Financial Inclusion Through Credit Reporting:

Hurdles and Solutions

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

A PERC Policy Brief

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Asia-Pacific Credit Coalition

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GLOSSARY OF COMMONLY USED TERMS

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.

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.

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-only reporting:

The reporting of only negative data.

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.

Comprehensive reporting:

A system of 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.

"

The stark reality is that most poor people in the world still lack access to sustainable financial services, whether it is savings, credit or insurance. The great challenge before us is to address the constraints that exclude people from full participation in the financial sector. Together, we can and must build inclusive financial sectors that help people improve their lives."

UN Secretary-General Kofi Annan
29 December 2003

1. Introduction

In the early years of the decade, the United Nations specified the objectives of "Inclusive Finance". The UN noted that among the objectives of an inclusive financial system, that is, of a system that does not under-provide the public good of a banking system to the disadvantaged and lower-income segments, are :

▶ Access to a range of "bankable" financial services, comprising, savings, short term and long term credit, insurance, payments and money transfers, for all households at a reasonable.

▶ The sustainability of financial institution that provide access to financial services for underserved segments.

▶ The promotion of competition in order to lower cost and provide customer choice.

In recent years, research has shown that credit information sharing systems, if properly structured, can be very effective and powerful mechanisms for financial inclusion. The key qualifier here is "if properly structured". Credit information sharing systems are key elements of modern financial sectors infrastructure. As with other kinds of infrastructure, its scope determines in large measure the extent to which different social segments in an economy can participate within the financial system.

In order to understand how the scope the information sharing system affects financial inclusion, it is important to note how credit bureaus help to solve a key problem that is inherent in lending, namely, imprecise knowledge of a borrower's likelihood of repaying. The lender must infer the risk profile of the borrower so that some low-risk borrowers are not mistaken as high-risk, and some high-risk borrowers are not mistaken as low-risk. The mistakes lead low-risk borrowers to face high interest rates that act as subsidies for high-risk borrowers. In presenting information about potential borrowers to a lender, credit-reporting agencies (CRAs) reduce these asymmetries, allowing for:

(i) greater lending through reduced rationing; and,
(ii) lower rates of delinquency and default.

Few disagree that consumer credit and other information allow lenders to make smarter decisions, but this consensus sidesteps additional important questions, including:

▶ **What types of information should be reported?**

▶ **Which sectors should be encouraged to report?**

▶ **What steps are needed to expand the coverage of the information sharing system?**

These questions confront policymakers, financial regulators, and others who use credit data, yet they are seldom examined systematically in the context of regulatory reform.

An information sharing based agenda for financial inclusion can be advanced by:

▶ **broadening the scope of information gathering;**

▶ **expanding the set of sectors sharing information within the system through the reduction of regulatory, technological and economic barriers; and**

▶ **taking measures that can help credit bureaus establish financial identities.**

This brief quickly outlines the logic of information sharing as it relates to financial inclusion and suggests some policy concerns and policy targets designed to promote a financial inclusion agenda.

2. Macro Effects on Development and Finance

Three spheres of economic life are strongly shaped, directly and indirectly, by the structure of credit reporting:

(1) economic growth and stability;

(2) the price of credit; and

(3) income distribution, as it relates to both poverty and equality.

These macro effects are achieved most commonly through a sustainable expansion of lending that comes with better risk assessment.

2.1. Greater Economic Growth and Stability

Multi-country estimates show that economies with larger financial sectors (under various measurements) have higher rates of growth, greater productivity increases, and faster growing capital stock.[1]

Ross Levine estimated that an increase in private-sector lending by 30% of GDP should lead to an increase in GDP growth by one percent per annum, and an increases in productivity and capital stock by 0.75% per annum.[2]

2.2. Lowers Average Interest Rates

Without information on borrowers' risk profiles, a lender will mistake good risks for bad, and vice versa. The portfolio, therefore, will consist of more risky loans and, over time, as interest rates adjust to reflect loan performance, higher rates. Additionally, higher rates create incentives to engage in riskier projects, as lower-risk projects will not yield the return to compensate for the costs of the loan. Risky projects come to account for a larger share of the portfolio, thereby driving up the average rate. When information is shared, the ability to screen out riskier borrowers improves the portfolio's performance and allows lenders to offer lower rates to less-risky borrowers who would not have borrowed otherwise.[3]

2.3. Lowers Poverty and Improves the Distribution of Income

Beck, Demirgüç-Kunt, and Levine examined the impacts of greater private-sector borrowing on

(1) income inequality as measured by the Gini coefficient (a standard measure of income inequality; higher values mean greater income inequality);

(2) relative poverty, in terms of the income share of the poorest quintile; and

(3) absolute poverty, in terms of the share of the population that lives on less than US$1 per day.[4]

Beck and colleagues found that greater private-sector lending:

▶ **lowers the growth of the Gini coefficient;**

▶ **lowers the growth of the percentage of the population living under $1 per day; and,**

▶ **increases the growth of the lowest (poorest) quintile's income share.**
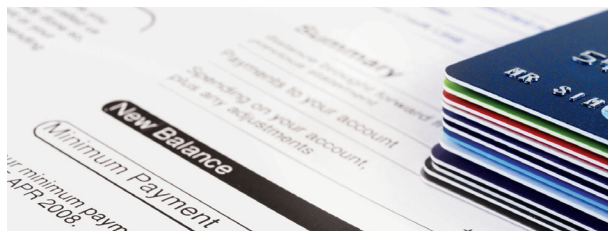
3. Credit Reporting, Its Structure, and Consequences: The Micro-Level

The research suggests that

(a) full-file, comprehensive credit reporting increases lending to the private sector more than other reporting regimes;

(b) the presence of private bureaus with comprehensive data is associated with greater lending to the private sector; and

(c) full-file, comprehensive reporting results in better loan performance than segmented and negative-only reporting. The evidence for these three claims is extensive.

The impacts of credit reporting and its structures have been examined in two ways. The first approach statistically estimates the impact of different systems of credit reporting worldwide, controlling for factors such as wealth and the legal system (particularly rights in collateral, bankruptcy, and property rights). The second approach uses individual credit files from an economy that engages in full-file reporting and simulates a restricted system by removing certain information. Credit scores (predictions of default/delinquencies) made using the restricted and full data sets are then compared with actual outcomes in the observation period, the year or years following the timing of the credit scoring. The cost of the information restriction or the

benefit of the information inclusion can then be measured in terms of economic trade-offs between extending credit and worsening loan performance. Smaller trade-offs are to the benefit of all.

3.1. Theory and Evidence on How to Structure Credit Payment Data

Here, we elaborate three features of an information sharing system that can bring the financially underserved into consumer credit markets:

1. the inclusion of timely payments (full-file) and not simply only delinquencies (negative-only);

2. the inclusion of information from across all credit granting sectors (comprehensive) instead of a single sector such as banking (segmented); and

3. whether non-financial, or "alternate", information is included or not.

We then discuss some result from supporting research and propose some policy recommendations.

3.1.1. Full-File Payment Information Versus Negative-Only Data

Systems that only report serious delinquencies do not capture many moderately late payments (30 to 60 days past due) that are often indicative of a borrower's risk. In addition, positive credit information provides a low-cost way of gathering data on applicants who have paid in a timely fashion, and it provides information on those who may often face discrimination, such as lower-income borrowers, women, racial minorities, and the young. Full-file reporting also allows creditors to measure a borrower's capacity to carry a loan by revealing the individual's existing lines of credit, associated balances, and credit limits.

3.1.2. Comprehensive Reporting Versus Segmented Reporting

In many ways, the issue of comprehensive reporting versus segmented reporting is akin to that of full-file versus negative-only reporting. More information allows for better predictions. In addition, comprehensive reporting provides a low-cost way of gathering data on those who apply for loans in another sector.

3.1.3. Expanding Reporting to Non-Financial "Alternative" Data

Expansion of the scope of credit information sharing to non-financial payment obligation histories has been shown to be perhaps the most effective avenue to financial inclusion in terms of access to short and long term credit. In those economies where only or *mostly credit payment data is shared, the problem of access to short and long term credit becomes a 'Catch-22' for populations without collateral: one needs to have credit to build a credit history but cannot have a credit history without previously having obtained credit*. Information from non-financial services, such as payments and prepayments on rent, gas, electric, insurance, telecommunications and other recurring obligations, can serve to evaluate the risk of a those potential borrowers that are outside the credit mainstream. Payment histories from rental housing, municipal services, and prepaid public and private services (including power, water, and telecommunications) especially may be able to serve as a proxy for income stability and credit behavior.

A PERC study measured the impact on access to credit with the inclusion of energy utility and telecom payment data in U.S. consumer credit files. (Some 35 to 54 million US consumer lack credit files or have too little information to assess risk and thereby remain outside the credit mainstream.) PERC's simulations found that when energy utility and telecom payment are included in credit files,

there were greater rises in those that become credit eligible (assuming a three percent target default rate) among ethnic minorities, lower income households, younger individuals, and older individuals. That is, those least likely to be in the credit mainstream, not having had multiple credit accounts in the past, are those most likely to benefit from the inclusion of non-financial data in credit files.

3.2. Evidence: The Impact on Access to Credit

Several simulations have used anonymous, individual level credit files from several different economies to gauge the impact on credit of wider access to information. Some elements of the credit file are kept while others are purged, thereby mimicking the information content from more restricted cases. The researchers then apply decision (credit scoring) models to the two (or more) sets of files. Thus for a simulation of negative-only reporting, positive information is purged. The scores produced are predictions of the likelihood of serious delinquency, bankruptcies, and other outcomes. The predictions are then compared with actual outcomes in the "observation" period, the year or years following the timing of the score.

The results of these simulations consistently indicate a sizable reduction in the ability of lending systems to identify the good risks from bad risks with shifts from a comprehensive full-file data to negatively only or segmented data. Barron and Staten, using US data, compared the findings of a simulated negative-only reporting system with a full-file, comprehensive system and found that for a three percent default target of three percent, a negative-only reporting system accepts 39.8% of the applicant pool, whereas a full-file system would accept 74.8% of the pool. Similar simulations conducted in a number of countries with comparable results verify the robustness of such findings.

Two studies have examined how different systems of reporting affect the distribution of credit by various demographic characteristics. The first uses U.S. credit files and the second Colombian files. Three results are notable. Ethnic minorities, the young, and low-income groups in the United States experience greater increases in acceptance rates with full-file information than do their counterparts. The increase in acceptance rates for Caucasians was 21.8% while for minorities it was 35.5%. Similar differences were found for low-income groups vis-à-vis richer segments. The Information Policy Institute's study of Latin America found an increase in the share of women among the pool of borrowers when switching to a full-file system; women accounted for 33% of the borrower pool under a negative-only system compared to 47% under a full-file system. These findings strongly suggest that individuals in underserved social segments are the most likely to benefit from expanded information sharing.

The addition of alternative data shows greatest promise for financial inclusion. Another PERC study found that the addition of the alternative data (utility and telecom) can move 10% of the population from being unscoreable to scoreable, that is from the segment characterized by difficult access to credit to the credit mainstream.[5] This access to credit was witnessed in practice as well as in simulations. Over a one-year period, 16% of thin-file borrowers whose credit report included nontraditional data opened a new credit account compared with only 4.6% of thin-file borrowers with only traditional data in their credit reports.

3.3. Evidence: The Impact on Loan Performance

The counterpart to greater acceptance rates at a given default rate is lower default rates at a given acceptance rate. The four negative-only to full-file simulations restricted to financial accounts (i.e., all but the Colombia simulations) show the default rate increasing by as little

as 0.3 percentage points (or a 10% increase), which is still a considerable degradation of portfolio performance, to as much as 1.84 percentage points (a 170% increase) in cases restricted to financial accounts only. Majnoni and colleagues' simulation using Brazilian files reveals that even at an extremely high acceptance target of 80%, the default rate increases by 0.86 percentage points (or 30%). At a 60% acceptance target, the default rate nearly doubles (an 83% increase) under negative-only reporting compared with full-file reporting. These effects are significant for a lender and, moreover, as aggregated they can have a significant effect on an economy's financial stability and growth. (For more information see Section 3.) Comparisons using segmented and comprehensive files show similar shifts in performance as were evident in the shift from full-file to negative-only. Loan performance is also greatly improved by the addition of alternative data. The PERC study found that the inclusion of fully reported energy utility and telecommunications trade lines (i.e., different accounts) in traditional consumer credit reports measurably improves the performance of loans for a target acceptance rate. For example, by integrating fully reported energy utility data, a lender's default rate (percentage of outstanding loans 90 days or more past due) declines 29%, given a 60% target acceptance rate. Similarly, adding telecommunications data reduces the default rate by 27%. These reductions allow lenders to make more capital available and improves their margins, capital adequacy, and provisioning requirements. Such improvements could have further positive economy-wide effects.
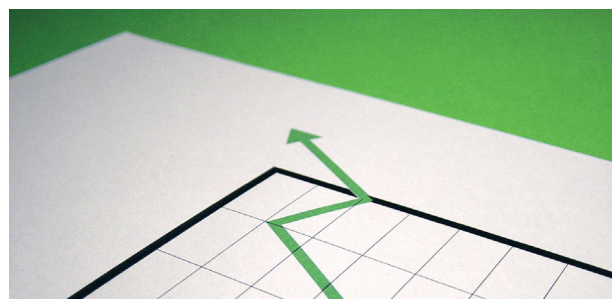
3.4. Concerns of Consumer Overextension

A concern that some may have regarding the improvement and increase in information in consumer credit files is that precisely since access to credit and financial services will be expanded there may be a problem with consumers overextending themselves. There are a number of reasons why we believe this should not be a major concern. First, the expansion of information in credit files should not lead to simply to easier credit for consumers but to better credit decisions by lenders. It is the lenders' increased ability to efficiently identify good risks from bad risks that increases the availability of credit. This is something very different from, say, a relaxation in lending rules increasing access to credit. Second, evidence from the U.S. market indicates that there is no rush to obtain credit when consumers gain access to the credit system via new data entering their credit files or becoming scoreable with new data.[6] (*The credit crisis appears to be driven by the failure to use information, the failure to underwrite owing to changes in market structure, rather than the use of information to expand credit*.) Third, while in many cases consumers without sufficient information in their credit files have little access to mainstream credit they usually have access to high cost credit, predatory lenders, informal financial services, and the like. And so, it is not that they are suddenly introduced to the concept of credit as much as they are able to utilize affordable credit.

PUBLIC BUREAU   PRIVATE BUREAU
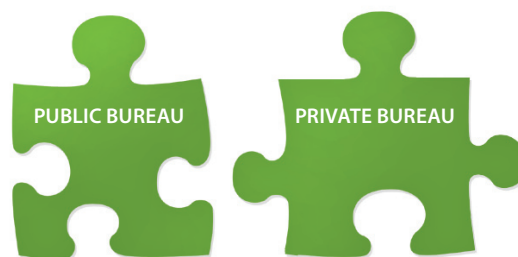
4. Ownership Structure: Public v. Private and Financial Inclusion

The third aspect of a credit reporting system—in addition to full-file to negative-only and comprehensive vs. segmented reporting—has only recently begun to gain attention. Although there is no theoretical reason why a public bureau cannot behave like a private one, there are practical reasons. Public bureaus have been set up largely and primarily for supervisory purposes, to monitor the safety and soundness of the financial sector and determine whether reserves are sufficient. Unlike private bureaus, they are not established primarily to facilitate greater and *sustainable* lending. The primary objective of private bureaus is reducing information asymmetries and to improve risk assessment in lending. By this account, private bureaus are complements to public bureaus.

Three separate studies have estimated the impact. First, Djankov, McLiesh, and Shleifer examined private credit and credit reporting in 129 countries.[7] In estimations that examined all countries, private bureaus increased lending by 21% (vs. seven percent for public bureaus, although the latter was not a statistically significant increase). In estimations that restricted the data to poorer economies, private bureaus increased lending by 14.5% compared with 10.3% for public bureaus. Second, The Information Policy Institute found that 100% coverage of credit-eligible

adults by a full-file private bureau can be expected to increase private-sector lending by more than 45% of GDP (all else being equal).[8] In other words, after removing these observations, lending increased by more than 45% percent of GDP with a shift to 100% coverage from no coverage. Third, the Inter-American Development Bank (IADB) measured the impact of information-sharing and ownership on loan performance using data from 170 banks across Latin America.[9] It found that banks that loaned primarily to consumers and small businesses and that used private bureau data had nonperformance rates that were 7.75 percentage points lower than banks that did not. The authors found no such effect of any magnitude for the impact of public bureaus.

It should also be noted that privately owned credit bureaus are more likely to seek data outside the banking and financial sectors. While there is no theoretical reason why publicly owned bureaus cannot also capture alternate data, but incentive to do so appear to be greater in bureaus that are privately owned. Moreover, public bureaus generally limit their data collection to those sectors that financial authorities (central banks and ministries of finance) have regulatory purview over.

5. Establishing Financial Identities

One challenge, especially in emerging markets, is the perceived and real difficulties in matching an individual to their various accounts, or correctly identifying that one set of obligations belongs to a specific person by connecting the different account information from different credit and other service providers to a shared consumer. This problem of matching is especially felt as a great challenge in societies without national identification numbers and stable address systems. The challenge becomes one of the availability of a set of identifying factors that can be uniquely assigned to one individual. These factors enable the creation of a financial identity, that is one that connects a person to their financial behavior and other non-financial transaction histories.

Those inside the financial system can be more or less easily identified as the know your customer recommendations of the Financial Action Task Force specify that financial institution should:

"undertake customer due diligence measures, including identifying and verifying the identity of their customers, when:

▶ establishing business relations;

▶ carrying out occasional transactions:

   (i) above the applicable designated threshold; or

   (ii) that are wire transfers …

The customer due diligence (CDD) measures to be taken are as follows:

a) Identifying the customer and verifying that customer's identity using reliable, independent source documents, data or information." [10]

This requirement for "reliable, independent source documents, data, or information" is seen as constraining when it is understood narrowly, as limited to national identification cards, passports and other government identity documents.

It should be noted that, identity matching is never limited to national identification numbers and addresses even in developed markets. German law, for example, prohibits the use of national identification numbers in credit reporting. Consequently, Schufa, the German credit bureau, matches an individual on a number of factors.

The factors that can be used in establishing an individual's identity for the sake of establishing a financial identity can be varied: utility accounts tied to an address, as defined by the utility provider; biometric identifiers; voter identification cards; digital photos; welfare basket allotment cards; and account information from ongoing non-financial service providers such as cell-phones. A wider arrays of sources helps to establish unique identities better. Credit bureaus and other information service firms can build solutions to establishing an identity based on the information topography of a society.

There are two policy issues that should be addressed:

▶ Guidelines should be developed to allow credit bureaus access to a wider set of information sources for establishing identities; and

▶ A data protection framework that guards individuals' data by limiting its uses and access (as specified in the OECD Fair Information Practices guidelines) must be adopted.

Finally, the creation of a body of case studies in how different economies have proceeded technically and regulatorily in the establishment of individual identities for credit reports can help policy makers and practitioners expand financial access by extending the information sharing system and thereby the financial infrastructure to a wider segment of the population.

6. Conclusion and Policy Recommendations

Findings are consistent across a wide body of research examining information-sharing and related

Information-sharing expands access to credit overall and disproportionately expands access among the underserved. Information-sharing improves loan performance by reducing delinquency rates for any given target. Both are achieved by accurately identifying good credit risks that otherwise would have been misidentified as bad risks and, therefore, would have been denied credit. At the same time, bad risks, given credit because they were thought to be good risks, now have credit denied to them or are no longer subsidized by lower-risk individuals. In the aggregate, lending is increased, leading to greater economic growth, rising productivity and greater capital stocks. Average interest rates decrease. Poverty and income inequality are alleviated. This is especially true of full-file, comprehensive reporting, comprising non-financial obligations as well, to private bureaus.

In addition to the recommendations regarding financial identity noted above, policy reform and credit reporting standards should allow the collection of non-financial payment and other non-financial data. As shown above, the inclusion of this information can greatly expand financial services to the underserved.

Endnotes

[1] Walter Bagehot believed that England beat out its competitors not because it had more capital but because it could mobilize it better. Also see R. G. King and Ross Levine, "Finance, Entrepreneurship, and Growth: Theory and Evidence," *Journal of Monetary Economics* 32 (1993): 513-542; R. Levine and S. Zervos, "Stock Markets, Banks, and Economic Growth," *American Economic Review* 88 (1998): 537-558; Ross Levine, "Financial Development and Economic Growth: Views and Agenda" *Journal of Economic Literature* 25 (June 1997): 688–726.

[2] Levine, "Financial Development and Economic Growth," p. 706, and King and Levine, "Finance, Entrepreneurship, and Growth," find similar outcomes.

[3] Turner et al., *The Fair Credit Reporting Act*, Table 6., p. 30.

[4] The Gini, which is a ratio that takes values between 0 and 1, or 0 and 100 when indexed, measures income distribution with higher values indicating greater inequality. Thorsten Beck, Asli Demirgüç-Kunt, and Ross Levine, "Finance, Inequality, and the Poor" (National Bureau of Economic Research working paper no. 10979, January 2007). Available at www.econ.brown.edu/fac/Ross_Levine/Publication/Forthcoming/Forth_3RL_Fin%20Inequalily%20Poverty.pdf

[5] Michael Turner, Alyssa Lee et al., Give Credit Where Credit is Due (Washington, DC: The Brookings Institution, December 2006).

[6] See rate of opening new accounts in Michael Turner, Alyssa Lee et al., Give Credit Where Credit is Due (Washington, DC: The Brookings Institution, December 2006).

[7] Simeon Djankov, Caralee McLiesh, Andrei Shleifer, "Private Credit in 129 Countries" (National Bureau of Economic Research working paper no. 11078, January 2005). Available at http://papers.nber.org/papers/w11078.

[8] From Turner and Varghese, *The Economic Impacts*, Table 3, p. 18.

[9] Inter-American Development Bank, IPES 2005: *Unlocking Credit: The Quest for Deep and Stable Bank Lending* (Washington, DC: IADB, 2004), p. 178. Available at www.iadb.org/res/ipes/2005/index.cfm.

[10] FATF Recommendation 5: Customer due diligence and record-keeping. http://www.fatf-gafi.org/document/58/0,3343,en_32250379_32236920_43642938_1_1_1_1,00.html

About the APCC

The Asia-Pacific Credit Coalition (APCC) is a non-profit organization dedicated to educating lawmakers, regulators, and other stakeholders in the Asia-Pacific Economic Cooperation (APEC) member economies about the economic and social benefits of full-file, comprehensive credit reporting systems and private credit bureaus. For more information, or to learn how to join APCC or support our efforts, visit our Web site at www.apeccredit.org.

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RESULTS AND SOLUTIONS

Asia-Pacific Credit Coalition

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