ANALYSIS of SME database and Financing for SMEs

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October 29-30, Rome, Italy
SMEs in Japan

Number of employees ('000)

- Large enterprises: 13,710 (31.4%)
- SMEs: 29,960 (68.6%)

Sales (Y billion)

- Large enterprises: 378.00 (51.2%)
- SMEs: 131,600 (48.8%)

Number of companies ('000)

- Large enterprises: 13 (0.3%)
- SMEs: 46,900 (99.7%)

## SMEs in the People’s Republic of China

<table>
<thead>
<tr>
<th>Item</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011*</th>
<th>2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of SMEs</td>
<td></td>
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<tr>
<td>SMEs (number)</td>
<td>333,858</td>
<td>422,925</td>
<td>431,110</td>
<td>449,130</td>
<td>316,498</td>
<td>334,321</td>
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<tr>
<td>SMEs to total (%)</td>
<td>99.1</td>
<td>99.3</td>
<td>99.3</td>
<td>99.2</td>
<td>97.2</td>
<td>97.3</td>
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<tr>
<td>Employment by SMEs</td>
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<tr>
<td>SME employees (’000)</td>
<td>60,521</td>
<td>68,671</td>
<td>67,877</td>
<td>72,369</td>
<td>59,357</td>
<td>...</td>
</tr>
<tr>
<td>SMEs to total (%)</td>
<td>76.8</td>
<td>77.7</td>
<td>76.9</td>
<td>75.8</td>
<td>64.7</td>
<td>...</td>
</tr>
<tr>
<td>SME Exports</td>
<td></td>
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<tr>
<td>SME exports (CNY billion)</td>
<td>4,303</td>
<td>4,773</td>
<td>4,152</td>
<td>4,919</td>
<td>4,142</td>
<td>4,423</td>
</tr>
<tr>
<td>SMEs to total exports (%)</td>
<td>58.6</td>
<td>57.9</td>
<td>57.6</td>
<td>54.7</td>
<td>41.6</td>
<td>41.5</td>
</tr>
</tbody>
</table>
Contribution of Small and Medium-sized Enterprises to Gross Domestic Product

Small and Medium Sized Enterprise (SME)

Venture business

Toyota, Honda, SONY, Seven-Eleven

HONDA had no support by the government

HONDA could not borrow money

M-bank made loans to HONDA.

How to finance start-up business?

Human capital development in SME
Asian Financial Markets’ Main Features

1. Bank-dominated financial system

2. Small share of bond markets ---> Needs for long term financing

3. Lack of long-term investors such as pension funds and Life insurance

4. Benchmark bond market (sovereign bond)
   Infrastructure bond, corporate bond

5. High percentage of SMEs

6. Large share or Microcredit (finance companies); Lack of venture capital
Access to Finance by SMEs and Large Firms in Japan
Barriers for SMEs in Accessing Financial Institutions

**A. People’s Republic of China**
- High lending rate
- Complicated procedures
- Collateral/guarantee
- Lending policy of FI
- Short loan term
- Exclusive lending attitude of FI
- Lack of knowledge
- Insufficient management
- No demand on SMEs

**B. India**
- Collateral/guarantee
- Lending policy of FI
- Complicated procedures
- Exclusive lending attitude of FI
- High lending rate
- Short loan term
- Lack of knowledge
- No demand on SMEs
- Insufficient management

**C. Republic of Korea**
- Collateral/guarantee
- Lending policy of FI
- Complicated procedures
- Exclusive lending attitude of FI
- High lending rate
- Short loan term
- Lack of knowledge
- Insufficient management
- No demand on SMEs

**D. Malaysia**
- Complicated procedures
- Collateral/guarantee
- Lending policy of FI
- High lending rate
- Exclusive lending attitude of FI
- Short loan term
- Lack of knowledge
- No demand on SMEs
- Insufficient management

**Source:** ADB–OECD study on enhancing financial accessibility for SMEs: Lessons from recent crises. Mandaluyong City, Philippines: Asian Development Bank, 2013
Borrower, Lender and Market

Borrower
SMEs
Individuals

Market

Lender
Banks
MicroCredit

Information Asymmetry
Especially SME market
Four Accounts by SME

1, Account to show Bankers
2, Account to show tax authority
3, His own account
4, Account to show to his wife
Lack of Data for SMEs

- Large corporations
  - Credit Rating
  - Stocks and Bonds
    - Capital Market
- SMEs
  - Credit Guarantee
  - Banks
  - Micro Credit
SME Data base (CRD Data base)

Credit Guarantee Corporations (Collect Data of SMEs) 52

Financial Institutions 200
- Regional Banks
- Credit Associations
- Government Banks
- Central Bank

SMEs (14.4 million data)
- Defaults (1.7 million data)

1. Government Support
2. Reliability
3. Security of Information

CRD
CRD Database

1. Sector, Location, Year of Establishment
2. Real estates, Age of Owner
3. Successor or not
4. Financial Data
   (i) Cash & Deposits,
   (ii) Liquidity Assets and Fixed Assets
   (iii) Total Assets
   (iv) Short term and long term borrowings
   (v) Sales, Profits
Analysis of SME credit risk using Asian data

- Selection of the variables
- Principal Component Analysis
- Cluster Analysis
## Examined Variable

<table>
<thead>
<tr>
<th>No.</th>
<th>Symbol</th>
<th>Definition</th>
<th>Category</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Equity_TL</td>
<td>Equity (book value)/total liabilities</td>
<td>Leverage</td>
</tr>
<tr>
<td>2</td>
<td>TL_Tassets</td>
<td>Total liabilities/total assets</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Cash_Tassets</td>
<td>Cash/total assets</td>
<td>Liquidity</td>
</tr>
<tr>
<td>4</td>
<td>WoC_Tassets</td>
<td>Working capital/total assets</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Cash_Sales</td>
<td>Cash/net sales</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>EBIT_Sales</td>
<td>Ebit/sales</td>
<td>Profitability</td>
</tr>
<tr>
<td>7</td>
<td>Rinc_Tassets</td>
<td>Retained earnings/total assets</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Ninc_Sales</td>
<td>Net income/sales</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>EBIT_IE</td>
<td>Ebit/interest expenses</td>
<td>Coverage</td>
</tr>
<tr>
<td>10</td>
<td>AP_Sales</td>
<td>Account payable/sales</td>
<td>Activity</td>
</tr>
<tr>
<td>11</td>
<td>AR_TL</td>
<td>Account receivable/total liabilities</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Retained earnings = the percentage of net earnings not paid out as dividends, but retained by the company to be reinvested in its core business or to pay debt. It is recorded under shareholders’ equity in the balance sheet. Ebit = earnings before interest and taxes. Account payable = an accounting entry that represents an entity’s obligation to pay off a short-term debt to its creditors. The accounts payable entry is found on a balance sheet under current liabilities. Account receivable = money owed by customers (individuals or corporations) to another entity in exchange for goods or services that have been delivered or used, but not yet paid for. Receivables usually come in the form of operating lines of credit and are usually due within a relatively short time period, ranging from a few days to a year.
Cluster analysis: the average linkage method

Dendogram Using Average Linkage
Factor Loadings of Financial Variables after Direct Oblimin Rotation

<table>
<thead>
<tr>
<th>Variables (Financial Ratios)</th>
<th>Component</th>
<th></th>
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<tr>
<td></td>
<td></td>
<td><strong>Z1</strong></td>
<td><strong>Z2</strong></td>
<td><strong>Z3</strong></td>
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<tr>
<td>Equity_TL</td>
<td>0.009</td>
<td>0.068</td>
<td>0.113</td>
<td>0.705</td>
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<tr>
<td>TL_Tassets</td>
<td>-0.032</td>
<td>-0.878</td>
<td>0.069</td>
<td>-0.034</td>
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<td>Cash_Tassets</td>
<td>-0.034</td>
<td>-0.061</td>
<td>0.811</td>
<td>0.098</td>
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<tr>
<td>WoC_Tassets</td>
<td>-0.05</td>
<td>0.762</td>
<td>0.044</td>
<td>0.179</td>
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<tr>
<td>Cash_Sales</td>
<td>-0.937</td>
<td>0.021</td>
<td>0.083</td>
<td>0.009</td>
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<tr>
<td>EBIT_Sales</td>
<td>0.962</td>
<td>0.008</td>
<td>0.024</td>
<td>-0.004</td>
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<td>Rinc_Tassets</td>
<td>0.014</td>
<td>0.877</td>
<td>0.015</td>
<td>-0.178</td>
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<td>Ninc_Sales</td>
<td>0.971</td>
<td>-0.012</td>
<td>0.015</td>
<td>0.014</td>
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<td>EBIT_IE</td>
<td>0.035</td>
<td>0.045</td>
<td>0.766</td>
<td>-0.098</td>
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<td>AP_Sales</td>
<td>-0.731</td>
<td>-0.017</td>
<td>-0.037</td>
<td>-0.016</td>
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<tr>
<td>AR_TL</td>
<td>0.009</td>
<td>-0.041</td>
<td>-0.104</td>
<td>0.725</td>
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</table>

*Note: The extraction method was principal component analysis, The rotation method was direct oblimin with Kaiser normalization.*
Credit Rating of SMEs using Asian Data

(i) Sales
(ii) Assets
(iii) Liquidity (Cash)
(iv) Total Debt
Grouping Based on Principal Component (Z1-Z2) and Cluster Analysis

Group “B”

Group “A2”

Group “A1”

Z1 (Net income)

Z2 (Net income)

Z1 (Short-term Asset)

Z2 (Net income)

Z1 (Short-term Asset)
Credit Rating for SMEs by Use of SME Database

1. Credit Rating is only applicable to large companies
2. Credit Rating for SMEs based on SME Data
3. Three ranking of SMEs (Asian country)
   - Five ranking of SMEs (Japan’s case)
4. SME data can produce default risk ratio
5. Risk based Interest rate
Financial Education for SMEs

Education Program and Textbooks

1. Financial Planners Association
   Individual Borrowing

2. Central Bank of Japan
   Textbooks, Educate School teachers
   Regional Education Program

3. Various Financial Associations
   Bankers Association, Stock Exchange
(1) SMEs pay higher interest rate

Compounding interest rate \((1+r), (1+r)^2, (1+r)^3, (1+r)^4\)

Start-up businesses are quite difficult to borrow money from banks

(2) Plenty collateral required, “tuna fish” as collateral.

(3) Asset management skill by SMEs

(4) Pension management by SMEs

SMEs have to contribute 50% of the pension reserves of their employees.

(5) Book keeping by SMEs
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<td>Dominically-licensed banks’ banking accounts total</td>
<td>181.1</td>
<td>177.9</td>
<td>178.0</td>
<td>177.5</td>
<td>177.6</td>
<td>173.2</td>
<td>174.4</td>
<td>173.7</td>
<td>174.8</td>
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<td>171.2</td>
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<tr>
<td>Dominically-licensed banks' trust accounts, etc.</td>
<td>1.1</td>
<td>1.1</td>
<td>1.0</td>
<td>1.0</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.5</td>
<td>0.4</td>
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<td>Credit associations</td>
<td>42.7</td>
<td>42.3</td>
<td>42.6</td>
<td>42.8</td>
<td>42.1</td>
<td>41.4</td>
<td>41.7</td>
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<td>41.5</td>
<td>41.0</td>
<td>41.4</td>
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<td>Credit cooperatives</td>
<td>9.4</td>
<td>9.3</td>
<td>9.4</td>
<td>9.4</td>
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<td>9.3</td>
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<tr>
<td>Private-sector financial institutions total</td>
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<td>231.0</td>
<td>230.8</td>
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<td>220.9</td>
<td>222.5</td>
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<tr>
<td>Private-sector financial institutions total (excluding trust accounts, etc.)</td>
<td>233.2</td>
<td>229.6</td>
<td>229.9</td>
<td>229.8</td>
<td>229.1</td>
<td>224.0</td>
<td>225.5</td>
<td>225.1</td>
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<td>Shoko Chukin Bank</td>
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<tr>
<td>Japan Finance Corporation (Small and Medium Enterprise Unit)</td>
<td>5.6</td>
<td>6.0</td>
<td>6.1</td>
<td>6.2</td>
<td>6.2</td>
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<td>6.2</td>
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<td>Japan Finance Corporation (Micro Business and Individual Unit)</td>
<td>6.5</td>
<td>6.6</td>
<td>6.6</td>
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<td>6.5</td>
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<td>Government-affiliated financial institutions total</td>
<td>21.3</td>
<td>21.8</td>
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<td>22.1</td>
<td>22.1</td>
<td>22.2</td>
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<tr>
<td>Total outstanding lending to SMEs</td>
<td>255.7</td>
<td>252.4</td>
<td>252.9</td>
<td>253.1</td>
<td>251.9</td>
<td>246.7</td>
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</tr>
<tr>
<td>Total outstanding lending to SMEs (excluding trust accounts, etc.)</td>
<td>254.5</td>
<td>251.3</td>
<td>251.9</td>
<td>252.1</td>
<td>251.2</td>
<td>246.0</td>
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</tbody>
</table>
Possible Solutions
Start up businesses

Hometown Investment

A Stable Way to Supply Risk Capital

Yoshino, Naoyuki; Kaji Sahoko (Eds.)
2013, IX, 98 p. 41 illus., 20 illus. in color

Available Formats:
- ebook
- Hardcover
Bank-based SME financing and regional financing to riskier borrowers

1. Bank Loans to relatively safer borrower
2. Hometown Investment Trust Funds/
E-Finance, Internet financing

Safer SMEs → Banking Account → Hometown Investment Trust Funds → Investors

Riskier Borrowers → Banking Account → Depositors
E-banking, E-commerce

Trade Credit
- high cost of sending money to overseas

New Entry to Transaction service
- traditional banks are so expensive
- SONY and YEON retail store enter the business

Finger print identification by mobile phone
- Individual identification - SS number

Start up Business --- Internet disclosure
Investment in SMEs and start up businesses
Agricultural Funds

Beans and Wine
1, Money lenders, Interest rate = 96% in Japan
2, License --- Banks
   Registration --- Finance companies
3, New Finance Company Law
   (i) Highest interest rate = 20%
   (ii) Amount of borrowing < 1/3 of Income
   (iii) Minimum Capital
Basel Capital Requirements

1. Adequate Capital for Banks
2. To keep healthy
3. SME loans will decline
4. Micro credit
5. Loan sharks
6. Education to SMEs and borrowers
Discussions

1. Long term financing to corporations
   Large corporations
2. Large companies can access to bond market
3. SMEs and venture businesses
   who will provide long term funds?
4. Evaluation of risks of SMEs
5. SME database, CRD in Japan
6. Hometown investment trust funds
References


