Asia-Pacific
Economic Cooperation

2010/SOM3/EC/SEM/007
Session 2

The Role of Collateral and Government Assistance in SME Financing: The Case of Japan

Submitted by: Japan

JAPAN 2010

Seminar on Getting Credit for Small and Medium Enterprises
Sendai, Japan
21 September 2010

The role of collateral and government assistance in SME financing: The case of Japan

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9/21/2010

For papers cited in the presentation, please see http://www.rieti.go.jp/users/uesugi-iichiro/index_en.html

1

Objectives of presentation

- Examine the role of collateral in SME financing
- Examine the role of government assistance especially for firms less endowed with real estate (assets most frequently used as collateral)

2

1. Role of collateral in SME financing

3

Role of collateral in SME financing

- Frequently used when financial institutions extend loans to SMEs

  Collateral usage rate: Japan (2005) 51.5%, U.S. (1998) 61.5%

  Asset class share of collateral: Japan (2001) 96% real estate, 23% depositary accounts, and 9% equity securities

- However, usage rate decreasing in Japan

  51.5% (2005) → 40.3% (2008)

- Does collateral usage improve or deteriorate funds allocation efficiency?

4

Economic rationale for collateral usage

(1) Positive aspects

- Problems incurred by information asymmetry between SMEs and financial institutions

  Information asymmetry:

  Banks are not knowledgeable about small firms and thus reluctant to extend loans to them

- Collateral usage alleviates the above problems

5

Economic rationale for collateral usage

- Limits moral hazard

  Firms that pledge collateral will lose more upon their default than firms that do not.

  They exert more managerial efforts in order to prevent themselves from default.

- Encourages information production

  When collateral value is volatile, financial institutions frequently monitor the collateral value

6

Economic rationale for collateral usage

(2) Negative aspects

- Detrimental to information production, especially to relationship banking

  Since loans are secured by collateral, banks become lazy and infrequently monitor their borrowers

- Japan's Financial Service Agency has been rather vocal on the negative aspects

  Banks need to be less dependent on collateralized loans and more on relationship-based loans

7

Empirical evidence

Positive aspects are dominant in Japan

- Ex-post performance of firms that pledge collateral improves more than the performance of those that do not pledge collateral (Ono, Sakai, and Uesugi(2008))

  Collateral may have prevented moral hazard

- (Collateral and bank monitoring) and (collateral and bank-firm relationship) are complements rather than substitutes (Ono and Uesugi (2009), See next slide)

  Collateral coexists with information production and bank-firm relationship

8

Empirical evidence

Percentage of borrowers with collateral

	Total	～49	50～54	55～59	60～64	65～69	70～
				TSR Credit Scores			
Frequency of document submission							
once every 1-2 months	91.5%	92.3%	94.8%	88.9%	89.9%	78.1%	93.8%
quarterly	87.6%	88.1%	88.6%	89.3%	83.5%	83.6%	75.0%
semi-annually	75.9%	78.8%	77.7%	77.2%	73.7%	70.9%	72.4%
annually	67.2%	69.3%	69.5%	70.1%	66.0%	63.8%	53.3%

	Total	～49	50～54	55～59	60～64	65～69	70～
				TSR Credit Scores			
Duration of relationship with the main bank							
less than 15 years	54.9%	53.9%	58.3%	54.9%	54.5%	44.4%	52.4%
15-28 years	73.9%	84.1%	80.5%	73.2%	65.2%	59.0%	49.8%
28-40 years	79.8%	92.4%	87.0%	81.2%	70.1%	68.0%	52.2%
40 years or more	82.8%	92.7%	89.2%	86.2%	80.1%	72.2%	57.5%

9

2. SME financing without collateral and role of the government

10

Importance of government assistance

- Collateral is important for the efficient allocation of funds
- However, not all SMEs have assets that can be collateralized, especially, real estate
  - Startup firms
  - Firms in information & communication or services sector
- Then, what should these SMEs do to procure funds?
  → Government assistance as one solution

11

Government financial assistance to SMEs

- Loan guarantees
  - Credit Guarantee Corporations: 29.4 trillion yen
- Direct Loans
  - Governmental Financial Institutions: 22.4 trillion yen
    - JFC (Japan Finance Corporation; former JASME and NLFC) 13.0 trillion yen, Shoko Chukin Bank: 9.3 trillion yen
  - Other Related Agencies
    - SMRJ (Organization for Small and Medium Enterprises and Regional Innovation, Japan)
  - Local Governments
- Investments and subsidies

12

Effectiveness of the assistance

- Are government programs effective in:
  alleviating the credit crunch?
  helping borrower firms to invest in profitable projects?
- However, little empirical evidence for their effectiveness due to data availability
- We summarize Uesugi, Sakai, and Yamashiro (2010) that evaluates the effectiveness of one of the world's largest credit guarantee program implemented in 1998-2001 (Special credit guarantee program)

13

Special credit guarantee (SCG) program

- Expected Positive Effects:

  Alleviate the effects of the credit crunch and stabilize Japan's financial system
- Application Period:

  October 1998 – March 2001 (← Severe financial crisis period in Japan, comparable to the current crisis in the world!!)
- Guarantee Amount (overall):

  30 trillion yen (planned), 28.9 trillion yen (exercised)
- Major conditions for rejecting the guarantee:

  (1) Significantly negative net worth, (2) Tax delinquency, (3) Default, and (4) Window-dressing

14

Empirical evidence for its effectiveness

Using a firm-level data set of SCG users and non-users, we find the following:

- Positive and significant improvement in (long-term) loan availability

  → Effective in alleviating the credit crunch

- Decreasing performance among program users both in terms of the profitability level and the probabilities of falling into financial distress

  → Not so effective in helping borrowers to increase their profitability or to reduce their credit risk

15

Empirical evidence for its effectiveness

		Treatmen	Control	Diff. in Diff.	
LOANRATIO	*t-1*	0.498	0.500		
Loan/Total Assets	*t*	0.516	0.497	0.021	***
	t+1	0.509	0.487	0.023	***
	t+2	0.502	0.477	0.025	***
	t+3	0.503	0.472	0.031	***
	t+4	0.494	0.459	0.037	***
LONGRATIO	*t-1*	0.317	0.322		
Long-term Loan/Total Assets	*t*	0.343	0.326	0.022	***
	t+1	0.336	0.321	0.021	***
	t+2	0.325	0.310	0.020	***
	t+3	0.326	0.314	0.015	***
	t+4	0.320	0.307	0.014	***
RATE	*t-1*	0.030	0.030		
Interest Rate	*t*	0.028	0.028	0.001	***
	t+1	0.028	0.027	0.002	***
	t+2	0.028	0.026	0.002	***
	t+3	0.027	0.025	0.003	***
	t+4	0.027	0.025	0.003	***
FCAP	*t-1*	0.299	0.306		
Fixed Tangible Assets/Total Assets	*t*	0.300	0.306	0.003	*
	t+1	0.303	0.308	0.004	*
	t+2	0.305	0.309	0.003	
	t+3	0.314	0.318	0.002	
	t+4	0.311	0.322	-0.003	

		Treatmen	Control	Diff. in Diff.	
ROA	*t-1*	0.015	0.013		
Business Profits/Total Assets	*t*	0.014	0.016	-0.004	***
	t+1	0.018	0.021	-0.004	***
	t+2	0.018	0.021	-0.005	***
	t+3	0.019	0.017	0.000	
	t+4	0.023	0.021	-0.002	
p(DEFAULT=1)					
Probability of default					
	t+1	0.002	0.001	0.001	
	t+2	0.005	0.002	0.003	*
	t+3	0.026	0.011	0.015	***
	t+4	0.019	0.016	0.003	
p(CAP_NG=1)	*t-1*	0.076	0.071		
Probability of negative capital	*t*	0.081	0.076	0.000	
	t+1	0.087	0.074	0.005	
	t+2	0.074	0.063	0.009	
	t+3	0.078	0.056	0.024	***
	t+4	0.076	0.052	0.031	***
p(ICOVER_SM=1)	*t-1*	0.494	0.507		
Probability of small interest coverag	*t*	0.493	0.436	0.073	***
	t+1	0.435	0.394	0.055	***
	t+2	0.423	0.388	0.055	***
	t+3	0.420	0.412	0.029	*
	t+4	0.374	0.363	0.040	**

Note 1: ***,**,* indicate a significance level of 1%, 5%, and 10%, respectively.

16

Conclusions

- Collateral is one of the most important instruments to alleviate problems incurred by SMEs' informational opacity.
- However, some firms lack collateralizable assets.
- For these firms, government assistance may be a solution.
- However, we need to examine whether the assistance provided by the government is effective.

17