



**Asia-Pacific  
Economic Cooperation**

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**2010/SOM3/EC/SEM/007**

Session 2

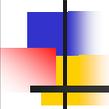
## **The Role of Collateral and Government Assistance in SME Financing: The Case of Japan**

Submitted by: Japan



**JAPAN 2010**

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



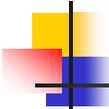
## The role of collateral and government assistance in SME financing: The case of Japan

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9/21/2010

For papers cited in the presentation, please see [http://www.rieti.go.jp/users/uesugi-ichiro/index\\_en.html](http://www.rieti.go.jp/users/uesugi-ichiro/index_en.html)

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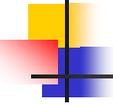


## Objectives of presentation

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- 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)

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## 1. Role of collateral in SME financing

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## 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% depository 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?

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## 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

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## 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

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## 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

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## 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

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## Empirical evidence

### Percentage of borrowers with collateral

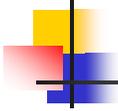
	Total	TSR Credit Scores					
		~49	50~54	55~59	60~64	65~69	70~
Frequency of document submission							
once every 1-2 months	91.5%	92.3%	94.8%	88.9%	89.9%	78.1%	93.8%
quarterly	87.6%	88.1%	88.6%	89.3%	83.5%	83.6%	75.0%
semi-annually	75.9%	78.8%	77.7%	77.2%	73.7%	70.9%	72.4%
annually	67.2%	69.3%	69.5%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

	Total	TSR Credit Scores					
		~49	50~54	55~59	60~64	65~69	70~
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%

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## 2. SME financing without collateral and role of the government

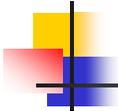
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## Importance of government assistance

- 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

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## 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

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## 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)

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## 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

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## 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

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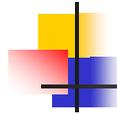


## Empirical evidence for its effectiveness

		Treatment	Control	Diff. in Diff.		Treatment	Control	Diff. in Diff.
<b>LOANRATIO</b>	<i>t-1</i>	0.498	0.500		<b>ROA</b>	<i>t-1</i>	0.015	0.013
Loan/Total Assets	<i>t</i>	0.516	0.497	0.021 ***	Business Profits/Total Assets	<i>t</i>	0.014	0.016
	<i>t+1</i>	0.509	0.487	0.023 ***		<i>t+1</i>	0.018	0.021
	<i>t+2</i>	0.502	0.477	0.025 ***		<i>t+2</i>	0.018	0.021
	<i>t+3</i>	0.503	0.472	0.031 ***		<i>t+3</i>	0.019	0.017
	<i>t+4</i>	0.494	0.459	0.037 ***		<i>t+4</i>	0.023	0.021
<b>LONGRATIO</b>	<i>t-1</i>	0.317	0.322		<b>p(DEFAULT=1)</b>	<i>t-1</i>	0.002	0.001
Long-term Loan/Total Assets	<i>t</i>	0.343	0.326	0.022 ***	Probability of default	<i>t</i>	0.005	0.002
	<i>t+1</i>	0.336	0.321	0.021 ***		<i>t+1</i>	0.002	0.001
	<i>t+2</i>	0.325	0.310	0.020 ***		<i>t+2</i>	0.005	0.002
	<i>t+3</i>	0.326	0.314	0.015 ***		<i>t+3</i>	0.026	0.011
	<i>t+4</i>	0.320	0.307	0.014 ***		<i>t+4</i>	0.019	0.016
<b>RATE</b>	<i>t-1</i>	0.030	0.030		<b>p(CAP_NG=1)</b>	<i>t-1</i>	0.076	0.071
Interest Rate	<i>t</i>	0.028	0.028	0.001 ***	Probability of negative capital	<i>t</i>	0.081	0.076
	<i>t+1</i>	0.028	0.027	0.002 ***		<i>t+1</i>	0.087	0.074
	<i>t+2</i>	0.028	0.026	0.002 ***		<i>t+2</i>	0.074	0.063
	<i>t+3</i>	0.027	0.025	0.003 ***		<i>t+3</i>	0.078	0.056
	<i>t+4</i>	0.027	0.025	0.003 ***		<i>t+4</i>	0.076	0.052
<b>FCAP</b>	<i>t-1</i>	0.299	0.306		<b>p(ICOVER_SM=1)</b>	<i>t-1</i>	0.494	0.507
Fixed Tangible Assets/Total Assets	<i>t</i>	0.300	0.306	0.003 *	Probability of small interest coverage	<i>t</i>	0.493	0.436
	<i>t+1</i>	0.303	0.308	0.004 *		<i>t+1</i>	0.435	0.394
	<i>t+2</i>	0.305	0.309	0.003		<i>t+2</i>	0.423	0.388
	<i>t+3</i>	0.314	0.318	0.002		<i>t+3</i>	0.420	0.412
	<i>t+4</i>	0.311	0.322	-0.003		<i>t+4</i>	0.374	0.363

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

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## Conclusions

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- 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.