Information Policy Institute

INTRODUCTION

This summary details some of the basic findings and results of the study "On the Impact of Credit Payment Reporting on the Financial Sector and Overall Economic Performance in Japan." For additional information and details omitted in this summary, please refer to the full report, found either at www.infopolicy.org or www.accj.or.jp.

KEY FINDINGS

Consumer Credit Reporting Reform Would Increase Lending to the Private Sector: If Japan were to adopt a full-file credit reporting system-where both positive and negative payment data were shared across sectors-and most lenders participated, then lending to the private sector could grow as much as 20 percent. By one estimate, this could generate an increase in the growth rate of Japanese gross domestic product (GDP) by 0.66 percentage points. Productivity and capital stock would also increase by an estimated 0.5 percent annually.

Greater Access to Affordable, Mainstream Credit: If Japan were to implement a consumer credit reporting regime change, and adopt a full-file credit reporting system with a high creditor participation rate, Japanese consumers and small businesses would have greater access to affordable credit from reputable lenders without increasing bad debt. For a target default rate of 2 percent, it is estimated that as many as 7.45 million Japanese borrowers are shut out of mainstream national credit because lenders now poorly assess their credit risk, credit worthiness, and credit capacity.

Credit Reporting Reform Reduces Risk for Japanese Lenders: The use of fully-reported bank and non-bank financial data in consumer credit reports increases the ability of lenders to distinguish between good and bad risk borrowers. At a 70 percent acceptance rate, a Japanese lender using full-file credit reports would have a default rate that is between 9 to 26 percent lower than a lender using any of the incomplete or negative-only credit reports currently used in Japan. Assuming the average level of obligations (excluding mortgages and land loans), we estimated that this translates to between 48.8 billion and 141 billion yen in total delinquencies.

Credit Reporting Reform Enables Fairer Lending: Using more complete fully reported payment information enables lenders to sharply reduce the quantity of misidentified borrowers. Without sufficient credit history information, lenders may identify a prospective borrower as being a good credit risk when in fact they are a high risk borrower (a Type 1 error) or as too high risk although in actuality they are low risk and responsible borrowers (a Type 2 error). The results of the simulations in this report found that Japanese lenders could conservatively reduce Type 1 errors by 27 percent and Type 2 errors by 4 percent by using full-file credit data. We estimate that between an additional 320,000 to 670,000 Japanese consumers who are good risks would not receive loans.

CONSUMER CREDIT AND CREDIT BUREAUS IN JAPAN

The Problem of Lending

A lender in extending a loan faces the problem that only a borrower precisely knows their intention and capacity to repay a loan. The problem begins from the fact that lenders must infer the risk profile of the borrower. How the lender does this varies greatly around the world. This simple fact has deep ramifications for the financial sector and for how we structure the institutions that regulate economic activity.

Some borrowers have incentives to misrepresent their risk profile. Even when a borrower is truthful, the lender has little way of knowing this and must still evaluate the claims. The assessment is crucial since a loan involves an agreement to pay in the future. This fact has far reaching consequences for lending markets. First, credit may be rationed; that is, lacking information, a lender confronted with two borrowers with identical risk profiles, will offer loans to one and not to the other. While this strategy mitigates risk, it fails to utilize savings effectively. Second, loan prices (interest rates) reflect aggregate market risk. This interest rate, by dissuading low risk borrowers while encouraging high risk borrowers, is higher than the societal average. It also encourages high risk activity to compensate for the price. The pool of borrowers is, thus, excessively risky. Finally, since the loan is a promise to pay, short of collections when a loan enters default, there is little that can be done at a reasonable cost to discipline delinquencies. As such, the lending structure may encourage late payments.

In sum, lenders face three problems: (i) they fail to meet true demand; (ii) they charge far too much, encouraging risky borrowers and risky activity; and (iii) they can do little in response to delinquencies and often must wait for default before pursuing collections. Credit bureaus are institutional responses to these problems stemming from a lack of information in lending markets. Once lenders are aware of a borrower's risk profile, gleaned from their past, they can accept or reject and base prices on a truer picture of the borrower, giving lenders fewer reasons not to lend and thereby effectively using savings. Furthermore, by pricing according to a more accurate and individualized risk profile, they encourage activity that is not overly risky. Finally, by reporting negatives-a low cost way of punishing delinquent borrowers, which limits what they can borrow in the future-lenders discourage late payments. This much has been established by a large body of scholarly literature and by experience worldwide.

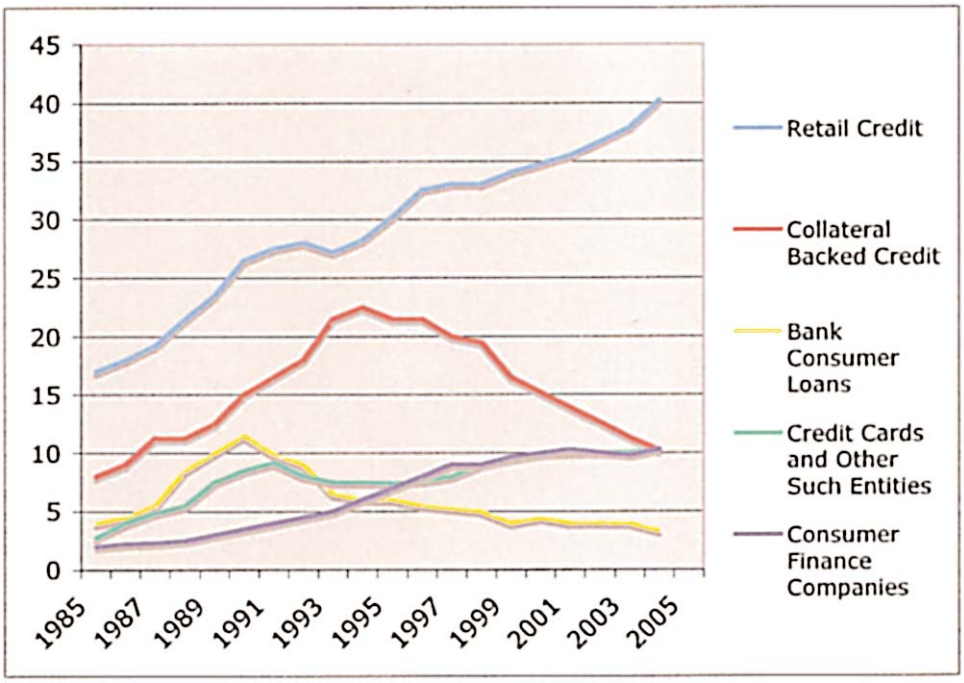
Lending and Credit Reporting in Japan

Japan has several credit bureaus and one of the world's largest financial systems. On the face of it, information sharing doesn't appear to be a pressing issue. If the matter were simply one of whether an economy possesses a bureau, then the issue of information sharing in Japan would be moot. However, the question remains of how credit reporting and information sharing should be structured. Should only delinquencies and defaults be reported or should timely payments be included as well? Is the information from one sector only of real relevance to it, or will knowledge of a consumer's payment patterns from various segments of an economy provide a more accurate picture? How much is gained with more participation in the system by the various data furnishers? This study answers these questions as they relate to the Japanese financial system and consumer lending in Japan.

For the purposes of our study, the consumer credit market we examine includes all loans to consumers, excluding real estate loans. Consumer credit can be divided into two broad categories: secured loans - credit which is backed by collateral such as bank deposits; and unsecured loans - loans for which the creditworthiness of the borrower must be assessed. Consumer credit can also be divided according to the source of the credit. For instance, credit can be extended by retailers, consumer finance companies, banks, or credit card companies as well as other entities affiliated with banks or distributors.

As seen in Figure 1, the overall trend in Japan since the mid 1980s is one in which consumer credit is being extended more and more by retailers, consumer finance companies, and, though the trend is less discernable, by credit card and credit sale companies affiliated with banks or distributors. This contrasts with the somewhat steady decline since the early 1990s in consumer loans extended by banks and by credit extended which is backed by collateral. That unsecured consumer credit is becoming more prominent and guaranteed credit less prominent is certainly a development that has co-evolved with the development and use of credit reporting in Japan. And as a share of unsecured loans grows in Japan, the issue of credit reporting becomes more salient. In the wake of these changes, better risk assessment and borrower discipline become even more important for the health of the financial system.

Figure 1: Credit Extended by Source/Type (Trillions of Yen)



Improving Japan's credit bureau databases is one way to begin solving many problems currently troubling Japan's consumer credit industry, financial services sector, and consumer credit customers. If it were possible to improve the ability of lenders to gauge the credit-worthiness of borrowers, such as by increasing the type and quantity of information in credit reports, we would expect the following:

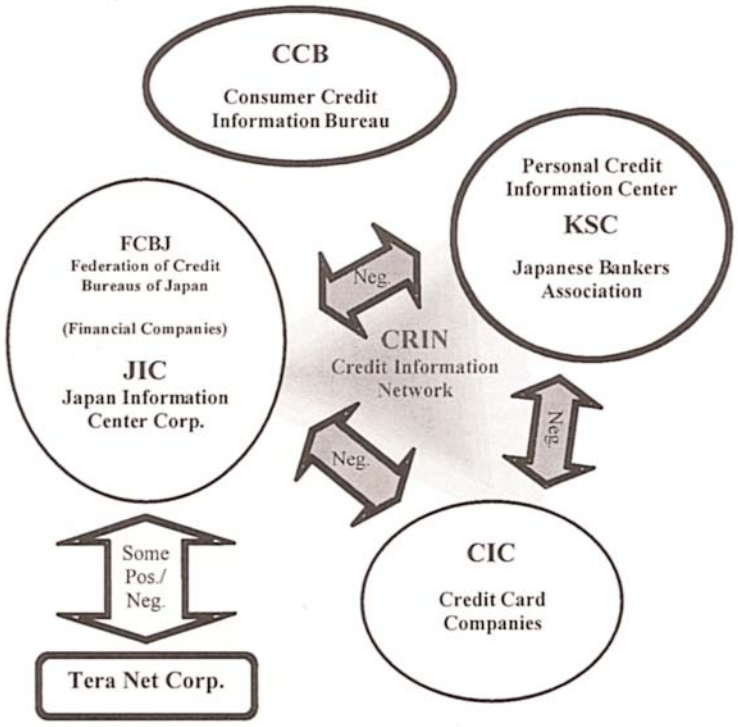
- Aggregate consumer lending would rise resulting in greater lending to those more credit worthy and less to high-risk borrowers.
- Downward pressure on interest rates would occur as greater competition emerges in the consumer lending market, allowing individual borrowers greater access to loans at rates that more accurately reflect their credit-worthiness. If banks increase their participation in this profitable market, both banks and consumers could benefit.
- The growth of the black market would diminish relative to that of the legal market.
- Lenders would be better able to set rates for small businesses based on business owner profile credit data, thereby stimulating entrepreneurship and growth.

- The incidence of consumer over-extension and bankruptcy would be reduced, as lenders are better able to match credit offers with borrowers based on their actual credit risk profile.

Improving credit bureau databases will also allow for superior fraud detection, since it would be easier to spot deviations from a consumer's purchasing patterns. This may be of particular interest in Japan where the rate of card fraud (in 2002) was twice that of the US.[1] Greater and more accurate information on the use of consumer credit (from more informative credit files) could allow for improved oversight and monitoring of the financial well being of consumers. In some cases, such as of the FSA proposed lending cap, this could be very useful in effectively implementing measures aimed at remedying some of the current problems with consumer lending. This is the case since without information on how much a consumer has been lent (from banks, credit cards, retail, etc.) it would be difficult to see whether they have actually exceeded their cap.

As with consumer credit markets elsewhere, institutions, organizations, and information exchanges arose to mitigate the ever-present problem of asymmetric information. The following figure outlines the primary entities involved in consumer credit information exchanges along with the relationships among them.

Figure 2: Credit Reporting in Japan



[1] Mann, Ronald J., "Credit Cards and Debit Cards in the United States and Japan" Institute for Monetary and Economic Studies, Bank of Japan. Vol.20, No.1 / January 2002

KSC is a personal credit information center founded by the Japanese Bankers Association in 1973.

- ▷ Members include banks, financial institutions, bank-affiliated credit card companies and guarantee companies.
- ▷ Transactions registered include consumer loans, current account transactions, guarantees, and credit card transactions.

Federation of Credit Bureaus of Japan (FCBJ) was founded in 1976. Japan Information Center (JIC) was founded in 1986 and acts as the 'public face' of the FCBJ, exchanging information via CRIN. The FCBJ is made up of 33 credit bureaus, the shareholders of which are consumer finance companies.

- ▷ Members include consumer finance companies.
- ▷ Transactions registered include consumer loans.

Credit Information Center (CIC) was founded in 1984.

- ▷ Members include consumer credit companies, department stores, retailers, leasing companies, and guarantee companies.
- ▷ Transactions registered include credit card transactions, installment credit sales, leasing contracts, guarantees, consumer loans, and home loans.

Credit Information Network (CRIN) was established in 1987 under a directive from MITI and the Ministry of Finance to eliminate excessive lending and promote healthier consumer lending. The network facilitates exchanges of information, mostly derogatory, between its three members, KSC, CIC, and the JIC.

CCB was founded in 1979 as the Central Communications Bureau by companies with foreign capital. As of March 2005, CCB had more than 500 members including credit card companies, financial institutions, credit guarantee companies, and consumer finance companies.

The **Tera Net** exchange system, founded in 1999, exchanges information among the 33 credit bureaus of the FCBJ. The information exchanged is both positive and negative and originates from consumer finance companies, department stores, discount stores, and bank card companies. Tera Net is administered by JIC, and utilizes much of the same core credit data as JIC. Tera Net also includes data from a large minority of CIC members.

The data exchanged between Tera Net and JIC does not include all data. Some members of JIC have refused to share data with Tera Net. Data exchanged is limited to the number of active accounts, inquiries pertaining to new account applications, and so on.

As we see, the system is fragmented, poorly standardized, and does not offer a comprehensive picture of a borrower's risk profile.

CONSUMER CREDIT REPORTING AND FINANCIAL HEALTH: WHAT THE EVIDENCE TELLS US

The importance of a credit reporting system and its qualities to the financial system has been examined extensively in recent years. Implicit in the studies that examine finance and credit reporting is the claim that a well-functioning financial system is crucial for the well-being of an economy. The financial system mobilizes savings, pools capital, manages risk, facilitates trade, and monitors investment. In so doing, it fosters growth and innovation. There is ample evidence that private sector lending, as a share of GDP, impacts overall economic well-being on a number of dimensions. In cross-country estimations, Ross Levine found that an increase in private sector lending by 30 percent of GDP can be expected to witness an increase in GDP growth by 1 percent per annum, and increases in productivity and capital stock growth by 0.75 percent per annum.[2] This is a conservative estimate compared with many others, and should be considered in the context of our findings concerning the impact of higher participation rates in private full-file credit bureaus upon growth in private sector lending as a ratio of GDP. (See below.)

Estimating the Impact of Credit Reporting on Private Sector Lending

The fact that credit reporting increases private sector lending has been established. Moreover, evidence strongly suggests that private credit bureaus strongly increase lending and improve performance. Further, we looked at participation to see the extent to which it matters. We used coverage-of share of the adult population possessing a file-as a proxy for participation. We also took into account many other variables. Here, the rights of creditors to pursue defaults, wealth, economic growth and credit information are reported. (See the full study for a description of all variables and sources.)

[2] Ross Levine, "Financial Development and Economic Growth: Views and Agenda." p. 706. R. G. King and Ross Levine, "Finance, Entrepreneurship, and Growth: Theory and Evidence" find similar outcomes.

Table 1: Coverage, Ownership Structure and Comprehensive Reporting (impact on private sector lending as a share of GDP, 2004)

VARIABLE	I	II	III[3]	IV
Constant	-142.40*** (35.31)	-139.48*** (35.49)	-133.97*** (35.41)	-130.80*** (32.20)
Log of GDP per capita (adjusted for PPP)	20.31*** (4.65)	18.37*** (4.45)	17.38*** (4.41)	16.85*** (3.87)
Avg. Change in GDP (1995-2004)	-1.20* (0.70)	-0.82 (0.64)		
Legal Rights of Creditors (from 0 to 10)	4.55** (2.07)	4.99** (2.06)	4.68** (2.06)	4.80** (1.97)
Credit Information (from 0 to 6)	-3.87 (2.88)			
Private Full-file Coverage (0 to 100, as percentage of adults)	0.72*** (0.20)	0.60** (0.18)	0.66*** (0.17)	0.67*** (0.16)
Private Negative-only Coverage (0 to 100, as percentage of adults)	-0.02 (0.86)	-0.13 (0.46)	-0.06 (0.46)	
Public Full-file Coverage (0 to 100, as percentage of adults)	-0.11 (0.41)	-0.26 (0.40)	-0.17 (0.39)	
Public Negative-only Coverage (0 to 100, as percentage of adults)	0.16 (0.46)	-0.01 (0.86)	-0.09 (0.86)	
R squared	0.7075	0.698	0.6895	0.6883
F-stat (p value)	16.93 (<.0001)	18.82 (<.0001)	21.46 (<.0001)	44.9 (<.0001)
Residual Standard Error	29.45	29.65	29.81	29.12
N	65	65	65	65

We use variables that posit coverage by a combination of private and pubic, full-file and negative only registries. That is, we simply measure the extent of coverage of the credit eligible population by (i) public negative only files, (ii) public comprehensive files, (iii) private negative only files, and (iv) private comprehensive files and see how this affects private sector lending. The intuition behind testing this constellation of variables is that the content of credit reports also must matter for lending. Table 1 shows the results of these regressions.[4]

Wealth and extensive rights for creditors account for a large degree of the variation in lending to the private sector. An extensive basket of creditor rights can contribute significantly to private sector lending. For obvious reasons; lenders are more willing to lend if the chances of recouping the

[3] There is confusion about how to code Colombia's public credit bureau, which the Doing Business database assumes to have 0 percent coverage. Regressions assuming a public bureau coverage rate identical to that of the private bureau were also conducted. There was no real change to the results above.

[4] In the estimations, two outliers that had experienced recent financial crises, Argentina and Uruguay were excluded.

principal is greater in the event of a default. Quite telling also is the result that 100 percent coverage of credit eligible adults by a full-file (or comprehensive) private bureau can be expected to increase private sector lending by more than 60 percentage points of GDP (all else being equal). In our estimates, removing observations (countries) with very high levels of private sector lending, notably the United States and the United Kingdom, resulted in a coefficient of 0.475, which was still significant at the $p < 0.01$ level. (Coefficients on the other variables remained roughly the same.) Three factors with respect to credit reporting seem key for the well-being and growth of the financial sector-(i) private ownership, (ii) comprehensive or full-file reporting, and (iii) widespread participation (as implied by coverage).

Two issues remain. First, greater lending is a good thing to the extent that is it a result of ending credit rationing and not merely extending loans to a level beyond borrowers' abilities to afford them. That is, greater information sharing shouldn't lead to *over*-indebtedness.[5] Second, here, as in the estimation results shown in Table 1, the consequences of sector segmentation have not been measured, partly because we rely on an aggregate variable.

Simulating What Full-File, Integrated Credit Reporting Can Do for Japan

We use simulations to test the impact of reporting on loan performance and market size. Further, we do so while taking into account sectoral segmentation and participation differences as found in the various Japanese reporting systems. At the core of these simulations is the question of how more information enables lenders to more accurately distinguish between good and bad credit risks.

In order to simulate various scenarios of expanded credit bureau data compared to the current state of data as it exists in Japan, we needed to use credit files from a nation with richer data in its credit files (compared to Japan) and then restrict the information to simulate aspects of the Japanese system. We analyzed countries along four dimensions-per capita GDP (at PPP), rule of law, property rights, and legal origin-in order to identify viable candidates for the simulations. (See the full study for methodology.) Of the countries in "proximity" [6] to Japan, Canada possessed the most robust of the accessible files. We used 959,000 credit files from Canada to simulate the reduced information available in Japan's credit bureaus.

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5 Banking regulators in the United Kingdom and Hong Kong have recently suggested that increased information sharing can prevent over-extension and consumer bankruptcy. See Hong Kong Monetary Authority, "Circular on Bankruptcy and Consumer Credit Lending," Ref B9/32C and B9/69C and House of Commons, Treasury Committee, 2004-2005, John McFall MP Chair, Second Report, Chapter 3, section 55. http://www.publications.parliament.uk/pa/cm200405/cmselect/cmtreasy/274/27406.htm.

6 Canadian loans are like Japanese loans in that they are well-performing. Problem loans accounted for 3.99 percent of gross loans for 966 Japanese banks and financial institutions reported in Fitch's Bankscope database, which provides the financial and banking supervision reports of nearly all major banks worldwide. Canadian problem loans accounted 0.8 percent of gross loans for the 100 banks in the database.

Using Canadian credit files, four scenarios were 'simulated'. The first scenario is the base case in which no data is redacted. The remaining three scenarios represent the types and quantity of data available from various Japanese credit bureaus. In other words, the first scenario represents the 'what if information in credit files was increased' case while Scenarios 2 and 3 represent cases of the current state of information available in Japan's credit files. Scenario 4 is a hypothetical case designed to measure the value of greater participation in comprehensive, full-file reporting.

The four scenarios are:

Scenario 1: Full-file, universal, and comprehensive reporting-positive and negative information from all reporting sectors are available, and all furnishers participate in providing payment information.

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

Scenario 3: Non-bank simulation-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.

What the Simulations Tell Us

We used a generic scoring model currently in the market -"TransRisk"-to analyze the consequences of the different reporting systems as described by the scenarios above. TransRisk New Account is used to predict the chances that a consumer will be delinquent on either a specific account or any outstanding account in a one-year period. That is, the model is used to distinguish good credit risks from bad ones. Its predictions, or rather its classifications, can then be compared with actual behavior over the year-long performance period to see how well it was able to predict.

The complete files and all the hypothetical files were scored for February 2005. The scores represent predictions of a consumer's chances of delinquency[7], or being 90 or more days past due on at least one account

[7] We defined a delinquency solely on financial accounts. Specifically, only delinquencies on bankcard trades, bank revolving credit, finance revolving credit, financial trades, installment loans, and retail credit were considered. Canadian files possess very few mortgage trades, and this remains a limitation of the study. However, given the study's focus on retail credit excluding home mortgage loans, the absence of significant mortgage data in the study's sample does not diminish the relevance of the findings for the Japanese retail credit market.

in the period between March 2005 and February 2006. How well the model can sort actual good risks from bad ones can be compared across scenarios. Scores were calculated for each scenario, and a delinquency rate was calculated for each score segment based on actual observations.

With the score ordered for each, we can choose a performance target and then measure the share of our population we would accept or to which we would extend a loan. Predictably, the share drops as information moves away from comprehensive and full-file. Table 2 provides a sense of the magnitudes by which acceptance rates drop for a given default rate across the scenarios as furnishers provide less positive information.

Table 2: Acceptance Rate by Scenario

Target default rate	Scenario 1	Scenario 2	Scenario 3	Scenario 4
0.50%	47.81%	47.57%	31.32%	39.98%
1%	70.90%	68.81%	62.70%	65.91%
2%	86.34%	83.29%	79.34%	82.31%
3%	92.38%	88.99%	83.29%	87.82%

The drops in the acceptance rate range from modest to significant. We use the 2 percent default target as an example. The drops in acceptance rate range from 3.1 percentage points in Scenario 2 to 7 percentage points in Scenario 3. If we extend the changes in the acceptance rate to the credit eligible population of Japan, taken here to be the estimated 106,307,400 people 18 years of age or older (for 2006), Scenario 2 results in 3.2 million fewer consumers accepted, Scenario 3 yields 7.45 million fewer consumers, and the final scenario yields 4.29 million fewer consumers.[8]

A complementary view of the impact of reduced furnishing is shown in Table 3. It demonstrates what would happen to default rates as data providers report less positive information, for a given acceptance target (or selected market size).

Table 3: Default Rates by Scenario

Target acceptance rate	Scenario 1	Scenario 2	Scenario 3	Scenario 4
40%	0.42%	0.42%	0.60%	0.50%
50%	0.53%	0.54%	0.72%	0.63%
60%	0.69%	0.73%	0.93%	0.83%
70%	0.97%	1.06%	1.23%	1.15%
80%	1.44%	1.61%	2.12%	1.74%
90%	2.48%	3.37%	5.31%	3.74%

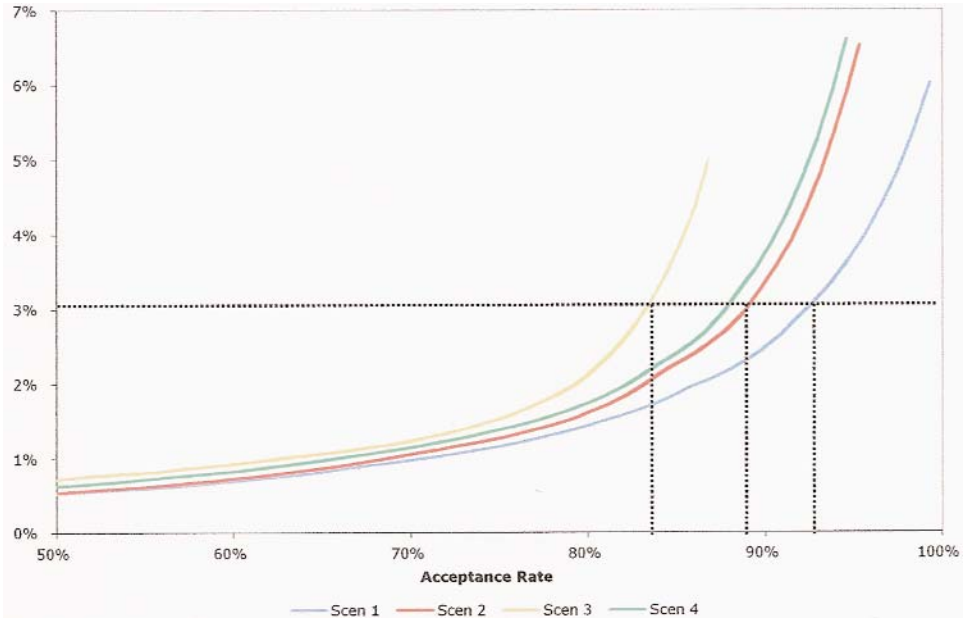
[8] Source: Statistical Bureau, Director-General for Policy and Planning and Statistical Research and Training Institute, Ministry of Internal Affairs and Communications.
http://www.stat.go.jp/english/data/jinsui/tsuki/index.htm

As implied in Table 3, default rates increase for any given acceptance target as less information is available to creditors. From another perspective, default rates decline as more information becomes available. To get a sense of how the default rates are effected by decreases in information available to creditors, compare the results for the base instance and the other scenarios. As data is restricted, the ability of lenders to accurately access risk degrades. In this instance, and assuming a 90 percent acceptance rate, the default rate increases from 2.48 to 3.37 percent, an increase of nearly 1 percentage point. In other words, going from Scenario 2 to the less restrictive base case lowers the proportion defaulting by over 25 percent.

The shifts in the delinquency rates may seem modest, especially given the relatively low delinquency rates in Japan. But in monetary terms these shifts are significant. If we assume both a 70 percent acceptance target and an average household liability (excluding mortgages and land) of 510,000 yen, we see that considerable amounts become delinquent over the base rate.[9] Scenario 2 extended to the parameters found in Japan would witness an *additional* 48.8 billion yen becoming delinquent. Likewise, Scenario 3 sees an addition 141 billion yen becoming delinquent, and Scenario 4 an additional 97.6 billion yen. Needless to say, were we to also include mortgage and obligations on land, these figures would increase significantly.

This trade-off between acceptance rates and default rates for the four scenarios seen in tables 2 and 3 can also be looked at graphically. Figure 3 presents such a graphical representation.

Figure 3: Acceptance Rate-Default Rate Trade-Offs by Scenario



9 Source: Statistical Bureau, Director-General for Policy and Planning and Statistical Research and Training Institute, Ministry of Internal Affairs and Communications. http://www.stat.go.jp/english/data/sav/2006qn/index.htm

As furnishers provide less and less positive information, the “higher” the curve becomes, and each acceptance target corresponds to a higher default rate. Furthermore, each default level, in turn, corresponds to a lower acceptance rate. The chart shows explicit performance losses. While there are small differences in the performance levels of the base scenario (Scenario 1) and Scenario 2, the restricted bank reporting system case, at lower levels of acceptance, the difference become much more pronounced as the acceptance target grows.

The loss of the ability to assess risk accurately, which leads to rising default rates and/or worsening acceptance rates, as shown above, stems from the fact that with less information, mistakes are more common. That is, lenders more frequently mistake good risks for bad risks (called Type II errors) and bad risks for good ones (called Type I errors). Table 4 shows the changes in Type I and Type II error rates for the four scenarios. Here, we see that mistakes, or misjudgments of an individual’s risk profile, become more common as information is less available.

Table 4: Changes in Error Rates

Scenario Base	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Type I (false positives, or mistaking a high risk borrower for a low risk one)	.08%	.08%	.11%	.09%
Type II (false negatives, or mistaking a low risk borrower for a high risk one)	17.87%	18.17%	18.50%	17.86%

It should be noted that the Canadian simulation may underestimate the losses for Japan.[10] Canadian data is robust, and information is highly accurate and kept on file. These facts reduce mistakes considerably. The rate of Type II in Japan may be considerably greater, a fact which would not show up in delinquency rates. For Scenario 2, assuming Japan's credit eligible population, an additional 320,000 people who are good credit risks would be mistaken for bad ones. When we move to Scenario 3, that figure rises to an additional 670,000 people. The loss of information results in lower acceptance rates for any given target default rate. However, this result is only part of the picture. Given that false positives increase, the number of those who deserve credit but are denied is even greater than that indicated by simple acceptance rates.

[10] It should be noted that the sample of files was constrained by a minimum of 5 trade lines. The rationale was that far too many files would disappear when information was redacted, as well as the need to have enough instances of types of trade lines (such as retail credit). This "thickened" the overall set of files. One possible consequence is that the severing of participation rates has a smaller impact that would for a representative sample, as they remain thick enough to score well. Thus, Scenerio 4's error rates are quite similar to the base scenarios.

CONCLUSION

Relative to North America, the European Union, and a growing number of APEC member economies, the retail credit sector in Japan remains largely under-developed. While a tradition of relationship banking explains some of this relative under development, we believe much can be explained by the fragmented, inaccurate, and incomplete Japanese consumer credit reporting system.

Our research and analysis offers some lessons.

- **Private, full-file credit bureau system with a high participation rate leads to dramatic growth in private sector lending.** Movement from a system where no private full-file credit bureau exists to one in which a private credit bureau with full-file data and a 100 percent participation rate exists results in growth in private sector lending of approximately 47 percent. Increased consumer lending can increase investment directly. It is well-established that lenders are better able to make underwriting decisions on small business loans when they are able to also access the credit profile of the small business owner. A full-file consumer credit reporting system in Japan can help small business formation

- **Adopting a full-file consumer credit reporting system would cause comsumer lending in Japan to flourish.** For a target default rate of 2 percent, it is conservatively estimated that between 3.2 million and 7.4 million creditworthy Japanese borrowers are denied access to credit and could be brought into the lending system.

- **Credit reporting reform increases loan portfolio performance.** At a 70 percent acceptance rate, a Japanese lender using full-file credit reports would have a default rate that is between 9 percent to 26 percent lower than a lender using any of the incomplete or negative-only credit reports currently used in Japan. We estimated that with full file, comprehensive reporting the size of delinquent loans (excluding loans for mortgages and land) would be between 48.8 billion and 141 billion yen smaller.

- **Credit reporting reform enables fairer lending.** The results of the simulations in this report found that Japanese lenders could conservatively reduce Type 1 errors by 27 percent and Type 2 errors by 4 percent by using full-file credit data rather than the incomplete and fragmented reports that are currently available from Japanese credit bureaus. Under the current system, we estimate that between an additional 320,000 and 670,000 consumers, who are good risks, do not receive loans.

Because of the deficiencies in the Japanese consumer credit reporting system, many credit-worthy borrowers and entrepreneurs are unfairly denied access to affordable mainstream credit. A large number of these would-be borrowers are forced to resort to the black market. The results from the analysis in this study offer promising solutions. In short, should the Japanese adopt a uniform comprehensive ("full-file") consumer credit reporting system, consumer lending in Japan will flourish and the ability to lend to small businesses and entrepreneurs will be enhanced.