The Development of SME Credit Information Database to promote SME Lending

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Naoyuki Yoshino (Keio University)
SME in Japan shows large share
SMEs in Thailand

<table>
<thead>
<tr>
<th>Type of Enterprise</th>
<th>No. of Enterprises (% of total)</th>
<th>No. of employment (% of total)</th>
<th>GDP Mill. Baht (% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMEs</td>
<td>2,366,227 (99.6%)</td>
<td>8,900,567 (76.0%)</td>
<td>3,244,974 (38.2%)</td>
</tr>
<tr>
<td>Large Enterprise and Others</td>
<td>9,141 (0.4%)</td>
<td>2,810,767 (24.0%)</td>
<td>5,239,226 (61.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>2,375,368 (100%)</td>
<td>11,711,334 (100%)</td>
<td>8,484,200 (100.0%)</td>
</tr>
</tbody>
</table>

SMEs in China

(Red Mark is SMEs’ share)
SMEs rely on Banks and Micro Credit

Credit Rating

Large corporations

Capital Market
- Stock Market
- Bond Market

Banks

Credit Guarantee

SMEs

Micro Credit

Fig. 2-1-28 Most important management resources
Employees are considered to be the most important management resource for a large proportion of enterprises with a high level of labor productivity

<table>
<thead>
<tr>
<th>Employees</th>
<th>Funds</th>
<th>Company image, brand</th>
<th>Equipment</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises with high labor productivity</td>
<td>49.9</td>
<td>27.0</td>
<td>3.1</td>
<td>8.7</td>
</tr>
<tr>
<td>Enterprises with low labor productivity</td>
<td>38.9</td>
<td>30.0</td>
<td>2.3</td>
<td>13.9</td>
</tr>
<tr>
<td>Non-manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises with high labor productivity</td>
<td>47.8</td>
<td>24.3</td>
<td>8.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Enterprises with low labor productivity</td>
<td>38.8</td>
<td>31.0</td>
<td>9.2</td>
<td>6.6</td>
</tr>
</tbody>
</table>

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Fig. 3-2-5  Fundraising structure by number of employees (fiscal 2006)
Dependency on borrowing increases as the number of employees becomes smaller

![Graph showing fundraising structure by number of employees.]

(1) Financial Position
<Tankan³>
DL("Easy" - "Tight"), % points

![Graph showing financial position.]

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The SME Industry and Credit Information Infrastructure in East Asia

- SMEs dominate the business landscape of ASEAN economies and influence output, employment and income growth.
- Information asymmetry still exist and the type of infrastructure that could appropriately address this problem in terms of existence and state of development across the ASEAN region.
- It is imperative to have a credit information system for the SME sector to help address the persistent challenge of information asymmetry and financing access.
Wage Differentials between Large companies and SMEs

Fig. 1-1-35 Trends in wages by enterprise size
Slight upward trend in wages, mainly at small enterprises

Fig. 2-1-11 Trends in gross value added per employee
Gross value added per employee is growing significantly among large manufacturers
**Number of SME bankruptcies**

Japanese Case

![Bar chart showing the number of SME bankruptcies over time.](chart.png)

- The chart illustrates the number of bankruptcies for SMEs in Japan from 2001 to 2007.
- The x-axis represents the years from 2001 to 2007.
- The y-axis represents the number of bankruptcies, with a secondary axis for percentage change from the previous year.
- The chart shows a general increase in bankruptcies over the years, with notable peaks in certain years.

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<table>
<thead>
<tr>
<th>Year</th>
<th>No of Bankruptcies</th>
<th>Debts (100 million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall SME</td>
<td>Percentage of which SME</td>
</tr>
<tr>
<td>1994</td>
<td>14061 13965 0.993</td>
<td>13965 0.99326051 56294 40917 0.7268447792</td>
</tr>
<tr>
<td>1995</td>
<td>15108 14970 0.991</td>
<td>14970 0.9908657665 92411 46561 0.5038469446</td>
</tr>
<tr>
<td>1996</td>
<td>14834 14731 0.993</td>
<td>14731 0.9930564918 81299 49693 0.6112375306</td>
</tr>
<tr>
<td>1997</td>
<td>16464 16293 0.993</td>
<td>16293 0.9896137026 140447 57494 0.4093643866</td>
</tr>
<tr>
<td>1998</td>
<td>18988 18749 0.994</td>
<td>18749 0.987413103 137484 68329 0.498960141</td>
</tr>
<tr>
<td>1999</td>
<td>15352 15135 0.999</td>
<td>15135 0.9858650339 136214 80640 0.5920098319</td>
</tr>
<tr>
<td>2000</td>
<td>18769 18497 0.993</td>
<td>18497 0.9855080185 238850 65691 0.2750303538</td>
</tr>
<tr>
<td>2001</td>
<td>19164 18819 0.968</td>
<td>18819 0.9819974953 165196 73151 0.4428133853</td>
</tr>
<tr>
<td>2002</td>
<td>19087 18077 0.955</td>
<td>18077 0.9847383041 137824 77540 0.5626015788</td>
</tr>
<tr>
<td>2003</td>
<td>16255 15877 0.956</td>
<td>15877 0.9767456167 115818 57651 0.497772367</td>
</tr>
<tr>
<td>2004</td>
<td>13679 13392 0.970</td>
<td>13392 0.9790189341 78177 53656 0.6863399721</td>
</tr>
</tbody>
</table>

Fig. 3-1-3 Trend in the number of bankruptcies by industry
There is an upward trend in the number of bankruptcies, especially in the construction industry, where the bankruptcy rate is the highest.
**SME = Types of Financial Institutions**

<table>
<thead>
<tr>
<th>Financial institution</th>
<th>Year</th>
<th>Month</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>City banks</td>
<td>Mar</td>
<td>89.3</td>
<td>83.4</td>
<td>83.1</td>
<td>79.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional banks</td>
<td>Jun</td>
<td>67.8</td>
<td>66.0</td>
<td>66.4</td>
<td>66.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member banks of the Second Association of Regional Banks</td>
<td>Sep</td>
<td>24.4</td>
<td>23.2</td>
<td>23.2</td>
<td>23.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Dec</td>
<td>12.5</td>
<td>11.1</td>
<td>11.9</td>
<td>10.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestically-licensed bank banking accounts total</td>
<td></td>
<td>194.0</td>
<td>183.7</td>
<td>184.6</td>
<td>180.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestically-licensed bank trust accounts, etc.</td>
<td></td>
<td>2.6</td>
<td>2.1</td>
<td>2.0</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit associations</td>
<td></td>
<td>41.6</td>
<td>41.0</td>
<td>41.3</td>
<td>41.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit cooperatives</td>
<td></td>
<td>9.2</td>
<td>9.1</td>
<td>9.2</td>
<td>9.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private-sector financial institutions total</td>
<td></td>
<td>247.4</td>
<td>235.8</td>
<td>237.1</td>
<td>233.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private-sector financial institutions total (excluding trust accounts, etc.)</td>
<td></td>
<td>244.7</td>
<td>233.7</td>
<td>235.1</td>
<td>231.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shoko Chukin Bank</td>
<td></td>
<td>10.1</td>
<td>9.9</td>
<td>9.9</td>
<td>10.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan Finance Corporation for Small and Medium Enterprises</td>
<td></td>
<td>7.5</td>
<td>7.5</td>
<td>7.6</td>
<td>7.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government-affiliated financial institutions total</td>
<td></td>
<td>26.8</td>
<td>26.6</td>
<td>26.7</td>
<td>26.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total outstanding lending to SMEs</td>
<td></td>
<td>274.1</td>
<td>262.5</td>
<td>263.7</td>
<td>260.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total outstanding lending to SMEs (excluding trust accounts, etc.)</td>
<td></td>
<td>271.5</td>
<td>260.4</td>
<td>261.7</td>
<td>258.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Government Bank and Private Banks

![Bar chart showing the amount of loans from government and private banks over the years.]

Appendix note 3-2-10 Significance of lending from government-affiliated SME financial institutions

Regional financial institutions have high expectations of lending from government-affiliated SME financial institutions.

- Necessary
- Necessary to some extent
- Neutral
- Not quite necessary
- Unnecessary

<table>
<thead>
<tr>
<th>Type of Lending</th>
<th>Necessary</th>
<th>Necessary to some extent</th>
<th>Neutral</th>
<th>Not quite necessary</th>
<th>Unnecessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the purpose of emergency funds</td>
<td>76.2</td>
<td>17.4</td>
<td>6.4</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>When business is established</td>
<td>54.4</td>
<td>26.5</td>
<td>19.1</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>During the realization of stagnant business</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>When new business is created</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>When demand for policies such as environmental and energy saving measures are met</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>When business conditions worsen due to temporary external factors</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>When business with inadequate resources requires capital</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>When small enterprises require capital</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>During the implementation of computerization</td>
<td>59.5</td>
<td>26.4</td>
<td>14.2</td>
<td></td>
<td>0.0</td>
</tr>
</tbody>
</table>

[Charts showing percentages and years]
Fig. 3-2-1 [2] Trends in loan-deposit ratio by type of financial institution
The loan-deposit ratio of private financial institutions overall has been declining

![Graph showing trends in loan-deposit ratio by type of financial institution.](image)

Appended note 3-2-4  Competition among regional financial institutions for lending to SMEs (by regions)
Most regional financial institutions feel intense competition for lending to SMEs

<table>
<thead>
<tr>
<th>Region</th>
<th>Very strong</th>
<th>Somewhat strong</th>
<th>Not very strong</th>
<th>Not strong at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hokkaido</td>
<td>55.5%</td>
<td>44.6%</td>
<td>4.9%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Tohoku</td>
<td>44.8%</td>
<td>48.6%</td>
<td>6.7%</td>
<td>0%</td>
</tr>
<tr>
<td>Kanto</td>
<td>34.3%</td>
<td>42.9%</td>
<td>10.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Kinki</td>
<td>44.9%</td>
<td>42.9%</td>
<td>11.2%</td>
<td>0%</td>
</tr>
<tr>
<td>Chugoku</td>
<td>51.4%</td>
<td>44.6%</td>
<td>4.5%</td>
<td>0%</td>
</tr>
<tr>
<td>Shikoku</td>
<td>48.8%</td>
<td>48.8%</td>
<td>2.4%</td>
<td>0%</td>
</tr>
<tr>
<td>Kyushu and Okinawa</td>
<td>54.8%</td>
<td>47.4%</td>
<td>7.8%</td>
<td>0%</td>
</tr>
</tbody>
</table>

![Bar chart showing competition among regional financial institutions.](image)
Changes in start-ups and closure rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Start-up Rate</th>
<th>Closure Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>'75–'78</td>
<td>5.90%</td>
<td>3.80%</td>
</tr>
<tr>
<td>'78–'81</td>
<td>5.90%</td>
<td>3.80%</td>
</tr>
<tr>
<td>'81–'86</td>
<td>4.30%</td>
<td>4.00%</td>
</tr>
<tr>
<td>'86–'91</td>
<td>3.50%</td>
<td>4.00%</td>
</tr>
<tr>
<td>'91–'96</td>
<td>2.70%</td>
<td>3.20%</td>
</tr>
<tr>
<td>'96–'99</td>
<td>3.60%</td>
<td>5.60%</td>
</tr>
<tr>
<td>'99–'01</td>
<td>3.10%</td>
<td>4.50%</td>
</tr>
</tbody>
</table>
Loans by Banks, Credit Cooperatives etc.

Fig. 1-3-11 Trends in outstanding lending to SMEs (by type of financial institution)
Comparatively stable lending by government-affiliated SME financial institutions, credit associations, and credit cooperatives, but lending by domestic banks too has recovered from June 2005.

Source: Compiled by the SME Agency from BOJ Monthly Financial and Economic Statistics and other sources.
Notes: 1. The figures for "domestic banks" indicate the combined lending of domestic banks (excluding credit associations and credit cooperatives), domestic trust banks, and overseas branches/branches of domestically licensed banks.
2. The government-affiliated SME financial institutions are the Shinko Chukin Bank, Japan Finance Corporation for Small and Medium Enterprises (JACO), and National Urban Finance Corporation.
3. The shaded sections indicate economic contraction (from the peak to the trough in the business cycle).
Fig. 1-1-20  Trends in index of wages
The index of wages decreased from 1997 to 2004, recovered in 2005, and fell by 0.3% from the previous year level in 2007

Four Accounts by SMEs

SMEs

- Tax Authority
- Banks
- His Own
- Showing to his wife
Lack of Data for SMEs

Large corporations

SMEs

Credit Rating

Capital Market

Stocks and Bonds

Banks

Loan Securitization

Credit Guarantee

Micro Credit

SMEs Database

1. Common Database in ASEAN+3
2. Credit Scoring
3. Statistical Examination → Default Risk
4. Reduce Information Asymmetry
5. Securitization of SME loans → It is circulated in Asian Bond Market
6. Benchmark for SME credit analysis
Credit Guarantee Systems (CGS) and SME Finance in ASEAN

- Credit guarantee schemes (CGS) have the objective of absorbing part of the loss resulting from the default of a bank loan.
- It reduces lender’s risk, serves to improve the supply of credit and facilitates the smooth operation of the SME loan market.

Sustainability of CGS
- motivation, funding;
- To avoid moral hazard;
- Going concern
Credit Guarantee Systems and SME Finance in ASEAN

The APBSD seeks to engage ASEAN countries in:

- Capacity building to improve SME financing access via the institutionalization of capacity building measures in the areas of accounting and financial information reporting and maintenance;
- Financial institutional capacity building specifically the development of a credit information system;
- Widening and deepening of SME access through the regionalization and sub-regionalization of financial schemes and alternative financial measures.

SME Financing and the State of Credit Guarantee Systems (CGS) in ASEAN

CGS Lessons and Insights

- To the extent that CGS have somehow influenced Asian banks’ lending behavior by encouraging them to make SMEs part of their market and develop SME-focused financial products and services, CGS can be said to have indirectly influenced the promotion of financial sector deepening.
- Partial Guarantee rather than 100%.
- To Avoid Moral Hazard
Credit Guarantee Systems and SME Finance in ASEAN

- Macroeconomic CGS Success Factors
  - Open and competitive banking environment
  - Dynamic and expanding business sector
  - Government policies that do not crowd-out market-driven initiatives
  - Monetary and regulatory environment that is conducive to lending to SMEs
  - Enterprise-centered business framework
  - Supportive agencies that champion enabling environment for SMEs
  - A credit bureau that provides effective and efficient access to SME credit information.

Considerations in Establishing a Regional Framework for SME Funding Mechanisms

- Promoting CGS for financial development is NOT the same as promoting SME development.
- Governments must be ready to support CGS schemes in times of distress so as not to derail the goal of SME promotion.
- Credit bureaus and credit ratings agencies for SMEs will help CGS expand its reach and maximize its impact.
- One of the outcomes of the APBSD which the ASEAN hopes to achieve by 2015 is the establishment of the SME development fund to benefit all ASEAN SMEs and promote entrepreneurship on a regional level.
CRD (Credit Risk Database)
Membership composition (July, 2009)

Credit guarantee corporations 52
Government financial institutions 3
Private financial institutions 136
Credit-rating agencies, etc. 6
Small and Medium Enterprises Agency, Bank of Japan, etc. 5
Total 202

CRD Data: Since 1995

Corporations March-2009
Total 10,180,000 (1785)
Default data 1,117,000 (209)

Individual owned company
Total 2,496,000 (803)
Default data 301,000 (90)
Number of (Number of Accounts companies)
SME Database

Credit Guarantee Corporations
(Collect Data of SMEs)

Financial Institutions
136+3
Regional Banks
Credit Associations
Credit Cooperatives
Government Banks
Central Bank

SMEs 2588
(12.6 million)
Defaults 299
(1.4 million)

1, Government Support
2, Reliability
3, Security of Information
CRD

Data on SMEs under the Small and Medium Enterprise Basic Law
(1) Financial data
(2) Non-financial data and attribute data
(3) Default information

CRD services
(1) Credit risk scoring
(2) Data sampling
(3) Statistical information

CRD Data Center
Member data stored in anonymous form
Cleansing
Data consolidation
Database for Use (Accumulated CRD data)
**CRD Data Collection**

- **Financial data** - B/S and P/L
- **Non-financial data** - E.g. date of establishment and geographical location.
- **Default data**
  - 3 months or more arrears;
  - de facto bankruptcy;
  - subrogation by credit guarantee corporations
  - possible bankruptcy.

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**Consolidation and Anonymity**

- An effective credit information database needs a large amount of data.
  - The database needs to consolidate the data on the same borrower.
- **Anonymity** is important to form a large and effective credit information database.

- Anonymity is a legal protection issue.
- **Confidenciality**
Policy Remarks and Recommendation

- Elements of a Regional Credit Information Sharing Mechanism
  - Legal and regulatory frameworks for credit reporting - anticipated as the most challenging of all elements
  - Technology platform
  - Providers and users of data
  - Quantity and quality of data to be collected/distributed
  - Advocacy of credit reporting discipline and education, Book keeping by SMEs
  - Institutional arrangements to govern the collection and use of credit information across borders.
  - Policy guidelines for the use of regional credit information for benchmarking purposes.

In the context of SME participation in bond markets:

- The securitization of SME bonds plus a credit guarantee on those bonds could render it more attractive to investors.
- Establishment of SME credit information entities must be continuously pursued. This development would help generate a critical mass of SME information and help create SME-focused credit ratings agencies.
- Existing domestic rating agencies need to be more efficient.
- A strong legal and regulatory framework must be in place to protect investors, promote financial reporting and accounting discipline and encourage transparency in capital market transactions.
(1) **SMEs have to have incentives to disclose their truth data.** In Japan, SME data are collected nationwide by Credit Guarantee Corporations, which have 47 offices in all the prefectures in Japan. When SMEs want to borrow from banks, they are often asked to put credit guarantee on their loans. This is because SMEs are perceived to be much riskier than large corporations. Since ASEAN countries have different financial and SME lending systems, the kind of organization to collect SME data in each country must be studied well.

(2) **An institution that is mandated to collect SME data while looking after the confidential and trustworthiness interests of the SMEs in its database must be established.**

(3) Once the organization to collect SME data is set up, the government must spend for the initial cost of its establishment to help get its operations off the ground. The cost must be as minimum as possible. **At the same time, it must have its own revenue source.** In Japan, CRD (credit Risk Database) collect fees from financial institutions by selling data and by providing the computation of default risks. Consultation of data analysis with various banks is another source of income from CRD.
(4) The SME database should be a repository of both financial and non-financial SME data. In Japan, the data collected by CRD includes sales, operating profits, ordinary profits, investment in plant and equipment, investment in P&E (excluding investment in software), increase in inventories, ratio of operating profits to sales, ratio of ordinary profits to sales, ratio of net worth, liquid assets, inventories, fixed assets, deferred assets, total assets, liquid liabilities, fixed liabilities, net assets, interest expense and personnel expenses.

(5) **Statistical analysis** is required to compute the default risk ratio of SMEs. The database institution can then provide statistical analysis to its member banks.

(6) If SME data are collected in various Asian countries, **cross border comparison becomes possible for SME credibility**. SME loans can be securitized based on the accurate database, which can **widen the opportunity for SMEs to raise funds** from the capital market. SMEs can start to issue CPs and corporate bonds as a group. The information contained in the SME database can help reduce the risks of SME bond and pooled SME bonds can be used to diversity the risks of investors.
(7) Continuous efforts need to be made to improve the kind of data to be collected in each country so as to ascertain the exact situation of firms in the SME industry. Credit risk models can be developed and improved with the use of various SME data. The development of SME database will contribute to the enhancement of the Asian bond market by allowing SMEs to issue SME bonds.

If SME data sets were disclosed in Asian countries, and under the auspices of the ABMI, capital flow among Asian countries will be enhanced.

--- Summary---
SMEs Database

1. Common Database
2. Credit Scoring
3. Securitization of SME loans
   → It is circulated in Asian Bond Market
4. Benchmark for SME credit analysis
5. Statistical Examination
   → Default Risk
6. Reduce Information Asymmetry
More than 60% use Credit Data

Direction of Portfolio Investment
Figure 1, From Asia, Figure 2, To Asia, Figure 3, Europe
ABMI (Asian Bond Market Initiative)

Steps so far
1. Government Bond Market
2. Semi-Government Bond (Power plant)
3. Large Companies
4. Infrastructure Financing (Revenue Bond)
5. Housing Loan, Securitization

→ Small Businesses are neglected
→ Credit Data is difficult to obtain

Reference

Development of Corporate Credit Information Database and Credit Guarantee System
Presented to the ASEAN Secretariat
By Naoyuki Yoshino, Koichi Suzuki, Yasuhiro Maehara and Kazutomo Abe

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