L
Italy	1964	2,200,000 (1994), 6,536,914 (1998)	1,400,000 (1994)	0 for bad loans 86,010 for other loans	D, A, L, G
Japan	none				
Jordan	1966	N/A.	14,300	42,065	A, L
Kenya	none				
Malaysia					
Mexico	1964	260,000 (1997)	129,870 (1997)	20,111	D, A, L, economic activity of debtor, type of credit
Netherlands	none				
New Zealand	none				
Nigeria	none				
Norway	none				
Peru	1968	1,920,000 (1998)	N/A.	0	D, A, L, G
Philippines	none				
Portugal	1977	2,469,120 (1998)	N/A.	286,860	D, A, L, G, undrawn credit facilities

Country	Starting Date	Number of Subjects Covered	Credit Reports Issued	Minimum Reporting Threshold (US$)	Data Reported by Participating Institutions
Singapore	none				
South Africa	none				
South Korea	none				
Spain	1983	4,600,000 (1991)	758,000 (1997)	6,720 for residents, 336,000 for non-residents	D, A, L, G, regional, sectoral and currency risk
Sri Lanka	1990	N/A.	102,175 (1997)	1,493 for bad loans, 7,465 for other loans	D, A, G
Sweden	none				
Switzerland	none				
Taiwan	none				
Thailand	none				
Turkey	none				
United Kingdom	none				
Uruguay	1984	N/A.	8,000 (1997)	N/A.	D, A, L
United States	none				
Venezuela	1980s	N/A.	N/A.	0	D, A, L
Zimbabwe	none				

The key difference from credit bureaus is that participation in the PCR is compulsory, and its rules are not contracted, but imposed by regulation (except in Finland and Sri Lanka, where participation is voluntary). This implies a second important difference, namely that PCRs have universal coverage (all loans above a threshold amount must be reported at specified intervals), but the information consists mainly of credit data and is disseminated in consolidated form (total loan exposure of each borrower, no details on individual loans). Credit bureaus are less complete in coverage but offer details on individual loans and merge credit data with other data.

Table 2 sets forth the main characteristics of PCRs around the world, based on a questionnaire submitted to 49 central banks, of which 46 have responded (for the questionnaire, see the Appendix); 19 operate a PCR and 27 do not. PCRs are common in continental Europe and Latin America, absent in Anglo-Saxon countries. Most have been created in the last two

decades, except for Germany (1934), Italy (1964) and Mexico (1964). The newcomers are mostly located in Latin America.[9]

The table also shows that the data reported vary considerably across countries. For instance, in Argentina lenders are required to report data on defaults, arrears, loan exposure, interest rates and guarantees. In Germany, only loan exposure and guarantees are reported; in Belgium, only defaults and arrears.

PCRs invariably specify a reporting threshold, but this varies considerably. In most of Europe, PCRs effectively collect information only on relatively large loans to businesses, but in Belgium and France they also cover consumer loans. The threshold is highest in Germany and lowest in Belgium. Clearly, the higher the threshold set by regulators, the fewer the borrowers covered and the credit reports issued, as we see in Table 2. The threshold also demarcates the segment in which private credit bureaus operate without competition from the PCR: above the threshold, credit bureaus have to take into account that lenders can also turn to the public register's reports.

A major emerging problem for PCRs is posed by the growing integration of national credit markets, particularly within the European Union. As of 1998, PCRs are strongly if not exclusively oriented to their respective domestic markets. For instance, Italian banks are required to report to the Italian PCR loans made by their foreign branches. But these loans are not reported to the host-country PCRs. Similarly, Italian companies can borrow abroad without being reported to the Italian PCR. The integration of capital markets thus implies that PCRs are losing the capacity to provide full, accurate and reliable information on the overall credit situation.

Efforts made by the EC commission to set up an international credit reporting system have not met with success so far owing to the differences between systems which are already in place in the individual countries and the fact that countries without a central credit register are unwilling to set up a credit reporting system at the national level. However, European PCRs are planning to establish cooperative agreements to provide lenders with cross-border information. As the legal requirements for this exchange of information have not been met by all EU countries, and since technical and

[9] Hong Kong is currently setting up a PCR.

organizational problems have not been solved, it is not possible to say when this cooperation will become effective. In the longer run, it is well possible that the PCRs will be gradually displaced by the growth of private, multinational credit bureaus. Since only eight EU countries have PCRs and even they find it difficult to agree on a common set of rules, the second outcome seems more likely.[10]

5. The Effect of Information Sharing on Bank Lending

The data described in Sections 3 and 4 can be used to relate bank lending to measures of the activity of credit bureaus and public credit registers, such as their presence, the quality of information collected, and the number of years they have been in operation. This exercise poses several data problems. First, missing values and non-responses limit the number of countries for which we have data on information sharing. Second, data on default rates are hard to collect and compare internationally. Third, one must control for other legal and institutional determinants of lending and defaults, and these variables are only available for a few countries.

There is also a causality issue. Theoretical models show that information sharing may increase lending and reduce defaults. The same models, however, also suggest that where credit is more abundant lenders have a stronger incentive to set up a credit bureau. In our empirical analysis, we attempt to overcome the econometric problems posed by the endogeneity of information sharing by relating credit market performance to lagged measures of the quality and intensity of information sharing.

The first row of Table 3 reports the ratio between bank lending to the private sector and GDP in a sample of 40 countries. Data refer to 1994-95. The countries are divided into three groups, depending on whether prior to 1994 (i) no private credit bureau existed, (ii) only black information was exchanged, or (iii) both black and white information was shared. Bank lending is about twice as large in countries where information is shared, irrespective of the type of information exchanged. However, the correlation may be spurious: information sharing is found in countries with higher GDP

[10] In fact, it may be already occurring: in October 1998, the main Italian credit bureau (CRIF) announced a link-up with other European credit bureaus.

per capita, better law enforcement and poorer safeguards for creditor rights, variables that may well themselves be correlated with bank lending. To control for their effect on bank lending, we turn to regression analysis.

TABLE 3
INFORMATION SHARING AND CREDIT MARKET PERFORMANCE: DESCRIPTIVE STATISTICS

Countries are divided according to the type of information exchanged via private credit bureaus or public credit registers, based on Tables 1 and 2. Black Information Only is 1 if prior to 1994 private credit bureaus and/or PCRs exchange black information, and 0 otherwise. Black and White Information is 1 if prior to 1994 credit bureaus or PCRs exchange black and white information. The Bank Lending - GDP ratio is the ratio of bank claims on the private sector to GDP in 1994-95. Loan Loss Provisions is the 1994-95 average of the median ratio of non-performing loans to total loans in each country and is based on the BankScope data set produced by IBCA. The Appendix reports the data for loan loss provisions and the number of banks used to construct country medians. The Credit Risk Indicator is based on the International Country Risk Guide Financial Indicator (ICRGF), and ranges from 0 to 50 (maximum risk). The total number of observations for Loan Loss Provisions and Credit Risk is 34 and 35, respectively. See the Appendix for sources and definition of other variables. Country included are: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Kenya, Mexico, Netherlands, New Zealand, Nigeria, Norway, Peru, Philippines, Portugal, Singapore, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Turkey, United Kingdom, Uruguay, United States, Zimbabwe.

Variable	Total Sample	No Information Sharing	Black Information Only	Black and White Information
Bank Lending / GDP (%)	60.53	31.10	67.57	66.42
Loan Loss Provisions / Total Loans (%)	0.88	1.31	0.86	0.81
Credit Risk	7.77	15.20	5.11	7.14
Log GDP	7.19	5.96	6.77	7.79
GDP Growth Rate (%)	3.45	4.53	2.87	3.38
Rule of Law	7.24	4.80	8.14	7.59
Creditor Rights	2.15	3.14	2.20	1.83
French Origin	0.40	0.43	0.20	0.48
German Origin	0.12	0.00	0.00	0.22
Scandinavian Origin	0.10	0.00	0.30	0.04
English Origin	0.37	0.57	0.50	0.26
Number of observations	40	7	10	23

To explain international differences in bank lending, we regress the ratio of bank lending to GDP on the log of output in 1994-95, the growth rate of output in 1970-93, and indicators of rule of law, creditor rights and legal origin of the commercial code of each country (see the appendix for sources and definitions). We use a baseline specification similar to that used by La Porta et al. (1997) and by Levine (1998), who find that the breadth of the credit market is positively correlated with good law enforcement and protection of creditor rights. They also find that the historical origins of national legal systems are associated with significant differences in lending activity: French (civil law) and Scandinavian systems are associated with a lower ratio of private debt to GNP than English (common law) and German systems. La Porta et al. (1997) measure the size of the credit market by the sum of bank debt of the private sector and outstanding non-financial bonds divided by GNP, while Levine (1998) uses bank lending from 1976 to 1993. We also focus on bank lending only, because credit bureaus and PCRs can be expected to affect primarily banks' policies. Information on bond issuers is instead produced by credit rating agencies and generally publicly available.

Column 1 of Table 4 presents the estimates of the baseline specification for the 40 countries for which we have complete records. The estimates confirm previous findings that rule of law and creditor rights are important determinants of bank lending. In the specification of column 2 we add two variables intended to proxy for the quality of information sharing. The first variable equals 1 if either private credit bureaus, PCRs or both exchange only black information, and 0 otherwise. The second equals 1 if either private credit bureaus, PCRs or both exchange black as well as white information. As discussed in Section 2, black information alone may have a disciplinary effect on borrowers, but the availability of both black and white information enhances the banks' screening ability.

Both coefficients are positive and that of black and white information is statistically different from zero at the 2 percent level. The point estimates indicate that information sharing increases bank lending by more than 20 percent of GDP. In column 3 we add the legal origin dummies to the list of regressors. Due to the correlation between creditor rights and legal origin and to the fewer degrees of freedom, the coefficients of the creditor rights variable and the information sharing dummies are now less precisely estimated. We further check our results by using an estimator which is

robust to the presence of influential values, and report the results in columns 4 and 5. The two dummies for information sharing are both statistically different from zero at the 1 percent significance level.

TABLE 4. EFFECT OF INFORMATION SHARING ON BANK LENDING / GDP

Bank Lending to GDP is the ratio of bank claims on the private sector to GDP in 1994-95. Black Information Only is 1 if prior to 1994 private credit bureaus and/or PCRs exchange black information, and 0 otherwise. Black and White Information is 1 if prior to 1994 credit bureaus or PCRs exchange black and white information. See the Appendix for sources and definition of other variables. White-corrected standard errors are used in the OLS estimates. Robust regressions first calculate Huber weights based on absolute residuals and then regresses again until convergence using those weights. T-statistics are reported in parentheses. The list of countries is reported in the note to Table 3.

Variable	**Ordinary Least Squares**			**Robust Regressions**	
	(1)	(2)	(3)	(4)	(5)
GDP Growth Rate	2.61	2.93	2.17	-1.75	-1.19
	(0.85)	(0.89)	(0.62)	(-1.07)	(-0.68)
Log GDP	5.30	4.96	2.23	6.77	5.34
	(1.73)	(1.51)	(0.61)	(2.80)	(2.00)
Rule of Law	7.47	6.25	7.72	4.18	4.87
	(3.14)	(2.46)	(3.64)	(2.83)	(2.89)
Creditor Rights	6.58	8.32	5.27	11.64	9.96
	(2.12)	(2.76)	(1.07)	(4.68)	(3.23)
French Origin			-7.01		2.46
			(-0.65)		(0.31)
German Origin			26.67		14.66
			(1.24)		(1.42)
Scandinavian Origin			-44.46		-29.22
			(-3.18)		(-2.59)
Black Information Only		24.77	29.38	34.14	36.46
		(1.52)	(1.82)	(3.62)	(3.50)
Black and White Information		23.18	15.65	31.38	27.23
		(2.38)	(1.43)	(3.68)	(2.92)
Constant	-54.86	-67.93	-42.65	-67.58	-60.64
	(-2.71)	(-3.03)	(-1.22)	(-4.29)	(-2.96)
Adjusted R square	0.46	0.50	0.67	-.-	-.-
Number of observations	40	40	40	40	40

We also experimented with a variable counting the number of years from the establishment of the earliest bureau of which we have knowledge. This variable is based on the assumption that time in existence may correlate

with the size of the industry's data bases and the reliability of its storage and processing techniques. The coefficient of this variable is not significantly different from zero (regressions are not reported for brevity).

In principle, private credit bureaus may impact credit markets differently compared to public credit registers. As explained in Section 4, PCRs have universal coverage but provide more aggregated data compared to credit bureaus and collect data only for loans above a statutory threshold. We test for this differential impact by adding separate dummies for information exchanged by credit bureaus. The coefficients of these variables (not reported for brevity) are not significantly different from zero. This suggests that private and public information sharing arrangements are substitutes, an issue that will be further investigated in Section 7.

6. The Effect of Information Sharing on Default Rates

Testing the theoretical prediction that information sharing will lower default rates is complicated by the unavailability of internationally comparable data on defaults. Lacking direct observability, we resort to two proxies for default rates: loan loss provisions and an index of credit risk. Loan loss provisions is measured as the median ratio of loan loss provisions to total loans in each country, averaged over 1994 and 1995. It is constructed on the basis of the individual banks' balance sheets of the IBCA BankScope data set. Credit risk is a composite, equal-weighted indicator of five types of financial risk based on the International Country Risk Guide (ICRG) survey of leading international bankers. They are asked to rate the risk of loan default or restructuring, delayed payment of suppliers' credits, repudiation of contracts by governments, losses from exchange controls, and expropriation of private investments. The variable we use ranges from 0 to 50 (maximum risk). (See the Appendix for details and sources of both indicators.)

Both proxies for default rates have their own shortcomings. Measuring ex-post default rates by the proportion of loan loss provisions may be distorted by differences between national accounting procedures, prudential banking regulations, and even more by their highly discretionary nature: to a large extent, banks can decide how much to allocate to provisions in

anticipation of future losses.[11] The survey-based assessment of credit risk, on the other hand, is only imperfectly related to the likelihood of default on bank loans, because it also reflects other risks (such as repudiation of contracts by governments).

The descriptive evidence in the second and third rows of Table 3 reveals that countries where information is shared have lower than average loan loss provisions and credit risk. In Tables 5 and 6 we investigate if the descriptive evidence is confirmed by regression analysis.

In Table 5 the dependent variable is the ratio of loan loss provisions to total lending and the specification is the same as in Table 3. The regressions are estimated by ordinary least squares, weighted least squares and robust methods. The coefficients of the dummies for information sharing are both negative but estimated with large standard errors. The only significant predictor of loan loss provisions are the legal origin dummies. They show that French and especially Scandinavian origin countries have higher loan loss provisions, a possible reflection of the dramatic Scandinavian crisis of the early 1990s. The number of banks used to construct the country medians varies substantially in the IBCA sample. We thus repeat the estimation weighting observations by the number of banks used to compute the medians. The results reported in columns 3 are similar, and so are the coefficients of the robust regression in column 4.

In Table 6 the dependent variable is credit risk. This indicator is more promising as a proxy for defaults as it is based on ex-ante attitudes of potential lenders. The OLS estimates in columns 1 and 2 indicate that slow GDP growth rate and poor rule of law predict higher credit risk. The coefficients of the information sharing dummies are large and negative, and significantly different from zero at the 10 percent level or better. The presence of information sharing in these regressions reduces credit risk by 3 or 4 points, between one third and one half of the sample average of credit risk (7.77 from Table 3). However, the size and precision of the coefficient estimates are attenuated in the robust regressions of columns 3 and 4.

[11] A more appropriate measure of default rates is the frequency of non-performing loans in each country. Unfortunately, this variable is available only for a very limited number of countries in the IBCA data set. This reduces the sample size to 18 observations, only 1 of which refers to a country without any form of information sharing. This prevents any reliable inference.

TABLE 5. EFFECT OF INFORMATION SHARING ON LOAN LOSS PROVISIONS / TOTAL LOANS

Loan Loss Provisions is the 1994-95 average of the median ratio of non-performing loans to total loans in each country and is based on the BankScope data set produced by IBCA. The Appendix reports the data for loan loss provisions and the number of banks used to construct country medians. Black Information Only is 1 if prior to 1994 private credit bureaus and/or PCRs exchange only black information, and 0 otherwise. Black and White Information is 1 if prior to 1994 credit bureaus or PCRs exchange black and white information. See the Appendix for sources and definition of other variables. The regression in column 2 is weighted by the number of banks used to compute medians of the ratio of loan loss provisions to total loans in each country. T-statistics are reported in parentheses. Countries included are the same as in the note to Table 3 except: Ireland, Kenya, New Zealand, Nigeria, Singapore, Zimbabwe.

Variable	**Ordinary Least Squares**		**Weighted Least Squares**	**Robust Regression**
	(1)	(2)	(3)	(4)
GDP Growth Rate	-0.01	0.04	-0.13	0.05
	(-0.20)	(0.66)	(-1.33)	(0.78)
Log GDP	-0.09	0.02	0.013	0.00
	(-1.03)	(0.23)	(0.16)	(0.00)
Rule of Law	-0.02	-0.09	-0.15	-0.07
	(-0.25)	(-1.33)	(-1.55)	(-1.29)
Creditor Rights	-0.10	-0.03	0.02	-0.02
	(-0.85)	(-0.27)	(0.22)	(-0.23)
French Origin		0.64	0.50	0.53
		(2.81)	(3.09)	(1.95)
German Origin		0.31	0.46	0.21
		(1.22)	(2.39)	(0.69)
Scandinavian Origin		1.43	1.31	0.44
		(2.11)	(2.93)	(1.21)
Black Information Only	-0.48	-0.39	-0.71	-0.43
	(-0.92)	(-0.99)	(-1.51)	(-1.16)
Black and White Information	-0.46	-0.25	-0.39	-0.11
	(-1.10)	(-0.84)	(-1.18)	(-0.34)
Constant	10.72	1.04	2.34	0.94
	(2.47)	(1.68)	(2.05)	(1.19)
R square	0.13	0.38	0.58	-.-
Number of observations	34	34	34	34

TABLE 6. EFFECT OF INFORMATION SHARING ON CREDIT RISK

The Credit Risk Indicator is based on the International Country Risk Guide Financial Indicator (ICRGF), and ranges from 0 to 50 (maximum risk). Black Information Only is 1 if prior to 1994 private credit bureaus and/or PCRs exchange black information, and 0 otherwise. Black and White Information is 1 if prior to 1994 credit bureaus or PCRs exchange black and white information. See the Appendix for sources and definition of other variables. White-corrected standard errors are used in the OLS estimates. Robust regressions first calculate Huber weights based on absolute residuals and then regresses again until convergence using those weights. T-statistics are reported in parentheses. Countries included are the same as in the note to Table 3 except: Egypt, Israel, Kenya, Sri Lanka, Uruguay.

Variable	**Ordinary Least Squares**		**Robust Regression**	
	(1)	(2)	(3)	(4)
GDP Growth Rate (%)	-0.63	-0.56	-0.96	-0.61
	(-2.05)	(-1.97)	(-3.72)	(-2.06)
Log GDP	-0.57	-0.34	-0.21	-0.21
	(-1.21)	(-0.74)	(-0.49)	(-0.43)
Rule of Law	-1.65	-1.67	-2.13	-1.71
	(-4.31)	(-4.74)	(-8.24)	(-5.45)
Creditor Rights	-0.45	-0.09	-0.57	-0.09
	(-1.07)	(-0.17)	(-1.38)	(-0.17)
French Origin		0.90		1.04
		(0.73)		(0.70)
German Origin		-2.76		-2.46
		(-2.32)		(-1.41)
Scandinavian Origin		2.19		2.23
		(1.42)		(1.18)
Black Information Only	-4.26	-4.54	-1.30	-3.78
	(-1.91)	(-2.15)	(-0.75)	(-1.89)
Black and White Information	-2.99	-2.40	-2.42	-2.22
	(-1.76)	(-1.37)	(-1.56)	(-1.23)
Constant	30.59	27.51	32.05	26.49
	(9.67)	(8.90)	(11.61)	(7.09)
R square	0.78	0.84	-.-	-.-
Number of observations	35	35	35	35

Again, the explanatory power of the regressions is unchanged if we add separate indicators for information provided by private credit bureaus. We take this as further support for the substitutability of private and public information sharing arrangements.

Overall, the results of this section indicate that default rates are negatively correlated with information sharing indicators. The effect is economically significant, but not always precisely estimated: its statistical significance varies depending on the estimation method and on the particular proxy used for defaults. Our weakest results are for loan loss provisions, possibly due to the inadequacy of the proxy itself.

7. Substitution between Private and Public Information Sharing Arrangements

The previous two sections reveal that information sharing improves credit market performance but that private and public information sharing arrangements have no differential effects. One way to interpret this finding is that public credit registers and private credit bureaus are substitutes. If this is true, in countries where credit bureaus are already present the benefit of establishing a public credit register is negligible. Conversely, its benefit should be high where credit bureaus are absent, other things equal.

In this section we investigate whether the absence of private credit bureaus prompts regulators to establish public credit registers or to widen the scope of their operation. If PCRs are created to remedy the failure of private credit bureaus to arise, the pre-existence of a credit bureau should be negatively related to the presence of a PCR.

In testing for this relationship, one should control for the severity of moral hazard in the credit market. As discussed in Section 2, in the presence of moral hazard information sharing mechanisms increase borrowers' incentives to repay, and they can lead to a welfare gain.[12] Therefore, if credit bureaus fail to arise spontaneously (say, because of coordination problems), the case for the creation of a PCR by a regulator is particularly strong in countries in which debtors' opportunistic behavior plagues credit relations and where institutions afford a weaker protection to creditor rights. We control for these factors using the rule-of-law index and the creditor rights variable in La Porta at al. (1997).

[12] Padilla and Pagano (1999) show that, if these mechanisms are appropriately designed, borrowers' effort to perform is closer to the socially optimum level.

TABLE 7. DETERMINANTS OF THE PRESENCE OF PUBLIC CREDIT REGISTERS

Countries are divided according to the presence of public credit registers, based on Table 2. Presence of a PCR is 1 if the register is operating in 1998, 0 otherwise. Pre-existence of a Private Credit Bureau is 1 if at least one private credit bureau was in operation before the establishment of the PCR, 0 otherwise. Other data are taken from La Porta et al. (1998). See the Appendix for sources and definition of the variables. In the probit regressions the dependent variable is the presence of a PCR prior to 1998 (see Table 2). In the Tobit regression the dependent variable is the PCR minimum reporting threshold (see Table 2). The probit coefficients indicate the effect of the variable on the probability of establishment of a PCR. T-statistics are reported in parentheses. Countries included in the probit estimation are the same as in Table 3 plus Colombia, India and Taiwan. Countries included in the Tobit estimation are the same as in Table 3 plus India and Taiwan and excluding Uruguay.

Panel A. Descriptive Statistics

Variable	Total Sample	PCR Present	PCR Absent
Creditor Rights	2.14	1.59	2.50
Rule of Law	7.08	6.67	7.34
Pre-existence of a Private Credit Bureau	0.51	0.29	0.65
English Origin	0.38	0.12	0.54
French Origin	0.39	0.71	0.19
German Origin	0.14	0.11	0.15
Scandinavian Origin	0.09	0.06	0.12
Number of observations	43	17	26

Panel B. Regression results

Variable	Probit Regressions		Tobit Regressions	
	(1)	(2)	(3)	(4)
Creditor Rights	-0.16	-0.07	2,966.97	1,297.22
	(-2.37)	(-0.81)	(2.13)	(0.77)
Rule of Law	-0.01	-0.01	-213.79	10.09
	(-0.11)	(-0.09)	(-0.30)	(0.01)
Pre-existence of a Private Credit Bureau	-0.39	-0.41	9,670.32	10,025.44
	(-2.24)	(-2.04)	(2.49)	(2.31)
French Origin		0.49		-9,382.13
		(3.35)		(-1.78)
German Origin		0.566		-11,689.14
		(1.77)		(-1.79)
Scandinavian Origin		0.476		-4,923.32
		(1.16)		(-0.65)
Number of observations	43	43	41	41

The correlations between these variables are displayed in Table 7. The conditional averages in Panel A show that a private credit bureau already existed in only 30 percent of the countries where there is a PCR, against 65 percent where there is none. Also, PCRs tend to be formed in countries where creditor rights are less protected (1.59 versus 2.50) and there is less respect for the law (the rule of law variable is 6.67 against 7.34). They are also more likely to be found in countries whose legal system derives from the French civil code tradition (the French-origin dummy is 0.71 against 0.19).

To test the statistical significance of these relations, we estimate Probit regressions where the presence of a PCR is the dependent variable. The results, displayed in columns 1 and 2 of Panel B, show that the probability of the presence of a PCR is significantly and negatively related to the pre-existence of a credit bureau. The coefficient indicates that pre-existence of a private credit bureau raises the probability of establishing a PCR by 40 percent. If the legal origin dummies are not introduced in the Probit regression, the creditor-rights variable also appears with a negative and significant coefficient. When the origin dummies are added as explanatory variables in column 2, the coefficient of creditor rights is still negative but not precisely estimated, whereas the French-origin dummy takes a large, positive and statistically significant coefficient. The reason is that creditor rights has a strong negative correlation with French origin; that is, the countries whose legal system is rooted in the French civil code are also those that afford the weakest legal protection to creditors. Finally, the coefficient of the rule-of-law variable is close to zero.

As we saw in Section 4, a key parameter in the design of a PCR is the threshold above which data on loans must be reported by credit institutions. The higher the threshold, the more accurate and comprehensive the account of past credit history that the PCR can provide to lenders. Therefore the threshold effectively measures the boundaries of the PCR operation.

In columns 3 and 4 we report estimates of Tobit regressions where the threshold - measured in thousands of US dollars - is related to the same set of regressors as in Probit regressions. The reason for using Tobit rather than OLS estimation is that the threshold is not defined in countries where there is no PCR. For these countries, we set the threshold at an arbitrarily large positive number. As a result, the distribution of the dependent variable features upper truncation. The pattern of results is similar to that of the Probit regressions, once one takes into account that in this case the signs are predicted to be opposite. In particular, the pre-existence of a private credit

bureau raises the threshold by about ten million U.S. dollars. Since obviously no existing PCR has such enormous threshold, the interpretation of this number is that pre-existence of a credit bureau effectively discourages the creation of a PCR.

In summary, the historical experience is consistent with the hypothesis that the establishment of PCRs has been largely motivated by the "substitution" role. First, they have often been created to make up for the lack of private credit bureaus. Where the market alone has not produced information sharing, governments have felt they had to take the initiative. Second, PCRs have been introduced to compensate, at least partly, for the weak protection that the state offered to creditors' interests, and thus to remedy heightened moral hazard in lending.

8. Conclusions

In many countries lenders communicate data concerning their customers' creditworthiness to one another or can access databases that help them assess credit applicants. However, the type, quality, and quantity of data available, and information-sharing mechanism, vary greatly. Often lenders agree to exchange of information spontaneously, via information brokers such as credit bureaus. In other cases they are obliged to do so by the authorities via public credit registers. The empirical literature has not contributed much to our knowledge of this phenomenon and of its relevance to credit market performance. The predictions of the theory offer some guidance as to the impact of information sharing on default rates and lending activity. However, its predictions are partly ambiguous, and therefore the verdict about the actual impact of information sharing on credit market performance rests with the data.

Here, we systematically document private and public information-sharing arrangements around the world and analyze their effects on the credit market as well as the reasons for their emergence. The empirical analysis builds upon a new, specially designed data set mainly collected via questionnaires. We find that the breadth of credit markets is associated with information sharing. Total bank lending to the private sector scaled by GNP is larger in countries where information sharing is more solidly established and intense. This relation persists even when one controls for other economic and institutional variables, such as country size and growth rate,

and variables capturing respect for law and the protection of creditor rights. We also find evidence, in accordance with the theory, that defaults are mitigated by public and private information sharing. This evidence is somewhat weaker, however, perhaps owing to the poor quality of our proxies for defaults.

Our data also show that the impact of private arrangements to share credit information is similar to that of public credit registers. In fact, where private credit registers already existed, PCRs are less likely to be established. Conversely, governments are likely to step in with forced information sharing in countries where private information-sharing arrangements have not arisen. They are also more likely to do so where creditor rights are poorly protected.

We regard this paper as a first step in the empirical analysis of the effects of information sharing on credit markets. The pervasiveness and intensity of this information exchange warrants much more thorough inquiry into its effects on the lending policies of banks and the conduct of borrowers. There is still no microeconomic evidence on this issue. We also lack accounts of the impact of these arrangements in developing countries, where in many cases they are just being established. It is ironic that private credit bureaus and public credit registers know so much about us while we still know so little about them.

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Appendix

A1. Definition of variables used in Tables 3 to 7

Bank Lending	*Claims of banks on private sector, 1994-95 average. Source:* International Financial Statistics *(line 32d).*
Credit Risk	The Credit Risk is based on the International Country Risk Guide Financial Indicator (ICRGF). The indicator is constructed on the basis of a survey of leading international bankers, who are asked to rate each country on a scale of 0 to 10 each of the following 5 risks: default or unfavorable loan restructuring, delayed payment of suppliers' credits, repudiation of contracts by governments, losses from exchange controls, expropriation of private investments. The original index scales from 0 to 50 (maximum creditwothiness). We define Credit Risk as 50 minus the original index, so that 50 represents maximum risk. Credit Risk refers to October 1995. Source: Erb et al. (1996), Table 4, Series ICRGF.
Creditor Rights	An index aggregating creditor rights. The index aggregates various rights that secured creditors might have in bankruptcy, liquidation and reorganization. Restrictions on the managers' ability to seek unilateral protection from creditors, mandatory dismissal of management in reorganizations, lack of automatic stay on assets, and absolute priority for secured creditors all contribute to this index. The index ranges from 0 to 4. Source: La Porta et al. (1997).
Log GDP	Logarithm of the gross domestic product in 1992-93. Gross Domestic Product is expressed in 1990 million dollars. Source*: International Financial Statistics*, line 99b for GDP and *aa* for exchange rates.
GDP growth	Average annual percent growth of per capita gross domestic product, for the period 1970-1993. . Source*: International Financial Statistics*.
Legal Origin	Identifies the legal origin (English, German, French, Scandinavian) of the company law or commercial code of each country. Source: La Porta et al. (1997).
Rule of Law	Assessment of the law-and-order tradition in the country. Average of the 1982-95 period. Scale from 0 to 10 with lower scores for less tradition of law and order. Source: La Porta et al. (1997).

A2. Loan Loss Provisions (regressions of Table 5)

Loan loss provisions is the ratio of loan loss provisions to total loans in each country. The variable is based on the BankScope bank-level data set produced by IBCA. The variable is the 1994-95 country average of the median ratio in each year. In each year we consider a total of 7,244 banks for which non-consolidated balance sheet data are available in at least one year. Banks include commercial banks, savings banks, medium and long-term credit banks, cooperative banks, real estate and mortgage banks, specialized governmental credit institutions and Islamic banks. The variables of interest are available only for a sub-sample whose size is reported in the table. We exclude countries for which fewer than 5 banks report data in the 1994-95 average.

Country	Loan loss provisions / total loans	Number of banks used to estimate provisions for loan losses
Argentina	2.29	99
Australia	0.08	35
Austria	0.92	70
Belgium	0.35	78
Brazil	0.96	92
Canada	0.51	17
Chile	0.35	35
Denmark	1.63	85
Ecuador	1.99	24
Egypt	2.39	22
Finland	3.18	7
France	0.98	354
Germany	0.90	1701
Greece	0.93	18
Hong Kong	0.29	5
Israel	0.39	16
Italy	0.80	2586
Japan	0.24	171
Mexico	1.27	25
Netherlands	0.38	23
Norway	0.26	30
Peru	1.71	14
Philippines	0.31	15
Portugal	1.58	31
South Africa	0.65	7
South Korea	0.90	25
Spain	0.94	175
Sri Lanka	0.78	7
Sweden	0.62	16
Switzerland	0.00	34
Thailand	0.51	16
Turkey	1.42	44
United Kingdom	0.13	60
Uruguay	1.06	8
United States	0.26	514

A3. Questionnaire directed to private credit bureaus

Aim of the survey
This questionnaire is part of a research project that aims at understanding the frequency, determinants and consequences of information sharing arrangements in credit markets. This questionnaire is directed to managers of credit bureaus.

Confidentiality
The researchers carrying out this project guarantee complete confidentiality in the use of the data collected in the survey. Data and results based on the survey will always be presented in tabular form and at a level of aggregation that will safeguard the confidentiality of individual banks.

PLEASE ENCLOSE ANY PUBLISHED OR OFFICIAL MATERIAL THAT YOU FEEL WOULD BE RELEVANT TO UNDERSTAND THE OPERATION OF CREDIT BUREAUS IN YOUR COUNTRY.

1. DESCRIPTION OF YOUR CREDIT BUREAU

Town where headquarters is located: _____

The credit bureau is owned by:
- a group of banks ☐
- a group of other financial intermediaries ☐
- individual share-holders ☐
- foreign-owned (majority stake foreign-owned) ☐

The credit bureau is
- a company run for profit ☐
- a cooperative enterprise or consortium of lenders ☐
- a semi-public institution ☐
- other (please indicate) ☐

Indicate who originally started the credit bureau:
- private entrepreneurs ☐
- consortium of lenders ☐
- government agency ☐
- other (please indicate) ☐

The credit bureau operates:
- at multinational level ☐
- at national level ☐
- at regional or provincial level ☐

2. SCALE OF OPERATIONS

	Personal sector	Business sector
Year started operating		
Number of records in your files in 1990		
Number of records in your files in 1996		
Credit reports issued in 1990		
Credit reports issued in 1996		
Credit reports issued in 1990 as % of all those issued in your country in that year		
Credit reports issued in 1996 as % of those issued in your country in that year		

If the credit bureaus started operating **after 1990**, please supply information on credit reports and number of records in the first year of the operation of the credit bureau.

3. SOURCES OF INFORMATION

Please rank the importance of the following as sources of information for your credit reports on a 1 to 3 increasing scale: 1 = not used or rather unimportant, 2 = important; 3 = crucially important.

	Personal sector	Business sector
Banks		
Other financial institutions		
Credit card companies		
Central Credit Register		
Public records		
Tax files		
Other: (please indicate)		

4. DATA SUPPLIED BY LENDERS

Which type of data are provided by lenders to your credit bureau?

	Personal sector	Business sector
Defaulted loans		
Arrears		
Total loan exposure		
Characteristics of borrowers*		
Other: (please indicate)		

* *For households*: employment status, marital status, age, income, assets, etc.; *for firms*: line of business, balance sheet data, personal information about directors, share-ownership structure, etc.)

5. RECIPROCITY

Do you apply a principle of reciprocity with your clients (i.e., do you supply information only to those who supply it to you)?

YES ☐ NO ☐

If yes, is there an explicit agreement between you and lenders to exchange information?

YES ☐ NO ☐

What happens if lenders do not comply with the reciprocity agreement (i.e. supply late or incorrect information)?

6. CREDIT BUREAUS IN YOUR COUNTRY

Please list the other main credit bureaus that operate in your country:

Please describe briefly the evolution of the credit bureau industry in the last 10 years in your country (growth and problems of the industry, process of concentration, etc.)

7. PUBLIC CREDIT REGISTERS

Please indicate if a Public Credit Register exists in your country and, if so, how it affects your operations. (By a P.C.R. we mean a publicly managed database, which forcibly collects data about loans from banks to supply it under request from other banks.)

8. PRIVACY LAWS

If laws protecting consumer privacy exist in your country, what do they require?

How do these laws affect the operation of your company?

A4. Questionnaire directed to Central Banks

This questionnaire is part of a research project that aims at understanding the frequency, determinants and consequences of information sharing arrangements in credit markets. By **Public Credit Register** we mean a public database managed by the Central Bank or some other government institution, which forcibly collects information about loans from banks and makes it available under request from other banks via credit reports.

1. MANAGEMENT OF THE PUBLIC CREDIT REGISTER (PCR)

Is the PCR operated by the Central Bank or by another Government agency (please indicate)?

2. ACTIVITY

Year in which the PCR was established	
Number of subjects in the file of the PCR	
Number of credit reports issued by the PCR to banks and other lending institutions in 1997 (1996 if not available)	
Minimum reporting threshold (specify currency units)	
Lenders required to supply data (banks, finance companies, etc.)	
Is participation compulsory? (yes/no)	

3. DATA REPORTED BY PARTICIPATING INSTITUTIONS TO THE PCR

Defaulted loans	
Arrears	
Total loan exposure	
Interest rates	
Other (please indicate)	

4. ACCESS TO DATA IN THE PCR FILES

Government	
Participating financial institutions	
Private Credit Bureaus	
General public	
Other (please indicate)	

5. PRIVATE CREDIT BUREAUS

Please list the names of the **private** credit bureaus that operate in your country.

6. PRIVACY LAWS

Please mention if privacy laws exist and, if so, how they affect the operations of the PCR and of private credit bureaus (add pages if necessary).

Annex C

Cross Country Comparison of Commercial Credit Reference Agencies

	HONG KONG	GERMANY	MALAYSIA	MEXICO	UNITED STATES
Overview	There are a number of credit bureaux operated by private sector companies such as Dun & Bradstreet (HK) and Credit Information Services Limited. The latter is the main consumer credit bureau in Hong Kong but it also handles limited amount of commercial credit information about leasing and hire purchase transactions.	In addition to credit bureaux operating in the private sector, the Deutsche Bundesbank maintains a credit register requiring compulsory contribution of data by financial institutions in the country.	Bank Negara, the central bank, maintains some form of a credit register, namely the Integrated Credit Information System, by requiring compulsory contribution of data by banks and financial institutions in the country.	There are a number of credit bureaux in the country. The Buro de Credito (BC) was set up in 1997 under the auspices of the finance ministry as a commercial joint venture between the major Mexican banks, Dun & Bradstreet and Trans Union. Dun & Bradstreet (Mexico) is another credit bureau but its business is mainly confined to non-Mexican companies.	All major credit bureaux are formed under private sector initiatives in the US. For example, Dun & Bradstreet is among the largest commercial credit bureau in the country.
Role of central bank / banking regulator	The public sector is not currently involved in the running of CCRAs in Hong Kong.	The credit register is run and supervised by the Bundesbank.	The credit register is run and supervised by Bank Negara.	The National Banking Commission is the regulator of BC. The central bank can also access data maintained by BC.	The public sector is not involved in the running of commercial credit bureaux. The Federal Trade Commission oversees the operations of credit bureaux in relation to consumer protection and anti-trust issues.
Nature of functions	Similar to its worldwide operations, Dun & Bradstreet (HK) operates on the principle of voluntary supply of information by its members. It collates this information with data obtained from other sources such as public records and interviews and then compiles credit reports on individual companies.	Banks and financial institutions are required under the Banking Act to notify the Bundesbank details of those borrowers whose indebtedness with them amounted to DM3 million or more at any time during the three months prior to the reporting date. The Bundesbank processes the data and then inform the reporting institutions of the individual borrowers' total indebtedness and the number of lenders lending to each of them.	Bank Negara has recently taken steps to enhance its credit register. Under the enhanced system, banks and financial institutions are required to report aggregate credit exposures of large borrowers (i.e. approved limit of larger than RM1 million) and all non-performing loans to the Bank. The data is mainly used for banking supervisory purposes. The Bank intends to cover all loans irrespective of amount in the register in the next phase of its development.	BC operates very much like a commercial credit bureau. Due to government regulations and encouragement moreover (see below), the bureau enjoys wide participation by banks and other lenders and comprehensive coverage of borrower information. BC's operations are highly automated and efficient. There are currently close to 1.3 million commercial loan records maintained in BC which users update monthly.	US credit bureaux at large operate on the principle of voluntary supply of information by members.
Relevant legal provisions	There is no legal provisions governing the collection and disclosure of commercial credit	The Banking Act sets out provisions in respect of the compulsory contribution of data	Three banking acts, i.e. the Central Bank of Malaysia Act, the Banking and Financial Institutions	Under the National Banking Commission's requirements, banks have to make use of BC to	Businesses have no right of privacy in the US. Privacy law is phrased only as an individual

provisions	data in Hong Kong. However, under the common law principle, banks general regard it their duty to maintain confidential information about their customers. They would not normally disclose such information unless prior consent has been obtained from the customers.	by banks and financial institutions. It also sets out clauses prohibiting unauthorised usage and disclosure of such data. The provisions are also applicable to staff working at the credit register.	Act and the Islamic Banking Act empower Bank Negara to gather data from banks and financial institutions for maintaining a credit register on borrowers.	assess their customers' creditworthiness before credits can be approved. Hence, there is active participation by banks in BC. The Banking Secrecy Law governs the confidentiality and integrity of data maintained by BC. Customer consent is required in respect of most loans before a lender can access his record in BC.	person's rights. Instead, confidential business information is treated as a property right in the US and is governed accordingly by the relevant legal provisions as well as contractual agreements between the lenders and borrowers.
Are CCRAs run on commercial basis?	All credit bureaux are run on commercial basis in Hong Kong.	The German credit register is <u>not</u> run on commercial basis.	The credit register operated by Bank Negara is <u>not</u> run on commercial basis.	BC is run on commercial basis.	All major credit bureaux are run on commercial basis.