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Roadmap to Reform

Lessons from around the world to guide consumer credit reporting reform in Australia

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Prepared for the **Asia Pacific Credit Coalition** and **Dun & Bradstreet Australia**

by

Michael Turner, Ph. D.
Robin Varghese, Ph. D.
Patrick Walker, M.A.
Katrina Dusek, M.A.

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Table of Contents

Decide with Confidence

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A note about language & terminology

In Australia 'comprehensive' reporting has come to be understood to mean including both 'negative' and 'positive' data (i.e. account existence and performance).

However in most other countries 'comprehensive' and 'positive' have different and distinct meanings.

'Positive' data means information on the timeliness of payments, including whether payment was on time or was moderately late. The payment information may contain the payment date relative to the due date. Positive information often includes data on account type, lender, date opened, inquiries, debt, and can also include credit utilization rates, credit limits and account balances. It stands in contrast to negative-only reporting.

'Comprehensive' reporting is a system in which payment and account information, whether full-file or negative-only, are not restricted by sector, that is, the system contains information from multiple sectors. Such a system is in contrast to segmented reporting, in which information in files is restricted to one sector such as banking or retail.

The language in this report is consistent with the global terminology reflecting the background and experience of the writers.

Executive Summary

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The issue of positive credit reporting has been one of some controversy in Australia over the last two decades. That controversy has been as strong within the lending community as it has without.

However, more recently a general consensus has emerged recognising the benefits that can derive from a credit reporting system that allows the collection of positive, in addition to negative, information from creditors.

That consensus is evident in the now broad based endorsement of positive reporting by Australia's leading credit providers including the nation's major banks, finance companies and credit bureaus[1].

Furthermore, the benefits of more data have now been recognised by the *Australian Law Reform Commission* (ALRC), which in its 2008 inquiry into the Privacy Act recommended a form of positive reporting be allowed[2].

The specific focus on credit reporting laws by this inquiry followed an intensive campaign by Dun & Bradstreet Australia for a government initiated inquiry. The recommendations of the ALRC highlight just how far the domestic debate has come. This is the first government inquiry of any kind to endorse the benefits of positive reporting.

Generally, the benefits of this reform are recognised to be:

- Lower rates of delinquency and defaults;
- Increased lending through reduced rationing, including to the small business sector; and,
- Reduced interest rates for low-risk borrowers[3].

At a macro-level these benefits translate to an improvement in economic growth and performance[4].

Additional evidence of the broad consensus recognising the potential benefits of positive reporting comes from long-term opponents of such a reform. Some of the more vocal opponents now recognise the potential for positive reporting to improve lending decisions, although it should be noted they do question whether all lenders would use such a system for this purpose[5].

It is these concerns that led to this piece of research. While the potential benefits of reform have become broadly accepted there remains concern about how those benefits could be realised while ensuring high standards of consumer protection.

Roadmap to Reform reflects the changing nature of the domestic debate and presents legislators and industry professionals with an examination of, and response to, the challenges that arise from reform, including the unique challenges of the initial transition period.

[1] Submissions to ALRC inquiry into Privacy Act.
[2] ALRC, For Your Information: Australian Privacy Law and Practice, 2008.
[3] Turner et al.
[4] ACIL Tasman research commissioned for MasterCard International, 2004.
[5] C Bond, Should we have positive credit reporting?, ITSA Bankruptcy Congress, July 28, 2006.

Part of a global debate

While emerging in response to the domestic debate, **Roadmap to Reform** is also a reflection of a broader debate taking place within Australia's most important trading region – APEC. The issue of positive and comprehensive credit reporting is now being actively discussed and considered within a number of APEC countries, assisted in large part by the efforts of the *Asia Pacific Credit Coalition* (APCC).

The APCC is a coalition of major lenders and credit bureaus that have come together to engage APEC governments on the need for, and benefits of, reform. The establishment of the coalition reflects the broader reality that domestic financial systems are increasingly interdependent with those of other countries and ensuring their ongoing development is critical to the outlook for cross-border investment and trade. Dun & Bradstreet is a founding member of the APCC.

The APCC has played a critical role over recent months in elevating the priority of credit reporting reform throughout the APEC region and within the formal APEC structures. This has resulted in the APEC *Business Advisory Council* (ABAC) recommending common credit reporting standards throughout the region to the forthcoming APEC Finance Minister's meeting in November. The *Asian Bankers Association* has also issued a policy paper endorsing a regional standard for consumer credit reporting that includes positive and comprehensive reporting as the system's cornerstones. The issue will also be included in the ABAC annual report to the APEC Leaders Forum.

Key findings

1. The 'Valley of Transition' – the revelation of over indebtedness

Many economies that have made the transition from negative to positive reporting have experienced a short-term credit contraction and an increase in defaults as economies and lenders come to terms with the real meaning of the newly available data. Often the new data reveals a clearer picture of over-extension in which the true number of consumers using credit to meet other credit commitments is exposed. This often results in a transitional reduction in lending because of uncertainty about borrower risk.

In time lending returns to normal levels and indeed increases. Importantly, this increase in lending is not accompanied by a similar rise in delinquencies. This increased lending, particularly to traditionally under-served sections of the community, improves the stability of the financial system because of the broader base across which risk is spread.

2. Small business is a key winner from positive reporting

Credit scoring, which is facilitated by positive data, improves access to credit for creditworthy small businesses. Scoring is the preferred decision-making tool by larger lenders for assessing small loan applications. Positive reporting provides those large lenders with access to information that enables scoring, making them more inclined and able to engage in small business lending. This attracts large lenders into the market that have not historically engaged in small business lending. This has a positive impact on the broader economy as small business is a key driver of economic growth.

3. Increased amounts of data assist in the fight against identity theft & fraud

More data provides a stronger base from which to detect identity theft and fraud. At the most basic level, the simple recording of accounts opened on a credit report allows the monitoring of whether any unusual credit behaviour is occurring. At the more sophisticated level, positive reporting is generally accompanied by increased levels of automation that improves identity verification and data quality and matching. Consumer monitoring of their own credit reports is an important element in the use of more data to fight identity theft and fraud.

4. Gradual versus rapid reform – community support a vital ingredient

Each country manages the transition from negative to positive credit reporting in its own way. The speed with which reform is implemented reflects a number of issues including technology, regulation, organisational culture and societal values. However, in countries where there is a poor understanding of credit reporting systems or a degree of hostility to the use of greater amounts of data, gradual reform can be a better way to enhance community understanding of, and support for, positive reporting. Community engagement in the credit reporting system is a core recommendation of this report.

5. Even limited additional information is of value

Full-file and cross-industry reporting produces the clearest benefits. However, adding even some limited additional information to credit reports can have very real benefits. The inclusion of the existence of credit accounts allows lenders to acquire a true understanding of existing commitments and can greatly assist with identity theft and fraud detection.

6. The number of data sharers is as important as the data they share

Participation of a large number of data sharers is critical to the overall performance of a positive credit reporting system. The number of data sharers has a significant impact on acceptance and default rates. A positive reporting system without widespread contributions from credit providers will not realise the full potential of expected benefits.

7. Cost or investment

Numerous studies have shown that credit providers who contribute data have realised the benefits accrued outweigh the costs of investing in information technology and other system changes.

1. Introduction

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In recent years, there has been a growing interest in the creation, development and expansion of credit bureaus among governments, the financial sector in emerging economies, and development agencies. New credit bureaus are being created in emerging markets throughout Africa, Asia, Eastern Europe and Latin America, and existing ones have been expanding their scope of activity, the information they collect, and the sectors they service not only in these markets but also in Australia-New Zealand, North America and Western Europe.

In 2006, the International Finance Corporation's Global Credit Bureau Program released its *Credit Bureau Knowledge Guide*[1]. The *Guide* elaborates the lessons the IFC has learned over the years in assisting in the development and reform of credit bureaus worldwide. The *Guide* responds to a demand among policymakers, practitioners, and other stakeholder, and systematizes the lessons learned over the years regarding the development of credit bureaus. It outlines and disseminates general knowledge of, and best practices for, credit bureaus worldwide.

This report, prepared for the Asia Pacific Credit Coalition (APCC) and Dun & Bradstreet Australia, builds on the lessons and learning of the *Guide*. Rather than simply reproduce much of the contents of the *Guide*, this report is meant to complement it. The report offers extensive information on information sharing, as it is currently practiced, and highlights key issues to be taken into account in creating a credit bureau. And while sharing a significant overlap with the *Guide*, this report seeks to provide additional insights and lessons, focusing on the surprises that lenders, (would-be) bureaus and policymakers can and have experienced. It is intended to help prepare for some challenges in the course of developing a new credit bureau or in the reform of an existing credit bureau towards the reporting of positive information, that is, information beyond simply defaults and bankruptcies.

This report is also designed to be a supplement to local knowledge. In using this report, practitioners should recall the advice of Henri Theil, who once remarked, "It does require maturity to realize that models are to be used but not to be believed[2]." That is, the lessons here are to be used in conjunction with practical understandings of local markets, as initial conditions, larger regulatory frameworks, and competitive landscapes will vary from economy to economy. These factors are crucial in how credit bureau development or reform can proceed. It must be stressed that information sharing is not merely a technical enterprise, but is in its core a business venture that is also dependent on an understanding and consensus of regulators, data subjects, data providers and data users.

This section (**section 1**) elaborates the logic of information sharing and how it affects lending and borrowing. It is important to understand the logic of information sharing, as the challenges faced by an aspiring bureau stems from the ways in which information connects different actors. As the focus of this report relates to the development of sharing positive information and the challenges faced along the way, this section goes on to highlight some of the crucial differences between the reporting of positive data and the reporting of only negative information.

Section 2 examines some of the key prerequisites for establishing a bureau, especially a bureau that reports positive information. We explore the necessary consumer rights and industry regulatory framework for information sharing. These rights and regulations underlie the overall societal understanding of, and consensus surrounding, the parameters of information sharing. This understanding is crucial as it shapes the possibility of future reform to the information sharing system. Section 2 goes on to examine the data and the data infrastructure.

Section 3 contains the core findings of the report, and focuses on the challenges and opportunities encountered in the shift to a system of positive information sharing. Our research has identified eight issues that must be kept in mind when developing a credit bureau. We

[1]IFC, Credit Bureau Knowledge Guide. (Washington, DC: International Finance Corporation, 2006) Downloadable from http://www.ifc.org/ifcext/gfm.nsf/AttachmentsByTitle/FI-CB-KnowledgeGuide-E/$FILE/FI-CB-KnowledgeGuide-E.pdf
[2] Theil, H. Principles of Econometrics (New York: Wiley, 1971) p. iv.

examine: the pros and cons of rapidly instituting a credit bureau versus a more gradual approach; implications of positive information sharing for fraud and identity theft; the consequences for data quality; the short-term and long-term effects on lending; problems surrounding inducing data furnishers to participate; and the possibilities of manipulating the system.

Section 4 concludes this report with some recommendations for bureaus and policymakers covering five issues that may be encountered on the way to the development of a bureau that shares positive data. The recommendations cover: preparing lenders for surprises in lending; shaping lender preparedness and expectations over value added services; measure to mitigate and reduce identity fraud and identity theft; improving data quality; and consumer education.

1.1 Credit Bureaus: Their Logic, Rationale, and Dimensions of Variation

Information sharing has come to be seen as an effective means of expanding access to credit and enhancing loan performance. Information sharing extends credit to the private sector, lowers the average price of credit, and in many places lowers the costs of processing loans while improving loan performance. As such, it has come to be seen as an essential component of an economy's financial infrastructure. In fact, the development of sophisticated information-sharing systems is part and parcel of the modernization of the finance sector.

The choice that an economy faces is not simply whether to share information or not. Questions regarding some basic elements of information sharing need to be addressed. These include:

- what information should be shared?
- how is the data shared?
- what regulatory conditions promote information sharing while protecting consumers?

To understand how the specific structuring of an information sharing system shapes outcomes, it is necessary to understand some of the inherent problems in lending and how information sharing addresses these problems.

Credit bureaus are institutions designed to solve the problem of information asymmetries in lending. Because there are costs to transacting, markets often have suboptimal outcomes[3]. In credit markets, lower levels of lending result from these costs. Transaction costs found in lending include the cost of searching, contracting, monitoring, and enforcing a market exchange. These costs often stem from the lack of information and the price of gathering that outstanding information.

The main costs of transaction in lending are explicitly information problems. In extending a loan, the problem that a lender faces is that s/he does not know a borrower's intention and/or capacity to repay. The lender must infer the risk profile of the borrower. Such assessments are

[3]Coase, R. "The Nature of the Firm." Economica, 4 (November 1937): 386-405.

crucial because a loan involves an agreement to pay in the future. One long-run consequence is that credit in loan markets is rationed because of insufficient information, meaning that given borrowers with identical risk profiles, one will receive a loan and another will not[4]. When there is little information to go on, lenders rely on a combination of pricing (interest rates) and rationing to maximize returns. However, higher interest rates, while covering the risk of borrower default, are also likely to result in adverse selection. A classic moral hazard problem is created in an environment where a borrower cannot be properly monitored after credit has been extended as this may result in the borrower making riskier choices with that credit.

Credit bureaus are institutional solutions to these two ubiquitous problems in lending (adverse selection and moral hazard) in the following way. Credit bureau data allows for better risk assessment by providing information about a borrower's obligations and past track record in meeting them; they thereby reduce the problem of adverse selection. Moreover, by threatening borrowers with higher costs of future borrowing or even inhibiting future borrowing if they do not fulfill their obligations, information sharing induces borrowers to pay on time and thereby helps mitigate moral hazard. Credit-reporting agencies thus: (a) lower interest rates for low-risk borrowers; (b) increase lending through reduced rationing; and (c) lower rates of delinquency and default.

Additionally, credit bureaus, by rendering information more homogenous, reduce the information rents that lenders can derive and thereby facilitate competition. Credit becomes more available and affordable as a result[5]. *However, the extent to which these results obtain depend on the structure of credit reporting, bureau ownership structure, and the kinds of information reported.* That is, there is no single model of credit reporting and the differences in the model matter greatly for the scope of lending and the performance of portfolios. It is essential that economic policy makers take into account these differences when proceeding with credit reporting reform.

Research demonstrates that the extent to which these results are achieved depends on the structure of credit reporting, bureau ownership and the type of information reported. This finding appears to hold for credit bureaus generally, commercial and consumer.

The research suggests that: (a) the sharing of more data, especially positive data, across sectors increases lending to the private sector more than other reporting regimes; (b) private bureaus with positive and comprehensive data increase lending to the private sector; and (c) the sharing of more information, especially positive information drawn from multiple sectors results in better loan performance than segmented and negative-only reporting. The evidence for these three claims is extensive.

[4]Stiglitz, J. and A. Weiss, "Credit Rationing in Markets with Imperfect Information." Also see M. Pagano and T. Japelli. "Information Sharing in Credit Markets." Journal of Finance (December 1993): 1693-1718; and Dwight Jaffee and Thomas Russell, "Imperfect Information, Uncertainty and Credit Rationing." Quarterly Journal of Economics 90 (4) (Credit Rationing in Markets): 651-666.

[5]Pagano, M. and T. Japelli. "Information Sharing, Lending and Defaults: Cross-Country Evidence." Centre For Studies in Economics and Finance, Working Paper No. 22. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=183975

1.2 Similarities and Differences in the Practice of Reporting Positive Information and Negative Only, and Its Consequences

For our purposes here, the entry point for inquiry is the sharing of positive data by creditors. That is, how does the sharing of positive data change lending and loan performance in a society, and what factors must be considered and measures taken if a society is to share positive data? Before we move on to examining these issues, it is useful to note how the sharing of positive and negative data differs practically from the sharing only negative data.

There are no exact definitions for what constitutes full-file data or fair-file data or other sharing of some positive data. And while negative-only may be easier to define, there will undoubtedly be differences in types of negative-only data actually collected across countries and bureaus. The list of possible positive data fields on an account is extensive: the loan amount; outstanding balance; timeliness of payment; the interest rate; maturity; loan type; the type of collateral; the value of collateral; and the loan rating. The list is not necessarily complete, but it does indicate the fact that there is considerable "positive" data associated with a line of credit. There are very few economies in which the bureau collects all these fields. For example, interest rate information is very rarely collected, especially in systems with private bureaus. And yet, the inclusion of interest rate data is not necessary for a system to be even considered full-file.

The following generally encompass what is meant by negative-only, fair-file, and full-file data.

Negative-only data (commonly purged after 3 or 5 or 7 years)[6]:

- Delinquencies (usually 60+ or 90+ days late)
- Defaults
- Collections
- Bankruptcies and other public derogatories

Fair-file data (in addition to negative data listed above)[7]:

- Accounts
- Type of accounts
- Accounts lender
- Date opened
- Credit limits

Full-file data (in addition to negative data and fair-file data listed above):

- Account balances
- Number of inquiries
- Debt ratios (such as revolving to total debt)
- On-time payments
- Moderate delinquencies (30+ days late)
- Public record data (other than bankruptcies and liens).

As noted above, other categories of positive information - e.g. interest rates - are not seen as necessary for a system to be considered full-file.

The provision of positive data, whether full-file or less than full-file, is practically distinct from the provision of negative-only information in more than the trivial sense, namely, that more information is provided. Negative-only systems are "events-based," meaning the provision of information is triggered by specific occurrences, notably the failure to pay an account in a sufficiently timely fashion (a delinquency), or the abrogation of a borrower's responsibilities to pay off the debt (a default), or the legal discharge of the obligation to pay (bankruptcy), or the legal order to pay and until paid the placement of a legal hold on any transfer of assets (a lien). For most borrowers, these events are rare, and in fact some - e.g. bankruptcies - are never experienced.

From the perspective of the practice of data sharing, this fact means that data on an individual's financial activity is not shared, as the vast majority of activities of borrowers do not qualify as the set of "events" that would trigger reporting. In short, at any given time, very little if any information on an individual is transferred from one database to one or more other databases.

[6]Bankruptcy data is kept for 10 years in the U.S.
[7]This is what has been proposed in Australia, recently.

The practice of positive information sharing differs significantly from negative information sharing in this respect, that is, in terms of how often an individual's information is shared across databases. Even limited information sharing means that information is reported during the reporting interval, even if account balances do not change. The state of affairs in which information on any borrower is not shared with a third party save in the event of failure to meet terms to one in which information is shared even as s/he meets obligations is fundamentally different in the sense that information on a data subject is regularly traded. More information on most data subjects then comes to reside in more databases as a result.

Also from the point of view of practice, positive reporting systems are more likely to be automated than negative-only systems. As noted, negative only systems are "events" driven. When a negative event occurs, the lender or other service provider reports on the data subject to a bureau, and, as mentioned, for any given data subject, these instances are likely to be rare. These credit and service providers largely report negatives in a manual fashion.

By contrast, in positive reporting systems, data subjects are reported on far more frequently. As a result, reporting in an automated fashion is more likely, as it tends to be less costly than manually reporting the data volumes found in a positive reporting system.

In sum, in systems where positive data is reported, there is more data reported. Furthermore, this data is likely to be reported in an automated manner. As we shall examine, these differences have consequences for identity theft and identity fraud, and for data quality.

2. Prerequisites for establishing The Credit Bureau

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The development of an information sharing system that transfers personal data to third parties has become, in the wake of the information revolution, a societal decision. Unlike previous eras when information sharing emerged ungoverned by law, regulation and social norms, credit reporting is embedded in social understandings of privacy and consumer protection, as much as it is embedded in understanding of the efficient functioning of markets.

Credit reporting therefore entails two sets of prerequisites that precede the business and economic logics for sharing data. These can be roughly categorized as belonging to (i) legal and social norms and (ii) technical and informational wherewithal.

As we will see later, getting these prerequisites right helps with the institution of a stable system of information sharing, but also a clear understanding of these frameworks should also be kept in mind when considering the challenges that credit bureaus, lenders and regulators can face (see section 3).

2.1 The Legal and Social Norms Underlying Information Sharing

While distinct from one another in obvious ways, the legal-regulatory framework and social norms or understanding behind information sharing are intertwined in very clear and important ways. Laws and regulations over issues such as what information can be shared, what are acceptable uses of information sharing, what are the rights of data subjects, what are the data security and integrity obligations of credit bureaus representing the framework in which information sharing takes place. They also reflect a societal consensus about the rationale behind and expectations for the practice. These understandings are important because practices will require adjustments over time as, for example new categories of data emerge and offer promise, new uses are discovered, and new procedures are needed to cope with changes in security and communication technologies. While some of these changes will involve larger debates on the framework, most shifts will entail smaller changes to law and regulation. As such, the wider framework serves to legitimize future shifts and instill trust in the system. That is, the legal and social norms shape the stability of the system.

2.1.1 The Legal and Regulatory Framework

The IFC's Credit Bureau Knowledge *Guide* provides a comprehensive overview of the legal and regulatory framework behind information sharing. A synopsis of the *Guide*'s survey of legal frameworks elucidates the fact that information sharing systems implicate an array of technological, privacy and business issues

First, it should be noted that different sets of legal regulations may be appropriate, depending on whether a credit bureau is being implemented from scratch, or whether it is transitioning from a negative-only to a full-file system. Various legislative considerations must be taken into account according to the country in which the credit bureau is operating.

Certain aspects of regulatory framework are essential, such as provisions for equal treatment of all data providers, as well as stipulations for data expiration. In addition to these important cornerstones of credit bureau framework, a legislative series must address consumer protection, privacy, data protection, and credit granting and consumer credit regulations. Furthermore, these regulations must be subject to a reliable system of enforcement.

The current economic environment of each specific country will dictate the genre of laws that are implemented to regulate credit bureaus. The goal is to establish laws that define operational space for credit bureaus, protect consumer and industry, and are enforceable. In currently evolving credit systems, two basic strategies have been successful. Some countries, such as several EU member states, have opted to use all-encompassing data protection laws to define credit bureau operation[8]. These laws oversee not only the parameters of operation for credit bureaus, but also for broad categories of data management and information sharing. Other countries opt to specify regulatory laws uniquely for credit bureaus.

Effective legislation addresses several key operational factors, for the cases of concern here[9]:

- equal treatment of financial and non-financial industries that report;
- protection of consumer rights, ensuring that the data that is collected is not abused, and that data and information is shared through a regulated process;
- maintenance of integrity of information privacy, including limited and regulated access to consumer information;
- management of information sharing, which may include incorporating a regulation that requires the borrower to consent to both information collecting and access to credit reports;
- data expiration regulation;
- provisions for the sharing of both positive and negative information;
- consumer protection, including individual rights to access personal information, and a system that addresses and rectifies consumer disputes; and,
- inclusion of financial, governance and security standards for credit bureaus.

How each of these operational factors is addressed will vary by economy, but these factors must be addressed in legal and regulatory frameworks.

Information Collection, Storage and Sharing Rules

The collection of information should be standardized across financial and non-financial institutions, such that all information is collected and processed without prejudice of its source. The U.S. Fair Credit Reporting Act, for example, stipulates the categories of data that may be collected and shared, requirements for the quality of data that is collected, statutes for fair and equal treatment of consumers, and the institutions that may provide data. Information that is used for credit decisioning and maintenance purposes must be treated in the same manner, whether it comes from a financial or non-financial institution. Treating all information sources equally allows for the equal treatment of consumer populations.

Legislation must stipulate data expiration regulations. A major function of the credit bureau is to provide a historical picture of a consumer's likely financial behavior such that a potential lender may assess consumer risk. Given this function, the credit bureau must maintain data that appropriately discloses the information needed to assess this risk. A system that does not allow for data expiration may inappropriately describe a consumer's level of risk to a lender. As a consumer's capacity to participate in the market changes, so does his level of risk. Therefore, it is appropriate to expunge outdated information that no longer describes a consumer's financial behavior.

Equally, it is important not to expunge data prematurely. Data must have a lifespan that describes the current financial behavior of a consumer. If, for example, information is

[8]International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group. p. 56.
[9]Ibid., p. 57

expunged from a consumer's record immediately upon repayment of a loan, the financial habits of this consumer are not exposed to new potential lenders. Any adverse information regarding the repayment of the loan is lost. Storing the information after the debt has been repaid is valuable to potential lenders as it allows for a more accurate prediction of a consumer's behavior. Data must also, however, expire after a certain time period to protect the consumer. Data that does not expire can effectively blacklist a person from obtaining credit.

Information sharing must be regulated from two fronts. First, the sharing of information must protect the privacy of consumers. Specific institutions will be authorized within the legal framework to access consumer information. If strict regulation of this standard is not enforced, consumers will not trust the credit bureau system and the credit bureau will fail. It is the onus of the bureau to prove to consumers and institutions that they can provide appropriate information security. Legal frameworks should require borrower consent for institutions to access their credit information. Second, the sharing of both positive and negative information must be regulated and restricted to very narrow purposes[10]. Failure to specify the limits of this use cannot only violate privacy, but can also distort the market for lending.

Every credit system has its own set of laws that define data subject rights, and the afforded rights differ depending on political situation and framework of any existing credit system. Some data subject rights to consider are[11]:

- **Right to personal data**: consumers have the right to knowledge of all personal data maintained by an institution, as well as to whom the information in their file has been disclosed (UK, US, EU, Japan);
  - **Right to Third Party Notification**: consumers have the right to be notified of all third parties who have received subject data information, including information about rectification, deletion, or blocking of data (EU);
    - This right does not apply if it is a disproportionate effort for the data controller;
- **Right to data controllers**: consumers should have the right to have their file examined by a data controller, such that any final decisions made about their file is not an entirely automated decision, but is also monitored by a data controller (UK);
- **Right to request a credit score**: consumers have the right to know their individual credit score that is being used by potential lenders to assess risk (US)
  - A consumer is entitled to a free credit report if (US):
    - Adverse action is taken against the consumer based on information in the consumer's credit report;
    - A consumer is the victim of identity theft;
    - A consumer's file contains false information due to fraud;
    - A consumer is benefiting from public assistance;
    - A consumer is unemployed, but expects to be gainfully employed within 60 days
- **Right to Object**: consumers have the right to object to the processing of their personal data (some exceptions exist) (EU);
- **Right to Opt-out**: consumers have the right to limit or control the collection of personal information, data controllers must describe the intended use and handling of personal information (Japan)
- **Right to protected processing**: consumers have the right to have their data protected from any adverse processes and be protected from use for direct marketing (UK, EU), or, consumers may limit the number of prescreened offers of credit or insurance and all prescreened applications must be accompanied with toll free numbers by which the consumer may cancel their participation (US);
- **Right to compensation**: consumers have the right to compensation should the use of their data by a data controller cause them damage (UK), or, consumers have the right to seek damages if federal law (specifically the FCRA) is violated during the handling of consumer information (US);

[10] Ibid., p. 57.
[11] These examples of data subject rights exist in the UK Data Protection Act of 1998, the FRCA Act

- **Right of grievance**: consumers have the right to examine the information in their file, and have the right to a system that helps them to correct inaccurate data (UK, US, EU, Japan);
- **Right to correction of inaccurate data**: a credit bureau is responsible for correcting information in a consumer credit file that has been proven to be false (UK, US, EU);
- **Right to oversight**: consumers have the right to request oversight of the data subject to ensure that the legislation is appropriately implemented and followed.
- **Data expiration rights**: credit bureaus may not report outdated negative information (US);
- **Right to Erasure**: a consumer has the right to have personal data erased in cases of unlawful processing of data (EU);
- **Additional rights for identity theft victim and active duty military personnel**: consumers who fall into this category are subject to additional data subject rights such as the right to "freeze' their file, and prevent access by anyone until the freeze is removed at the request of the data subject (US).

Rules on Dispute/Verification

Rules for dispute and verification of consumer data files are based on the data subject *right to personal data*, whereby a consumer has the right to know the personal information that an institution maintains, as well as the right to know with whom that information has been shared. As previously discussed, data subject rights must also include the *right of grievance*: a consumer may contest the information in their credit file and be provided with an appropriate venue for correction. Additionally, the legislative framework must provide for authentication of information. Credit bureaus must be prepared to receive grievances and verify the accuracy of complaints.

The legislative framework should provide for four basic phases of grievance resolution:

- **Personal Information**: a consumer requests documentation of the data held on them by an institutions (*right to personal data)*
  - Credit bureaus must be structured such that they can immediately release information to consumers
  - All information in the consumer file must be released, including the stored information, and those that have been provided with the consumer's information
- **Receipt of Grievance**: a consumer contests the information in their file (*right of grievance*)
  - Credit bureaus should have a streamlined system to receive complaints: consumers must have easy access to customer service
  - Each consumer complaint should be assigned a case, and framework for the resolution of each case should be in place
- **Authentication of Grievance**: the credit bureau must have a system to verify the authenticity of the dispute
- **Grievance Resolution**: credit bureaus must respond to each consumer case.
  - Credit bureaus must contact consumers individually to notify them of the result of their case.
  - Credit bureaus may provide for a system of appeals in the case that the consumer refutes the resolution.

Enforcement Structure

Oversight is essential for the operation of a credit bureau. Enforcement of the credit bureau framework and function allows the bureau to earn the trust of institutions and consumers such that they participate in the credit system and thus the bureau can provide the lenders with the information needed to assess risk. Two basic strategies of enforcement have emerged: (1) self-regulation; and (2) regulation by supervisory body.

In the case of self-regulation, the credit bureau legislative framework will provide for regulation. This provides regulation limited to processing complaints, issuing clarifying statements, and filing class action suits[12].

[12] International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group. p. 58.

2.1.2 Generating a Societal Consensus on Credit Reporting

The IFC Knowledge Guide suggests that a legal and regulatory framework must be established to enable data and information sharing prior to implementing a credit bureau. This fact is at once trivial and crucial. A well-structured and comprehensive legal and regulatory framework clearly provides a framework in which the expectations of data providers, data collection agencies such as bureaus, lenders and data subjects can be coordinated, but moreover, it can reflect a societal consensus on a system of information sharing. This societal consensus is important not merely for the stability of the system in the eyes of the public at large, but is also necessary for future changes in regulation that may arise owing to changes in practices - e.g. expansion of reporting to new categories of information or the inclusion of new sectors. At the core of this effort is the instillation of an understanding of how credit reporting works among the public. To be sure, there are and will be aspects of the information sharing regime that remain contested, but a core consensus will help to keep the system dynamically stable.

The legal and regulatory framework will help to structure public perception and understanding, and will be the basis for education and outreach. The framework must provide the foundation for the credit bureau, (a legal position in which it can exist) as well as establish the rules under which the credit bureau, its users, and the institutions that provide information to the credit bureau will operate.

Legislation drafts should be vetted through the appropriate avenues, such as financial and non-financial institutions that will participate in the credit system, to ensure that all framework ideas are considered. Whether transitioning from a negative-only reporting system, or implementing a credit bureau for the first time, the quality and depth of consumer education will influence the overall success of the bureau. Consumers must understand the benefits of a full-file credit reporting system, and trust that their personal information is secure. In countries where a negative-only procedure exists, consumers are less likely be receptive to information sharing, as consumers have been accustomed to a system where credit bureaus are only associated with the monitoring of negative information. These consumers view credit bureaus as inherently negative, a black list, and must be educated about the benefits of a full-file credit reporting system.

Education outreach should be extensive, and should be directed toward consumers, and financial and non-financial institutions well in advance of implementation. The outline of education should closely follow the legal and regulatory framework that defines the operational boundaries of the credit bureau.

Education should begin at the institution level. Events such as conferences and roundtables allow participating institutions (e.g. data furnishers) to discuss the new legislation as well as to learn about implementation. Many of these institutions may have participated in the vetting process of the legislation, and will see how the implementation of the credit bureau system will affect their operations. The goal of institution education is to give institutions the tools to implement operational changes that will allow for a smooth transition.

A vital part of institutional training is preparing institutions to educate their staffs. Institution employees will play a large role in the educating of consumers, and must themselves be properly trained prior to interfacing with consumers. In many cases, additional staff will be hired and trained to interact with customers. The forms of interaction include, but are not limited to:

- Operating a customer call center to answer questions regarding credit reporting changes
- Preparation of educational mailings to be distributed with institutional mailings that detail the changes in the reporting system
- Preparation of media campaigns through various channels, such as newsprint, television advertisements, internet campaigns, and signage.

While a specific staff will be trained to field consumer questions and concerns, all employees must understand the fundamental changes that will take place, and how it affects their roles in the institution.

The importance of institutional training cannot be underestimated, as the institutions will be one of the main sources of information for the consumers. While the credit bureau will run its own advertising campaign, the bulk of consumer interaction will be through the institutions with which consumers are already familiar. Therefore, institutions are an integral part of the transition, and must be properly trained to educate consumers.

Educating consumers is a much more comprehensive task. The goal of consumer education is for the average consumer to understand the potential benefits of the new credit system. Furthermore, they must understand personal responsibility for financial behavior and the consequences of failing to repay debt.

2.2 Technical Considerations for Information Sharing

The technical considerations for establishing or reforming a credit bureau are of course vast and significant. More importantly, as the IFC's *Guide* cautions, these systems are not off-the-shelf solutions, but require deep knowledge of a particular economy's data, information technology and lending landscape. Here, we note some technical issues that should be considered both for itself and as background for some of the issues raised in section 3.

This section will briefly examine issues of data acquisition, data security and disaster recovery.

2.2.1 Data Acquisition and Database

As noted, recruiting data furnishers requires a legal and regulatory framework that clearly defines rights and obligations for all parties involved, including the credit bureau, the data furnishers, and the public. The type of data collected, as well as the criteria for storing data, should be clearly indicated. If a framework is not in place, a credit bureau becomes ineffective. There are two issues that require close attention: the issue of data reporting formats and identity verification.

Data Formats

Once the data suppliers have started to supply information, the bureau has to deal with vastly different database structures from a variety of furnishers. The creation or adoption of a standard reporting format is crucial for the creation of a credit bureau as financial institutions in markets without the reporting of positive information have developed their own unique database structures well before they had credit bureaus. Because many institutions developed software prior to the advent of credit bureaus, an obstacle for many countries is developing a system that is compatible across all reporting institutions. The information stored must be easily accessible and in a format that is recognized by all recipients' software [13].

[13] International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group. p. 25.

Standardized formats are available from economies and data sharing trade associations in countries with well-developed systems - e.g. Metro 2 in the United States. The diffusion of these formats and of associated dispute verification formats is not necessarily a complex issue, and the hurdles rest in making the case to data furnishers that the costs of adoption are worth it. One issue which is less than straightforward is the fact that in some instances there are often conflicting definitions of value of data fields. For example, there may be disagreement about what counts as a delinquent payment. Some creditors may take 30 days late to mean 30 days from the due date, while others take it to mean 30 days beyond a grace period. In this particular instance, reporting systems that simply collect data on the due date and date payment was received will not face these problems of differing definitions of the variables. All credit bureaus would be well served to diffuse data dictionaries that specify common values that have been agreed upon by the industry.

Dilemmas of Identification of Data Subjects and Their Consequences

The IFC's *Guide* notes that national identification system can make reconciling somewhat easier, but even national IDs can cause problems if they are recorded incorrectly or inconsistently. Matching algorithms for name, address, and birth date can be used in nations without national IDs, but this opens databases to even more problems. Additionally, the quality of identifying data [14] will also vary from country to country. Names can be formatted in a single string, instead of surname and given name broken out. Nicknames can be used. Many families can share the same address. Birth dates can be stored in many different databases. Some cultures do not record strict birthdates. However, despite the difficulties in gathering available data, starting a credit bureau often serves as a trigger that encourages various establishments to record accurate data. Therefore, inadequate data supplied from furnishers is not a sufficient excuse to delay starting a bureau[15].

Identification dilemmas do present problems for data accuracy and may complicate issues of detecting identity theft. The more difficult it is to clearly identify a data subject, the greater the chances that mistakes regarding accounts will be made. Moreover, the greater the problem in identifying a data subject the harder it is to detect identity fraud and identity theft. Below in section 3 we discuss some policy options to help mitigate against these possibilities.

2.2.2 Data Security, Integrity and Disaster Recovery Standards

Data Security

Data security refers to the protection of information against loss or access by unauthorized users. Data security measures include the controlled access to information, and the restoration and recovery of information in the case of an emergency or data handling mishap. Data security is categorized as either physical security or administrative security.

Physical security includes the tangible protection of information. This includes all of the security features that are designed to secure the facility in which data is processed or stored. Any elements that restrict access to data facilities and systems or protects the data housing complex from damage or destruction as a result of an attempted breach are facets of physical security. Examples of physical security include elements that restrict personnel access such as identification cards, pass codes for doors and data management systems, and the bomb-proofing of buildings that house information and data processing systems.

Administrative security refers to controls that limit the body of personnel that have access to information. This category of security includes the monitoring of data access, including personal access to data as well as automated access to data. Examples of good administrative security are unique passwords with defined expiration dates and unique login information for each user, such that system access can be monitored on an individual basis[16].

[14] Identifying data is information such as: unique ID number, name, address, date of birth. (International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group.) p. 25
[15] International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group. p. 25.
[16] Financial Services Roundtable and Information Policy Institute. 2005. How safe and secure is it? An assessment of personal data privacy and security in business process outsourcing firms in India. Chapel Hill, NC: Information Policy Institute.

Maintaining data security involves controlling the access of data through the use of administrative hierarchy. A major aspect of data security is the confidentiality of information. Because confidentiality must be maintained at all times, personnel involved in the administration of credit bureaus must be vetted prior to accessing information. This includes the appropriate background and criminal history checks. Personnel should be granted access to information only gradually and after a series of extensive testing.

The establishment of security standards enables a credit bureau to perform its three major functions without loss of data or data integrity: (1) collection, validation and merging of data, (2) generation and distribution of reports, and (3) system redundancy.

The collection of data requires a secure submission process, whereby lenders follow specific submission guidelines. Submission forms should follow national legislative requirements for the passing and disclosure of information, and maintain standards for minimum information requirements. In addition, bureaus must be prepared to receive information within the realm of approved formats. This may not be possible in some economies and for some types of lenders - e.g. microlenders. Secure methods of receiving information via DVDs, CD, or other media must be established.

Data Integrity

The integrity of data—its accuracy and completeness—can be compromised by either human error or system error. Software must be utilized that successfully verifies data prior to uploading it to a database. Incomplete fields must be corrected prior to a data merge. This requires additional information and correspondence with the lender. For the bureau, the merging of data cannot compromise data integrity. Standardized reporting formats and unique identifiers (or very sophisticated matching algorithms) help to reduce the likelihood that data merges compromise data integrity. Moreover, the adoption of tests of accuracy can assist in improving the integrity of data (see below section 3).

Data Backup and Disaster Recovery

Credit bureaus must have adequate systems for data backup to prevent the loss of data or data integrity in the event of a disaster or security breach. Many bureaus accomplish this through a system of automatic file backups and updates, where information is stored in redundancy in multiple secure locations. All backup hardware must be routinely tested for viability[17].

All disaster recovery procedures should be outlined in the security contract. Credit bureaus must proactively sponsor disaster drills so that personnel are trained to quickly take steps toward data recovery. Power outages are more frequent in developing countries and therefore contingency plans must be in place for the event of power failure. Redundant power supply helps to ensure data security in societies with poor infrastructure, but should also be adopted in societies with developed infrastructures[18]. In addition to power redundancy, secure bureaus will also utilize backup processing centers in multiple regions. This prevents a regional disaster from compromising data.

[17]International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group. p. 34.
[18]Financial Services Roundtable and Information Policy Institute. 2005. How safe and secure is it? An assessment of personal data privacy and security in business process outsourcing firms in India. Chapel Hill, NC: Information Policy Institute.

3. Challenges and Opportunities in the Transition to Reporting Positive Information

Decide with Confidence

There are issues to consider in the transition to more positive reporting, whether from negative-only or from a state of non-reporting. Some of these issues—the speed of the transition, data quality tests, preparations for identity crime, information disclosure, and inducing data furnishers—concern how to proceed in the transition to a system that reports positive information. Others - e.g. lending levels and expectations from value added, analytic products, concern what to expect in the transition period, some of which may be counterintuitive and contra the trends that are expected once the system is institutionalized. In examining each of these issues, it is important to keep in mind the backdrop of legal and social norms and technical and informational wherewithal.

3.1 Gradualism vs. Rapid Implementation of Credit Reporting: Some Considerations

There are few systematic studies measuring the virtues of gradual implementation of positive reporting and comparing them to the rapid implementation of positive reporting. As such, robust lessons are lacking. Nonetheless, the issue can be examined in a systematic manner and factors to keep in mind can be identified accordingly in order to think about the pros and cons systematically.

3.1.1 Dimension of Gradualism and Rapid Implementation

In thinking about the value and costs of the two approaches, it is necessary to note a few salient distinctions. In the creation of a bureau that reports positive information, gradual and rapid can apply to at least two dimensions.

First, it can apply to the positive information that is collected. The list of positive data fields on an account is extensive: the loan amount; outstanding balance; timeliness of payment; the interest rate; maturity; loan type; the type of collateral; the value of collateral; and the loan rating. The list is not necessarily complete, but it does indicate the fact that there is considerable "positive" data associated with a line of credit. There are very few economies in which the bureau collects all these fields. For example, interest rate information is very rarely collected, especially in systems with private bureaus. Thus "rapid" implementation of positive data collection should be understood in relative terms. Most commonly, the inclusion of the timeliness of payment data is customarily considered to constitute "full-file".

Furthermore, while a range of data types may be collected, these may not necessarily be collected from all types of credit providers, or for all credit instruments. Reporting systems may not be comprehensive across sectors, but may instead be segmented according to sector, such as retail credit, or bank credit. Or data furnishers may not report on all types of credit obligations; for example, not all full-file systems include mortgage loan data. Finally, most systems do not include information on non-credit obligations such as utilities and

telecom payments. In many instances of less than comprehensive reporting by sectors, or of loan instruments, or non-credit obligations, there have been moves towards inclusion and integration of payment data. In none of these instances has the shift resulted from the pursuit of a phased strategy. Nonetheless, these instances offer some lessons for the expansion of reporting.

		Inclusion of Positive Data	
		Gradual	Rapid
Inclusion of Sectors	Gradual	I	II
	Rapid	III	IV

The figure above depicts possible variations in the direction of the speed of the expansion of credit reporting, first along the dimension of including more positive data, and second along the dimension of including more sectors. Note that by convention, full-file comprehensive systems are largely taken to be ones in which (i) account balance and timeliness of payment, including timely payments and (ii) bank and non-bank credit obligations are reported.

3.1.2 Assessing gradual and rapid implementation

There appear to be pros and cons for both gradual approaches and rapid ones. Here, the relevant comparisons are along the two dimensions, between I and II, and between I and III. At the outset, it should be noted that the configurations of data and data reporters found in most economies is the product of history, regulation, and business considerations, including the competitive landscape.

While systematic evidence and experience strongly suggest that a full-file comprehensive reporting system is more beneficial to the market and to consumers, there may be limitations to implementing such a system from the outset. In a real sense, most credit bureau implementations involve a gradual transition anyway, save in mandatory reporting environments. Larger, more technically sophisticated players report first, while others would follow over time. This evolution allows for the deployment and redevelopment of practices such as reciprocity—in which the only information shared with a credit provider is the type of information the credit provider furnishes to the bureau.

In terms of regulatory and institutional gradualism, it should be noted that the pros and cons are largely found in cultural, political or competitive issues. To stress once more, credit bureaus are not merely technical ventures or even also part of the financial infrastructure, but are providers of business solutions that interact in complex ways with the terrain of business strategy.

To the extent that regulatory changes - e.g. in the reporting of data fields - require societal support, and to the extent that it's lacking, a gradual effort can serve as a series of experiments, in which social segments—consumers, lenders and regulator—become progressively comfortable with credit reporting. Over time as privacy, competitiveness, and over-indebtedness concerns are met, these social segments can come to see the value in credit reporting.

Competitive considerations enter into whether a slower or faster approach is preferable especially in systems where different bureaus specialize according to sector (I vs. III, in the chart above). For example, credit reporting in Japan is shared among: a personal credit information center founded by the Japanese Bankers Association that include banks, financial institutions, bank-affiliated credit card companies and guarantee companies; a credit bureau of consumer finance companies; another bureau which focuses on department stores, retailers, leasing companies, and guarantee companies; and a separate bureau for non-bank credit card issuers. Reform in Japan has been stalled as a result of the fact that bureaus that are specialized have disincentives to create a homogeneous product, as their differentiated products serve as a barrier to entry. The threat of comprehensive reporting is the threat of removing the barrier. A gradual move to comprehensive reporting is difficult if there are many players with different specializations.

The structure of the credit reporting sector matters in determining whether gradual implementation is more effective than rapid ones. That is, in economies with one or few bureaus that extend reporting into sectors that

do not as of yet report - e.g. utility payments - a gradual approach is more feasible and perhaps necessary. This is accomplished through creating examples in one sector that are later adopted by other sectors. In economies where reporting exists in most sectors but is fragmented, there may be significant hurdles to be overcome. Hence, in implementing a bureau, a rapid expansion to cover the main sectors may be preferable where segmented bureaus are likely to develop. In doing so, the credit reporting system can be set up initially to be conducive to a gradual market driven evolution and expansion. Otherwise, later movement to a credit reporting system made up of full-file comprehensive credit bureaus may involve large and disruptive changes to bureaus that evolved to be sector specific. Such changes may be very difficult, as a number of market players, lenders and bureaus, may have also evolved vested interests in the status quo. Hence, it is important to initially move quickly to a good foundation of a credit reporting system.

3.2 Expecting the Unexpected: Accounting for the "Valley of Transition" in Lending and Loan Performance

There are well-documented benefits to the increased sharing of credit and payment information[19]. The principal ones are wider and fairer access to credit, improved loan portfolio performance, growth in lending to the private sector, and increased overall economic growth. These benefits have been measured both through simulations and through observations. Nonetheless, the implementation of greater information sharing may not lead directly to greater credit access immediately. Some economies have witnessed a "valley of transition," in which credit first contracts before recovering and moving to a state where the larger benefits of greater information sharing are witnessed.

This section examines the benefits of greater information sharing in credit markets both in the aggregate and for different social segments. Crucially, the logic behind how these benefits are achieved is also addressed. In describing this logic, we set up the explanation of the "valley of transition," in which credit contracts and delinquencies may increase for a period as information is shared. In addition to simply alerting lenders and policymakers of the possibility of this "valley," we explain the triggers leading to this outcome with the hope that such knowledge may speed the recovery of lending in transitioning markets. An understanding of why delinquencies spike during a transition permits lenders to treat different borrowing segments properly and allows policymakers to respond to these changes with appropriate policy tools.

[19] Barron, J. and M. Staten, "The Value of Comprehensive Credit Reports: Lessons from the U.S. Experience." In Credit Reporting Systems and the International Economy, edited by M. M. Miller (Cambridge, MA: MIT Press, 2003), pp.273-310; Turner, M. The Fair Credit Reporting Act: Access, Efficiency, and Opportunity. (Washington, DC: The National Chamber Foundation, June 2003), available also online at http://infopolicy.org/pdf/fcra_report.pdf.; Majnoni,G., M. Miller, N. Mylenko and A. Powell, "Improving Credit Information, Bank Regulation and Supervision" (World Bank Policy Research Working Paper Series, no. 3443, November 2004). Available at http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2004/12/17/000.
160016_20041217171024/Rendered/PDF/WPS3443.pdf.; Turner et al., Give Credit Where Credit Is Due (Washington, DC: Brookings Institution, December 2006); Turner, M., R. Varghese, and P. Walker, On the Impact of Credit Payment Reporting on the Finance Sector and Overall Economic Performance in Japan (Chapel Hill, NC: Information Policy Institute, March 2007); and Turner, M. and R. arghese, The Economic Impacts of Payment Reporting in Latin America (Chapel Hill, NC: Political and Economic Research Council, May 2007).

3.2.1 Credit Access in a Stable Positive Data Reporting Regime

As discussed above, credit bureaus are institutional responses to the problem of information asymmetries in lending. Recall that in extending a loan, a lender faces the problem that only a borrower precisely knows her intention and capacity to repay. The lender must, therefore, infer the risk profile of the borrower. When lenders can assume only the average risk for any given borrower, borrowers of above-average quality will be driven out over time[20].

One long-run consequence is that credit in loan markets can be rationed because of insufficient information. Put another way, given borrowers with identical risk profiles, one will receive a loan and another will not[21]. Given these information asymmetries, banks rely on a combination of pricing (interest rates) and rationing to maximize returns. However, higher interest rates, while covering the risk of borrower default, are also likely to result in adverse selection. That is, higher interest rates attract borrowers seeking to make risky investments with the potential for high rates of return. And the lack of the ability to fully monitor borrowers after they have borrowed funds results in the classic moral hazard problem.

In presenting information about potential borrowers to a lender, credit-reporting agencies reduce these asymmetries and related dilemmas to allow: (a) low-risk borrowers a lower rate (known as "risk-based pricing);" (b) greater lending through reduced rationing; and, (c) lower rates of delinquency and default. Credit becomes more available and affordable as a result[22].

As empirical studies have shown, it is also now accepted wisdom that the extent to which these results occur depends critically on:

- the structure of credit reporting (whether data is segmented according to sub-markets such as retail and bank, or is comprehensive and available to all parties),
- bureau ownership structure (public or private ownership), and,
- the kinds of information reported (only negative data such as delinquencies, defaults, and bankruptcies, or also positive data including timely payments, payment amount, and the outstanding balance).

Simulations have used anonymous credit files from different economies to gauge the impact on credit of wider access to information. The first of these, conducted by the pioneers of this method, John Barron and Michael Staten, used U.S. files to simulate the impact of a system in which only negative information is provided and, separately, a system in which only retail payment information (i.e., segmented reporting) is provided[23].

Barron and Staten, using a 3 percent default target (that is, when a lender aims to have a nonperformance level that is no more than 3 percent), a negative-only reporting system would accept 39.8 percent of the applicant pool, whereas a full-file system would accept 74.8 percent.

With more information, fewer "good" risks are likely to be mistaken for "bad" ones, the most common lending error, allowing lenders to increase their lending without harming portfolio performance. Several more recent studies have verified this trade-off. Three are notable. The first, by PERC's Information Policy Institute, uses U.S. data with commercial scoring models and includes one negative-only simulation, in which payment data less than 90 days past due were excluded[24]. The second and third studies use Latin American files—one using Brazilian and Argentinean files and the other using Colombian

[20]Akerlof, G. 1970. The market for lemons. Quarterly Journal of Economics, 84 (3): 488-500.
[21]Stiglitz, J. and A.Weiss. 1981. Credit rationing in markets with imperfect information. The American Economic Review . 3:393-410. Also see Pagano, M. and T. Japelli. (1993) Information sharing in credit markets."Journal of Finance 48(5):1693-1718; and Jaffee, D. and T. Russell. Imperfect information, uncertainty and credit rationing. Quarterly Journal of Economics 90 (4):651-666.
[22] Pagano, M. and T. Japelli. 1999. Information sharing, lending and defaults: Cross-country evidence Centre For Studies in Economics and Finance, Working Paper No. 22. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=183975 (accessed September 15, 2008).
[23]Ibid.
[24]Scenario C results, p. 50, Table 11 in Turner, M. 2003. The fair credit reporting act: access, efficiency, and opportunity. The National Chamber Foundation Washington, DC http://infopolicy.org/pdf/fcra_report.pdf (accessed September 15, 2008).

files[25]. The results from these simulations are shown in Table 4.

The most modest improvements in lending, at the 3 percent default rate, would find an additional 7 percent of the applicant pool accepted, or an increase among those accepted by nearly 22 percent. Either way, these are significant improvements. There appears to be a fairly broad consensus in the results that greater use of positive data materially improves and increases lending.

Similar results are found when comparing segmented and comprehensive reporting. With a 3 percent target default rate, Barron and Staten found a 10.6 percent increase in acceptance rates when switching from retail-only information to full-file using U.S. data (see col. 6 in Table 4)[26].

Table 1:
Percentage Point Change in the Acceptance Rate by Shift in Reporting Regime (percentage change shown in parentheses)

	Negative-only to Full-file					Segmented (Bank-only) to Comprehensive Reporting	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Default Rate	Barron and Staten, U.S. files	Turner et al., U.S. files	Turner and Varghese, Colombian files	Majnoni et al., Argentinean files	Majnoni et al., Brazilian Files	Barron and Staten, U.S. files	Turner, Canadian files
0.5%							16.5 (52.7%)
1%							8 (13.1%)
2%		13.4 (47.0%)			15.9 (32.3%)		7 (8.8%)
3%	35 (87.9%)	9.2 (23.0%)	7.4 (290.6%)	10.7 (21.7%)	26.4 (47.3%)	8.0 (10.6%)	9.1 (10.9%)
4%	9.5 (12.9%)	8.4 (17.8%)			6.7 (7.9%)	10.0 (12.4%)	
5%	4.3 (5.1%)	4.9 (8.8%)	36.2 (702.9%)	0.6 (0.1%)	1.9 (2.0%)	2.2 (2.3%)	
6%	2.3 (2.5%)	3.3 (5.5%)					
7%	0.5 (0.5%)	2.3 (3.6%)	45.2 (332.5%)	1.76 (2.1%)			

[25]For the Brazilian study, see Majnoni, G. et al. 2004. Improving credit information, bank regulation and supervision World Bank Policy Research Working Paper Series, no. 3443 http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2004/12/17/000160016_20041217171024/Rendered/PDF/WPS3443.pdf (accessed September 1, 2008). For the other two studies see Turner, M. and R.Varghese (2007) The economic impacts of payment reporting in Latin America. Chapel Hill, NC: Political and Economic Research Council.

[26] Information for this table was taken from Table 8.6 (p. 303) Barron, J. and M. Staten. The value of comprehensive credit reports

Some of the studies discussed in the previous section also examined how different systems of reporting affect the distribution of credit among different groups. Two such studies use U.S. credit files and the third uses Colombian files. The first three columns of Table 5 present results of studies using U.S. files, with columns 1 and 2 showing the distributional effects of adding utility and telecommunications payment information, and column 3 the effects of switching from negative-only to full-file[27]. These studies also use a 3 percent target default rate. All three changes (inclusion of utility data, inclusion of telecommunications data, and the shift to full-file data) are associated with higher acceptance rates for groups that have been traditionally under-served by the financial mainstream. That is, the young, ethnic minorities, and those with lower household incomes benefit the most from including positive and non-financial information in credit files. Thus, credit can both be expanded and distributed more equitably. In short, greater information sharing broadens and deepens credit access, makes it perform better, and makes credit fairer.

Table 2: Change in the Acceptance Rate with Reporting Regime Change

	US Full-File (Neg.-Only = 1.00)	Colombia Full-File (Neg.-Only = 1.00)
Ethnicity		
Black	1.28	
Hispanic	1.37	
White	1.22	
Age		
18–25	1.47	18.31 (a)
26–35		
36–45	1.22	6.48 (b)
46–55	1.21	4.54 (c)
56–65	1.20	3.85 (d)
>65	1.19	
HH Income (000)		
<20	1.36 (a)	
20–29	1.3 (b)	
30–49	1.24	
50–99	1.21	
>99	1.18	
Gender		
Female	12.39	
Male	5.91	

(a) Actual Range is 18–32; (b) Actual Range is 32–42, (c) Actual Range is 42–50; (d) Actual Range is > 57.

[27]Turner, M., et al. 2003. The fair credit reporting act: access efficiency and opportunity the economic importance of fair credit reauthorization. Chapel Hill, NC. Information Policy Institute; and Turner et al. 2002. Give credit where credit is due: Increasing access to affordable mainstream credit using alternative data. Chapel Hill, NC: Political and Economic Research Council.

These results are notable. These distributional effects in the access to credit can themselves be used as a monitoring device to evaluate whether positive data is broadening lending. That is, changes in the distribution of credit itself serve to indicate the effective and efficient use of information. Such a change serves to indicate whether lenders and analytic firms are making the most of the data, and extracting desirable value out of it. If not, it may be the case that other prerequisites for efficient lending - e.g., skills in information use, value-adding analytic products - are missing or underused.

3.2.2 The "Valley of Transition" and Lending Recovery

Some economies have witnessed a contraction of credit access when positive information is initially shared. The logic behind this trajectory, in which it "gets worse before it gets better," is the following. In a system in which only negative information is shared, overextensions are hard to observe when borrowers utilize multiple lenders. That is, some set of borrowers may rely on borrowing to service debt.

At some point, either: (i) delinquencies increase, and information is then shared to "weed out" overextended borrowers from stable borrowers; or (ii) information is shared and shows overextended customers. In both cases, banks reduce lending because of an uncertainty about the risk associated with a borrower and because of the need to cover defaults that often result from the inability of over-indebted borrowers to service debt through new borrowing.

Hong Kong witnessed rising delinquencies, especially in credit card debt, in the late 1990s and the first few years of the 2000's. Bankruptcy filings increased from 893 in 1998 to 4,606 in 2000 to 25,328 in 2002[28]. By the 3rd quarter of 2002, the annualized default rate on credit cards was 12.75%, with the average defaulting consumer owing 55 months of income[29]. Bankruptcies spiked as lenders became increasingly aware of borrowers using loans to service other loans[30]. As lenders started to share positive information, a move driven largely by a need to differentiate the overextended from those who were not, Hong Kong witnessed a contraction of credit.

The decision to share positive data, especially on revolving credit accounts, and specifically regarding the number of accounts, credit limits and outstanding balances, was driven by a need to assess whether a consumer was overextended or not. From the second quarter of 2002 to the second half of 2003, the number of credit card accounts declined[31]. The recovery to peak levels took an additional year, but the recovered level of active accounts was not accompanied by the rising delinquency rates witnessed in the previous upward trend years.

The recovery in Hong Kong credit markets took two years. There are an insufficient number of observations of this dynamic of temporary credit contraction to assess whether this recovery period is typical or abnormal, excessive or swift. First, it should be taken into account that the fact of overextension, if not necessarily the scale of overextension, was not a surprise when information sharing was expanded to include positive data. Second, the sources and scale of over-indebtedness will shape the extent to which lending contracts. The credit instruments that are "shuffled" across multiple lenders can well determine the extent to which lending contracts and the extent to which the contraction is contained. For example, overextensions in non-collateralized consumer loans are likely to have very wide effects. The scale of overextensions also shape recovery times, as lenders, in writing off losses, may have to alter reserve requirements to preserve the safety and stability of the system. Of course, it is only until information is shared that an economy will know the scope, source and scale of overextensions.

As a practical matter, lenders should be prepared for these contingencies. And moreover, they

[28] Booth, C. 2003 Current trends in consumer insolvency in Hong Kong p. 187-204 in J. Niemi-Kiesiläinen, I. Ramsay, W.C. Whitford, eds. Consumer Bankruptcy in Global Perspective Portland, Ore.: Hart Publishing.
[29] Ibid.
[30] There is some evidence of a similar dynamic at play for small and medium enterprise lending in Argentina in recent years. Interview with Tony Lythgoe, Regional Credit Bureau and Risk Management Advisors, International Finance Corporation. September 16, 2008.
[31] Visa. 2004. The credit card report: Hong Kong. www.visa-asia.com/ap/center/valueofvisa/industrywatch/includes/uploads/Hong_Kong_Credit_Card_Report.pdf. (accessed September 8, 2008).

should consider expansions of lending to under-served but low-risk segments and subsegments of consumers. It may be the case that the results from healthier lending systems can be used as indicators. To note, the high levels of lending in unstable systems such as these, if not in all cases, is a product of extending more and more accounts to existing borrowers. Systems in which lending grows and is stable appear to be more often characterized by an expansion of the base borrowers. Extension of lending to under-served social groups is another sign of information being properly used to expand credit access in stable ways.

Revelations of overextension need not necessarily lead to transitional contractions in lending. The institution of credit reporting in Russia revealed a similar pattern of some borrowers being excessively indebted through the use of multiple lenders[32]. (The lenders were unsure whether the data was showing over-indebtedness or fraud, but in either case saw it as representing high risk.) The larger lenders quickly reoriented lending away from these segments to those that were revealed by data and analytic techniques to be lower risk. These banks were larger and often multinationals with extensive experience in the use of data and data driven analytic techniques. Whether the instances of overextension in Russia were not of sufficient levels to curtail lending is unclear, but it does indicate that declines in lending even with the revelation of overextension is not a given.

3.3 The Security Pros and Cons of Increased Information Sharing: Using Data for ID Fraud Prevention and Protection

As discussed above, the provision of positive data, whether full-file or less than full-file, is practically distinct from the provision of negative-only information in more than the trivial sense. Negative-only systems are "events-based," meaning the provision of information is triggered by specific occurrences, notably the failure to pay an account in a timely fashion (a delinquency), or the abrogation of a borrower's responsibilities to pay off the debt (a default), or the legal discharge of the obligation to pay (bankruptcy), or the legal order to pay and until paid the placement of a legal hold on any transfer of assets (a lien). For most borrowers, these events are rare, and in fact some - e.g., bankruptcies - are never experienced. From the perspective of the practice of data sharing, this fact means that data on an individual's financial activity is not shared, as the vast majority of activities of borrowers do not qualify as the set of "events" that would trigger reporting. In short, at any given time, very little if any information on an individual is transferred from one database to other databases.

The practice of positive information sharing differs significantly from negative information sharing in this respect, that is, in terms of how often an individual's information is shared across databases. Even limited information sharing means that information is reported during the reporting interval, even if, say, account balances do not change. The state of affairs in which information on any borrower is not shared with a third party save in the event of failure to meet terms, to one in which information is shared even as s/he meets obligations is fundamentally different in that information on a data subject is regularly traded. More information on most data subjects then comes to reside in more databases as a result.

All else being equal, the fact of more data being "out there," that is, in more databases, increases the chances that a breach will lead

[32] Interview with Marlena Hurley, CRIF September 26, 2008.

to information in unauthorized hands. In this era of information use and exchange, identity theft and fraud has become a more prevalent crime. Identity theft and identity fraud have emerged as serious crimes for consumers and citizens. There are few comprehensive statistics on identity theft over time, but many indicators suggest that it has grown in the last decade (also see below)[33].

Identity crimes encompass two associated but distinct types of thefts. The most common form of identity crime involves the unauthorized use of financial account information in order to make fraudulent purchases or steal money from the victim. This type of crime is referred to as "identity fraud" or "account takeover". In its practice, it also encompasses events such as the theft of a credit card from a wallet or even the unauthorized use of a credit card by an associate, friend, or family member. The most sensational and costly instance of identity crime involves the theft of a set of information about an individual that allows the criminal to open new accounts in the name of the victim. This form of identity takeover is "identity theft" proper.

The relationship between identity theft and information sharing is a complicated one because if only contra what is noted above all else is not equal. More information shared is a double-edged sword. While more information sharing increases the number of people with access to personal information, it also increases the amount of data available to fight identity theft. That is, the data available for identity verification also increases.

Payment systems also use payment patterns available to them to identify fraudulent activity. But with some forms of identity theft, such as the opening of new accounts in another's name, the sharing of data can serve to generate truth databases to verify identity and simply to identify fraud. But most importantly, the reporting of new account information to a centralized third party, such as a credit bureau, allows a data subject to review regularly what, if any, new accounts have been opened in her/his name. Unlike a negative-only system in which this information would be available to the data subject-cum-identity theft victim via a credit report, a positive information sharing system would allow for the earlier detection of identity theft.

Identity theft figures from the United States do indicate a decline since the early part of the decade, that is, as campaigns designed to engage consumers in the regular monitoring of their credit files spread. The follow-up surveys to the one conducted by Synovate for the U.S. Federal Trade Commission indicate regular declines in identity theft measures. In terms of victims, the number has fallen from 10.1 million in 2003, to 9.3 million in 2005, to 8.9 million in 2006, to 8.4 million in 2007. Losses from identity theft have begun to decline from a peak (for the period the surveys have been conducted) of US$55.7 billion in 2005 to US$49.3 billion in 2006[34].

The engagement of consumers in the monitoring of their information via bureau data appears to be an effective tool in combating identity theft. As a system expands the information that it shares with third party bureaus and thereby increases the potential sites of access, measures and monitoring practices that use the very same data should be developed and promoted. Moreover, these declines appear to have gone hand in hand with greater consumer access to their credit reports.

The design of a full-file system should consider methods of engaging consumers/data-subjects in the monitoring of their credit reports as means of reducing identity theft and identity fraud. Additionally, this design should incorporate the electronic and physical security of storage and transmission systems, the architecture of which should not vary considerably from a negative-only system.

The practice of free annual access for data subjects to their credit reports is one method, usually instituted by legislation. The development of credit monitoring products by the industry (both for identity theft and for monitoring credit ratings) can also be of use in limiting fraud.

[33] A few indicators are available. One credit bureau reported an increase in fraud alters in 2000 over 1999 — from approximately 65,600 in 1999 to 89,000 in 2000.
[34] Javelin Strategy and Research. 2007. Identity fraud survey report. Pleasanton, CA: Javelin. Also see Privacy Rights Clearinghouse. 2007. ID theft surveys. www.privacyrights.org/ar/idtheftsurveys.htm (accessed September 15, 2008).

3.4 Data Quality Issues In the Switch to Positive Information

Data quality refers to the accuracy, integrity, consistency and completeness of the identifying and trade account information that is reported to a credit bureau for storage. Data quality is promoted by credit bureaus, data furnishers (lenders and other firms that report payment data to credit bureaus), and data subjects.

3.4.1 Stakeholder Incentives to Ensure Data Quality

Credit bureaus have in place rigorous data quality standards against which all incoming data are tested. The process of approval for a data furnisher to report to a bureau, then, is more involved then simply a decision by the furnisher to report. Even after a data furnisher meets the credit bureau's data quality standards and begins reporting, responsible bureaus have in place a team dedicated to quality control. Data quality issues are an ongoing process for credit bureaus. They are further motivated to invest in these processes if they are in a competitive market. Should one bureau be able to demonstrate that their data is more accurate, and therefore more predictive of credit risk, they would obtain a considerable competitive advantage.

Further, credit bureaus are often subjected to penalties for knowing and willful maintenance of inaccurate information. This typically involves some form of administrative enforcement. Administrative enforcement is preferred to private right of action on matters pertaining to data quality. The logic behind this is twofold: (1) credit bureaus are repositories of information that is reported to them, and to hold them ultimately accountable for persistent errors may be misplacing culpability; and (2) in countries such as the United States, permitting private right of action for perceived data inaccuracies would result in a bevy of class action lawsuits, the costs of which would overwhelm a credit bureau making them potentially non-viable.

Data furnishers also have a compelling incentive to provide credit bureaus with data that is as accurate as possible. This incentive, however, only exists when reasonable dispute resolution provisions are in place and data subjects have reasonable and affordable access to their credit report. In the US, a data subject is entitled to one free disclosure from each of the three national credit bureaus per annum by federal law. When combined with the requirement that data furnishers verify the accuracy of their data whenever a data subject contests it, data furnishers have strong incentives to supply data with few errors. Under such data furnisher obligations, if the data reported to a credit bureau were relatively inaccurate, the result would be high levels of customer dissatisfaction and significant and costly consumer disputes that the furnisher must address. It is in the furnisher's best interest, therefore, to ensure high data quality standards so as to protect customer satisfaction and control customer service costs.

There is good reason to believe that when reasonable and affordable access to their report is provided, *data subjects* will actively engage their credit report and contest data that is perceived to be inaccurate. For the most part, data quality issues, like identity theft, are detected by the data subjects. Thus, a robust and effective dispute and re-verification system is a necessary component of insuring data quality.

Clearly defined data subject rights to dispute and revision are therefore a key component of improved data quality. A dispute process should comprise easy access to bureaus in order to initiate a dispute, a reasonable time frame to resolve the dispute, and clear notification to the consumer from a credit provider of their rights and of how to pursue rectification. Moreover, on the data furnisher side, the creation of clear data verification norms and procedures are also important. Note that the objective of an information sharing system is the provision of accurate data for the purposes of effective and reliable risk assessment. Some systems have defaults that assume the complaint is correct and seldom engage in re-verification. In regimes such as these, false "corrections", for lack of a better term, do not disrupt the system, as the instances of disputes are relatively low.

There are drawbacks to setting the default in the data subject's favor. Most notably, doing so enables data subjects to game the system by knowingly contesting accurate negative data. The logic behind such behavior is that if successful, the accurate negative data is expunged from a data subject's credit file, and their credit score increases as a result. Data

subjects who are seeking large amounts of new credit are most likely to game the system. There is evidence that this behavior is not uncommon and may be growing as general awareness of these loopholes increases[35]. For more on this, see section 3.8. What the threshold is before damage is done to the lending system is unclear. On the whole, though, a re-verification procedure, in which the consumer can also lodge a disagreement about the resolution, is effective in guarding consumer rights as well as improving data quality.

3.4.2 The Importance of Data Quantity to Data Quality:

Positive systems also allow for improvements in data quality that negative-only systems do not. Recall that consumers are reported on in negative-only systems when a negative "event" (delinquencies, defaults, bankruptcies, liens) occurs. Positive systems share information when an account is opened. They report balances, and changes in account balances. As noted, this means more information is shared. The fact that more information is shared, most crucially the reporting of the existence of an account, affects the capacity to improve data quality in two distinct ways.

First, the provision of more data allows for the creation of data quality tests that do not rely entirely on consumer engagement. These tests will vary according to the information shared and the regulatory regime. The fact of multiple accounts being reported on, and not simply when delinquent, means that bureaus may be presented with more identifier information. On the one hand, this may prove to be an issue as variations in identifiers (e.g. the use of a nickname) can cause an individual to seem like many others. In places where national identification numbers are either unavailable or cannot be used, credit bureaus rely on multiple fields such as name, date of birth, and address, and through multiple fields develop a more robust matching key for an individual. The registering of more account data allows for greater confidence that patterns of variation in the identification of the same individual or patters of commonality in the identifiers of different individuals are recognized as such. That is, more sources of data allow for a more accurate identification of data subjects.

Positive data can also allow for tests for data quality on trade line data. For example, the presence of positive payments on zero balance revolving credit accounts may indicate an error. They can also quickly look for missing fields, and look for consistently missing fields (on a data subject or from a data provider), and for duplicate files, to some extent. The internal consistency tests enabled by more information can establish the basis of data quality correction measures that do not rely on consumers to first engage their files.

Second, and perhaps most crucial, information sharing regimes in which positive information is exchanged, unlike ones in which only negative information is exchanged, tend to have reporting systems that are automated. Automated systems are cost effective when more information is being shared, as they reduce the costs of collection and recording. When only negative information, such as 90 day or more delinquency, is shared, the creation and diffusion of an automated system may be cost prohibitive. Automation brings with it a higher level of accuracy than manual entry. And, so, it may be the case that full-file reporting reduces the overall error rate.

For a new positive reporting system, the provision of automated reporting platforms and the development of internal tests of consistency can go a long way to measure data quality. Moreover, these procedures and platforms can also help to identify the source of data errors. Again, these procedures cannot be specified beforehand from the determination of what information will be shared, but the presence of more data allows for more consistency tests.

[35]Lexington Law Firm, the leading credit repair firm in the U.S. often uses the reverification system to challenge all late claim and has removed over 3 million data elements from credit reports in the last 6 years. html" http://www.lexingtonlaw.com/credit-education/late-payments.html (accessed on October 1, 2008)

3.5 Making the Business Case

While there may be little disagreement on the broad benefits of information sharing via credit bureaus, it is not always an easy task making the case to data furnishers that they will benefit from reporting. The task is somewhat complex since the value derived from information sharing evolves over time, and as with most markets or exchanges, is determined by the interactions of supply and demand.

3.5.1 Value for users of payment data

Credit bureau data is primarily used to gauge the risk and credit capacity of individual borrowers and help determine whether individual loans should be approved and the pricing (interest rates and fees) of individual loans. The value obtained from the data depends on a number of characteristics of the data. These include, the population coverage of the data, the quality or accuracy of the data, and the completeness of the data across sectors of the economy, and the types of data reported. It is obvious that if the coverage of the population is low, and particularly among those that are borrowers or are potential borrowers, then the value of the underlying data will be low.

Second, if the quality or accuracy of the underlying data is poor, then so will be the estimates of borrower risk and capacity derived from the data (junk in, junk out). Third, the value of the data increases the more complete it is (the more sectors of the economy it covers). This is the case since, if a credit card issuer is deciding whether to extend credit to an applicant, for instance, that issuer will be better able to determine the applicant's risk and credit capacity better if it is able to account for the applicant's payment history across many sectors (personal bank loans, credit card accounts, mortgages, automobile loans, as well as other non-financial services such as mobile phones and utilities) instead of just one. That is, it is better to have the whole financial picture of the applicant rather than a partial one.

And finally, the types of information reported and available can be crucial. If only derogatory (negative) information, such as late payments, are reported and positive information such as accounts, account balances, and on-time payments are not reported, the value of the data will be limited. If an applicant has no derogatory events, does that mean the he or she has had no experience with credit or very much does and pays on time? This is unclear in a negative-only system. It is also difficult to gauge the credit capacity of borrowers without knowing how many other accounts and obligations they may have along with their account balances. And it may be the case that some borrowers are borrowing from one lender to pay another and unless payments have been made late, such instance would not be identified with negative-only data.

Beyond the benefits from the exchange of information that bureaus enable, there are additional benefits to the collection and, crucially, the standardization of payment and account information. Repositories of standardized data allows for the development of standardized and optimized automated underwriting. There are many benefits to this. With automated underwriting, it is the objective, statistically relevant, actual behavioral features of an applicant, such as his or her repayment history and income that become important in determining acceptance and loan terms. The subjective features, such as how an applicant looks or speaks, become less influential and, thus, hopefully reducing lending discrimination based on factors that should not be relevant. Standardizing loan approvals and terms within institutions also allows institutions to better gauge portfolio risk and likely return. Additionally, more standardization across institutions also allows regulators and investors to better gauge industry and firm risk and likely returns. Furthermore, automated underwriting, relative to manual underwriting, can be much less costly. A survey conducted by Fannie Mae in the United States found that origination costs declined, on average, 43% as lenders transitioned to automated underwriting from manual underwriting[36].

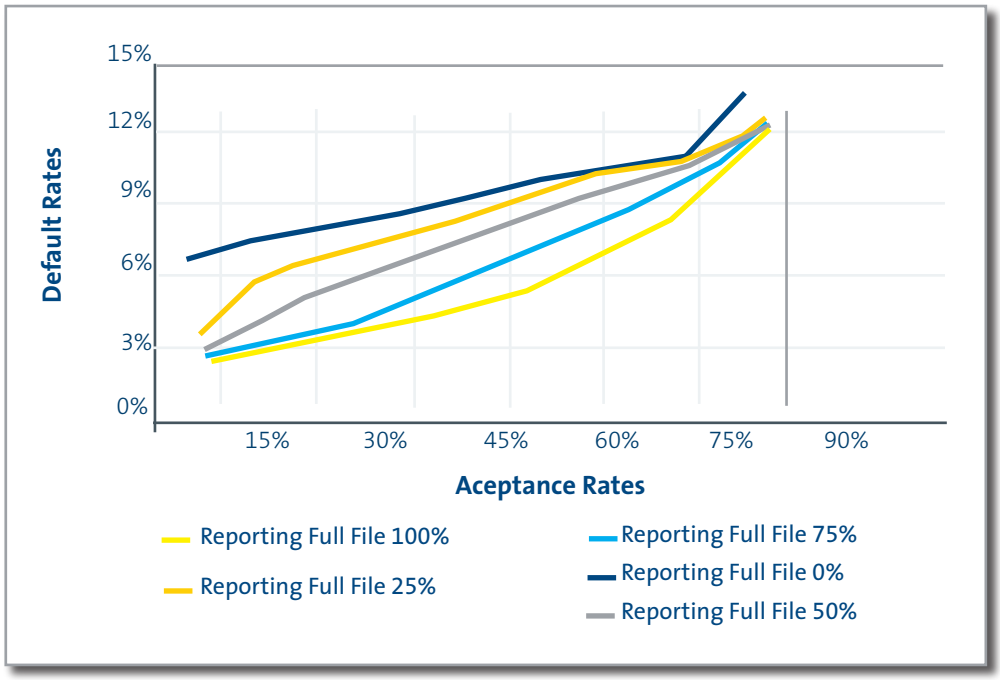
[36] Davis, T. 2002. Technology pays off in 2001. Mortgage Banking. http://goliath.ecnext.com/coms2/gi_0199-2137345/Technology_pays_off_in_2001.html. (accessed October 3, 2008).

3.5.2 Making the Collective Case for Participation

Strategically, lenders in their role as data furnishers may prefer a system in which everyone but they report. Reciprocity is designed to overcome this hurdle as only those who give data, get data. Still, this leaves the question of why participate open.

The figure below depicts the result of simulations using Colombian credit file data. The simulations were designed to measure the shift in the acceptance rate-default rate off as more data furnishers provide positive data.

Figure 1:
Acceptance and Default Rates by Levels of Participation, Colombia [37]



As the figure shows, the trade off between default rates and acceptance rates declines as more data furnishers provide positive data. Similar results can be seen in the chart below which reports the results of simulations of segmented, sectoral level reporting, using Canadian credit files. The tests simulated 4 scenarios that mimicked the Japanese credit reporting system. While the scenarios may be idiosyncratic, they nonetheless compare extensive participation with lower levels of participation in the reporting system:

Scenario 1: Positive and negative information from all reporting sectors are available, and all furnishers participate in providing payment information.

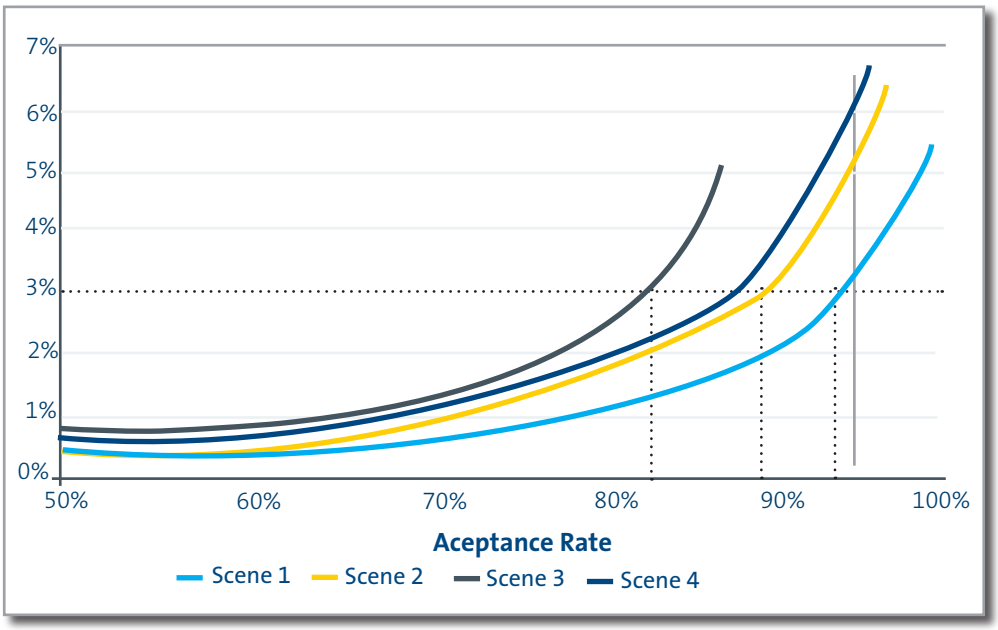
Scenario 2: Positive and negative information from banks are available; only negative payment information of 90+ days past due from non-banks is available.

Scenario 3: Positive and negative information from non-banks, with the exception of 25 percent of non-bank revolving credit (or financial credit cards). No bank information is available.

Scenario 4: Lower participation—only 50 percent of furnishers (bank and non-bank) provide positive and negative information, while the other 50 percent provide only negative information.

[37] Turner, M. and Robin Varghese, Economic Impacts of Payment Reporting Participation in Latin America.

Figure 2: Acceptance Rate-Default, Canadian Files[38]



As with the simulations using Colombian file, when furnishers provide less and less positive information, the curve shifts "higher", i.e., each acceptance target corresponds to a higher default rate. Furthermore, each default level, in turn, corresponds to a lower acceptance rate. The chart makes the performance losses explicit. These dynamics provide a case for potential data furnishers to furnish positive information.

3.5.3 Value for furnishers of payment data

The value from furnishing data usually comes from two main sources. First, the business models of credit bureaus have evolved such that financial institutions are usually able to access data from bureau to the extent that they contribute to it. This is called reciprocity. This encourages financial institutions to furnish data, and the richer the data in the bureau; the more of an incentive there is to report more data. So, while a bank may not want to reveal its credit accounts and balances, it may be encouraged to do so if in return it will have access to such information from other banks. In this way, the incentives to supply data increase as the value from using the data rises. And as described above, there can be great value in using standardized credit bureau data for lenders. And, there is a great incentive for the bureaus to maintain valuable data to entice suppliers.

The second source of value from furnishing payment data holds for both financial and non-financial providers. Businesses that furnish customer payment information provide incentives for their customers to make timely payments. To the extent that credit file information is used when extending credit, their customers will have their access to credit reduced as delinquencies are reported. And on the other side of the coin, as timely payments are made, customers will be rewarded and have increased access to credit. This vests their customers more in their own payment behavior. These incentives are very real. In the United States where consumers are well aware of the importance of their credit files, payments being reported to a bureau do measurably motivate customers[39].

[38] Turner, M., R. Varghese and P. Walker, On The Impact Of Credit Payment Reporting On The Financial Sector And Overall Economic Performance In Japan. (New York: Information Policy Institute, 2007) Figure 3, p. 45.
[39] Nicor Gas, a gas utility that reportis in the United States, estimates a reduction of 7 to 9 million charge offs over a 9 year period. estimate 5 to 7 million reduced charge off in 9 years. Lukowitz, David. "Nicor Gas Credit Reporting" presentation at presentation at Consumer Data Industry Association Symposium, March 13, 2008. For DTE Energy, an American electricity provider, the number of days sales outstanding declined by 5.2 days. And the number of accounts in arrears declined by 10%. Lando, Julie. "Enhancing Collections through Full-File Credit Reporting" presentation at Consumer Data Industry Association Symposium, March 13, 2008.

A survey of non-financial service providers, mainly energy utilities and telecommunications companies, found that, on average, the benefits of reporting customer payment information were several times to the costs of reporting[40]. The benefits were reduced delinquencies and fewer accounts in arrears and the costs were the additional IT and customer service costs from reporting customer payment data to bureaus. The IT and customer service costs were reported as being minor for these firms. Given the advances in IT, and falling prices, over the last few decades, though, this should not be too surprising.

The survey also showed that about half of the non-financial companies that responded to the survey had not considered reporting customer payment information and those that did (but did not report) indicated that information on the costs and benefits from reporting would be helpful in assisting their company in its decision to report or not[41]. Thus, non-financial service providers require information and education about the benefits and costs of reporting. That is, compared to banks and other financial service providers, non-financial service providers may not as easily understand the business case for reporting and may need additional outreach.

3.5.4 Overcoming fears of reporting

From the perspective of the business reasons for reporting to bureaus, there are two key economic barriers or fears from reporting.

First, there is the concern regarding costs. But, as the costs of computing and transmitting data have fallen so have the costs associated with reporting. As mentioned above, non-financial data furnishers in the US found the costs associated with reporting to be small. This is not to say, however, that the costs to very small businesses may not be too large to justify reporting. But even with the cases of very small companies there are innovative ways being developed to economically capture customer payment data[42].

Second, there are fears of poaching. By sharing customer payment data, some large financial institutions that currently have a dominant market position may be concerned that their competitors will be able to identify and market to or otherwise take their best customers. What this concern often misses is that by choosing to take such a defensive position and impeding the development of information sharing, financial institutions may be hurting their long-term growth.

The defensive strategy to maintain current market shares and margins may be penny wise but pound foolish. As shown in this report, the total pool of borrowers that can be safely and profitably extended credit rises as information sharing increases and overall economy-wide private sector lending and economic growth rise as more information is shared in an economy. Overcoming this fear may require a credit bureau to have several large lenders move at once to report data and the same type of data, since a single institution may be reluctant to be the first mover and only risk its customers. And the practice of reciprocity, getting out of a bureau what is put in, similarly acts to 'protect' those lenders that do participate. It may also be the case that the more non-financial data that a bureau can collect may help it entice the participation of reluctant lenders since the bureau's data would likely contain information on many consumers that are currently not borrowers.

And finally, altering the permissible uses of credit bureau data, such as restricting its uses for marketing, can also be a tool used by bureaus or governments to impact participation by financial and non-financial data furnishers. For instance, to entice mobile phone companies to report customer payment data, it might behoove credit bureaus to not permit credit bureau data to be used by telecommunications companies for marketing purposes.

[40] Forthcoming PERC report
[41] Forthcomming PERC report.
[42] See PRBC, http://prbc.com/, and RentBureau, http://www.rentbureau.com/.

3.6 Value Added Products

All credit bureaus must provide services and products that allow them to be economically viable. After a credit bureau has established its market niche and successfully collects information and provides credit reports, it must look to other means of growth and sustainability. One provision for economic viability is the addition of value added products and services. Examples of such additional services are credit scores, portfolio monitoring, application processing, marketing services, collections and fraud alerts[43].

Credit bureaus can play a very important role in developing markets through the provision of value added products. The costs of developing these products are spread across the entire consumer base, which includes individual consumers as well as financial institutions. By providing such services, credit bureaus allow smaller financial operations access to the same products employed by larger institutions. In this way, credit bureaus can allow smaller institutions to afford to participate in the advancement of technology and services[44].

The level of sophistication of value added services increases in more developed economies. In situations such as these, credit bureaus often devote internal analytic teams to the development of new and innovative services. This keeps the bureau competitive in an advanced market. Bureaus in lesser-developed economies often rely on external teams to develop and research value added products. The choice to outsource development or to use in-house resources is inconsequential to the success of the bureau, as long as the timing of the release of new services and the product quality is competitive within the given country's market[45].

As mentioned above, the addition of value added services is a secondary function of a credit bureau. The basic information collecting and report generating functions are met in the first stages of bureau operation. A second phase of operation uses the same information-collecting model, but expands the ways in which that information can be used to provide both lenders and consumers with new and innovative products. In preparing for a second phase of operation in which new value added products are developed, the bureau must provide for appropriate infrastructure to manage the new line of products.

For bureaus in emerging markets, it can be expected that information databases are less developed and therefore the timeline of product expansion is lengthened. The establishment of information collection over a large percentage of the population is an important predecessor to the evolution of value added services. Without the ability to collect data on a large-scale basis, a credit bureau cannot expect to expand its business operation model.

3.6.1 Value Added Products and Transitioning from Negative-Only to Full-File Reporting

Bureaus that are in the process of transitioning from negative-only to full-file reporting will see new value added services opportunities emerge as their databases are extended. More consumer information positively correlates with the increased level of diversity of products and tools that will provide additional bureau business opportunities. The increasing availability of consumer data leads to a greater ability of credit bureaus to engage in predictive modeling, thereby enhancing lenders' abilities to assess consumer and business risk.

The accommodation of new data and the live testing of new models creates an extended transition phase under which bureaus may experience a hiatus in the development and implementation of new value added products and services. Bureaus can expect to encounter new sets of challenges brought on by the large influx of data, such as new data formatting issues. Once new product lines have been tested and developed, the demand for new services is contingent on the quality and depth of user and lender education campaigns.

As a bureau transitions from negative-only to full file reporting, it identifies many more potential customers. This process of database maturation allows for a more diversified customer base

[43] International Finance Corporation. 2006. Credit bureau knowledge guide. Washington, DC: World Bank Group. p. 23.
[44] Ibid.
[45] Ibid.

for which to develop value added products, resulting in an evolution of the predictive nature of the information held in a bureau's database. As mentioned above however, the breadth of consumer education will dictate the speed at which new products can be produced and turned for a profit. Therefore, the need for education and outreach about new product lines cannot be understated. As bureaus develop more technologically advanced products, the administrative structure of the bureau must be expanded to allow for consumer education and research departments.

3.6.2 Market Implications of Value Added Services

When implemented properly, value added services have the ability to positively affect a market. One such example is the case of small businesses. With the addition of positive reporting information, a bureau has an increased capacity to provide scoring models. Providing credit scores to entities such as small businesses increases the ability of sound small businesses to gain access to credit. As small businesses provide a large proportion of private sector employment, employment growth, and ultimately drive local economies, it is important that small businesses have access to the credit that they require to continue operation. As small business owner information becomes more available, it can be reviewed cooperatively with its associated small business. Aggregating this information through a new credit scoring model will enable lenders to better assess small business risk. This seems especially to be the case with smaller loans; a U.S. Federal Reserve Bank of Atlanta survey of small business loans revealed that scoring was overwhelmingly the preferred decision mechanism for smaller loans (under US$100,000)[46]. Crucially, the availability of more data allows larger lenders that do not engage in relationship lending with small businesses to enter the small business credit space, thereby expanding the credit available for small business activity[47].

As more services become automated, the ability of banks to lend to small businesses increases. The evolution toward automated services offered through bureaus relaxes the need for manual underwriting of small business loans. Additionally, businesses can reach beyond their regional limitations to gain access to credit[48].

[46] Frame, W. S., A. Srinivasan, and L. Woosley, 2001. "The Effect of Credit Scoring on Small Business Lending." Journal of Money, Credit, and Banking, 33(3), 813-825.
[47] Turner, M. et al. 2007. On the impact of credit payment reporting on the financial sector and overall economic performance in Japan. Chapel Hill, NC: Political and Economic Research Council. Also see Berger, A. N., W. S. Frame, and N. Miller, 2005. "Credit Scoring and the Availability, Price, and Risk of Small Business Credit." Journal of Money, Credit, and Banking, 37; Berger, A., N. Miller, M. Petersen, R. Rajan, and J. Stein, 2005. "Does Function Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks." Journal of Financial Economics. and Berger, A. and G. Udell, 2002. "Small Business Credit Availability and Relationship Lending: The Importance of Bank Organizational Structure." Economic Journal, 112.
[48] Urban Markets Initiative and Information Policy Institute (2006) Improving Access to Capital for Urban Small Businesses: A Roundtable Discussion.

3.7 One Potential Threat to Data Integrity: Gaming the System

In recent years, as credit reports and credit scoring have become the mechanism through which credit is allocated and priced, a host of practices have emerged that effectively "game" the system. For example, in the United States, the dispute resolution system allows consumers to challenge data elements they believe to be incorrect. Bureaus have 30 days to verify the data, and if the data is not verified in the given time period, the data is changed in favor of the consumer. Similar regulations exist elsewhere in other economies; e.g. bureaus in South Africa have 20 days to verify a disputed data element.

As noted above, the consumer review, dispute and re-verification system plays a substantial role in improving data quality and reducing identity theft, in addition to protecting consumers from negligence in the data reporting system. However, this system, like most systems, can and has been manipulated at times. The common form of gaming the system, using this provision, involves regularly contesting every negative element and identifying data in the credit file. Companies that assist consumers in doing so have streamlined this process. If the practice is limited, the effects are relatively small. Widespread abuse of the dispute and re-verification system can damage the integrity of the data and thereby reduce the reliability of the database in accurately forecasting likelihood of repayment, and in the extreme can distort models.

There are no easy and simple responses to the threat of gaming the system. Rather, users of the data and regulators should pay attention to the development of these practices and respond when the practices stand to threaten core parts of the system.

4. Conclusions: Recommendations on the Road to a Positive Reporting System

Decide with Confidence

The opportunities and challenges faced in the transition to a positive reporting system, whether from negative-only reporting or from no reporting suggests that bureaus and reporting systems take the following steps:

- First and perhaps most important, a clear consumer and public education campaign should be conducted. This outreach should help to explain how credit reporting works at a basic level. This common understanding is necessary for the smooth adoption of reforms that may be needed down the road.
- Second, identity and verification tests should be instituted and regularly run. It's difficult to specify the tests ex ante as the possible tests will vary with the data being collected. More data allows more tests (e.g., of consistency).
- Third, the disclosure of free reports to consumers should be adopted and publicized. Consumer monitoring of credit reports reduces data errors and mitigates identity theft strongly.
- Fourth, lenders should be prepared for (i) a hiatus in new analytic and other credit report product development in the transition to positive reporting and (ii) the use of positive data in an expanded set of value added services.
- Fifth, lenders and regulators should be ready for the possibility of a transitional decline in lending, as the sharing of positive information can reveal the existence of a large set of consumers who are over-indebted and use credit to make timely payments on other credit accounts.

These measures can help ensure a smooth transition and moreover help institute a stable credit reporting system.

5. Glossary of commonly used terms

Decide with Confidence

Comprehensive reporting: A system in which payment and account information, whether full-file or negative-only, are not restricted by sector, that is, the system contains information from multiple sectors. Such a system is in contrast to segmented reporting, in which information in files is restricted to one sector such as banking or retail.

Data furnisher: The supplier of the data, most commonly the supplier of the service to whom a consumer has a payment obligation.

Data user: The end user of the data, usually but not necessarily a financial firm. In finance, the information is used either manually or in automated computer models to allocate and monitor loans. Other users include central banks, landlords, cell phone providers, and employers.

Full-file reporting: The reporting of both positive and negative data. On-time payments and late payments are reported. Delinquencies are reported at 30 days (sometimes 15 days) following the due date. Other positive information on an account, such as credit utilization, is also reported.

Negative data: Adverse payment data on a consumer. It consists of late payments (usually more than 60 days or more commonly 90 days past due), liens, collections and bankruptcies.

Negative-only reporting: The reporting of only negative data.

Positive data: Information on the timeliness of payments, including whether payment was on time or was moderately late. The payment information may contain the payment date relative to the due date. Positive information often includes data on account type, lender, date opened, inquiries, debt, and can also include credit utilization rates, credit limits and account balances. It stands in contrast to negative-only reporting.

Segmented reporting: A system of reporting information, whether full-file or negative only, in which only data from one sector or a limited number of sectors, e.g., retail or banking, are contained in reports.