

# Effectiveness of Credit Guarantees in the Japanese Loan Market



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Iichiro Uesugi

Koji Sakai

Guy M. Yamashiro

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# Questions

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- **Are government interventions effective?**
- **Which effect dominates: Stimulating Investment vs Worsening adverse selection?**



## Overview

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- **Employ Japan’s “Special Credit Guarantee Program” as an excellent natural experiment**  
Size: Gigantic (30 trillion yen or 10% of total SME loans)  
Period: Temporary (Oct. 1998 to Mar. 2001)  
Eligibility: Most of small businesses
- **Examine if the program increases loan allocation, investment and efficiency**
- **Discuss how the program affects “relationship lending”**



# Public financial assistance to SMEs

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- **Credit guarantees (trillions of yen)**

Credit Guarantee Corporations: 30.3

- **Direct Loans (trillions of yen)**

(1) Governmental Financial Institutions: 26.6

JASME (Japan Finance Corporation for Small and Medium Enterprise): 7.6

NLFC (National Life Finance Corporation): 8.9

Shoko Chukin Bank: 9.8

ODFC (Okinawa Development Finance Corporation): 0.3

(2) Other Related Agencies

SMRJ (Organization for Small and Medium Enterprises and Regional Innovation, Japan) (amount as of end of June 2004): 1.3

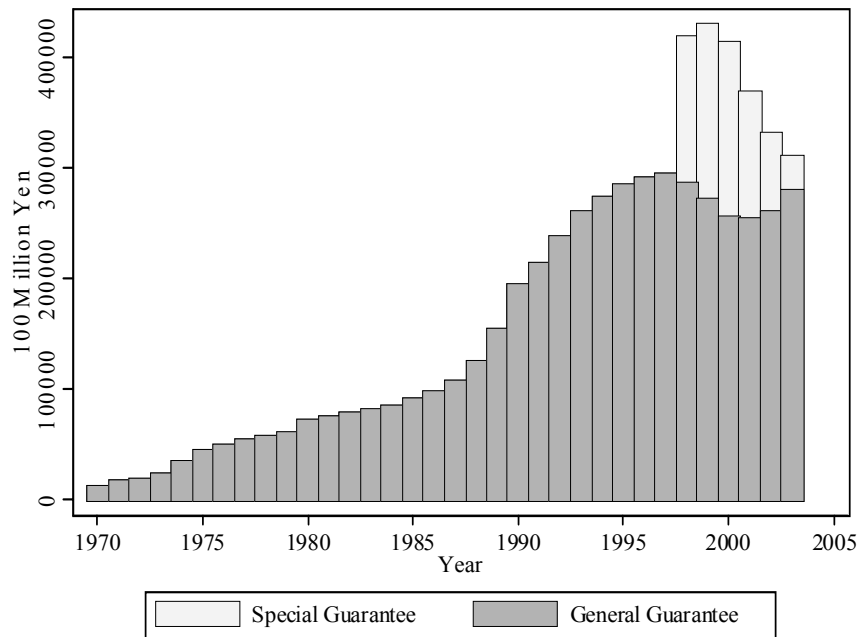
(3) Local Governments: Sizable, but difficult to measure

- **Investments**

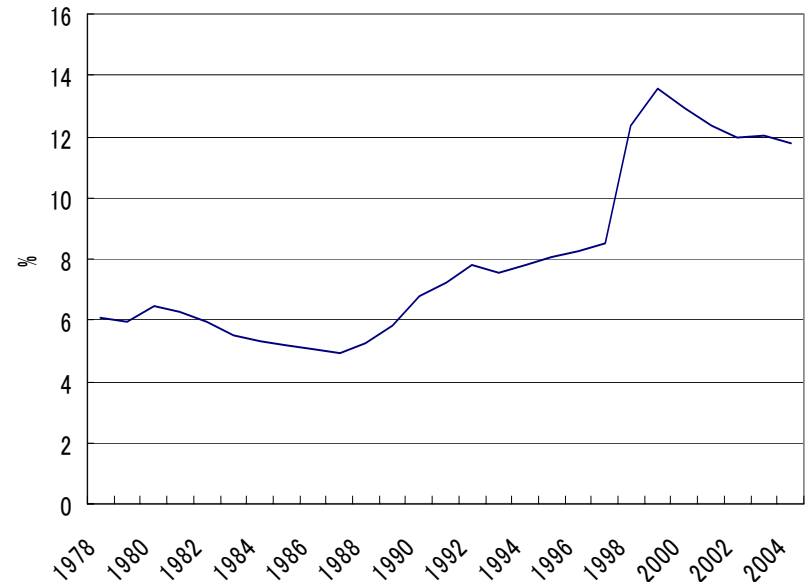
- **Subsidies**

# Development of credit guarantees

Guaranteed Loans Amount Outstanding



Ratio of Guaranteed to Total SME Loans



Significant increase by the special guarantee program in 1998



# Special credit guarantee program

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- **Expected Positive Effects:**  
Alleviate credit crunch and stabilize financial system
- **Period:**  
October 1998 – March 2001
- **Guarantee Amount:**  
30 trillion yen (planned), 28.9 trillion yen (exercised)
- **Ratio of Repayment to Default Amount by Guarantee Corporations**  
100%
- **Requirement of Collateral and Third-Party Guarantor:**  
Almost none
- **Other (major) conditions for rejecting the guarantee:**  
(1) Significantly negative net worth, (2) Tax delinquency,  
(3) Default, and (4) Window-dressing
- **Amount Recovered by Credit Guarantee Corporations:**  
2.1 trillion yen

# Investment vs adverse selection effect

- **Expanding investment (Positive effect)**

Lenders: With no default cost incurred, extend loans with the risk-free rate



**Increases credit allocation and investment,  
Improves efficiency**

- **Worsening adverse selection (Negative effect)**

Lenders and guarantee corporations:

Infrequent monitoring due to no default cost,  
Insufficient human resources for examination  
Larger information asymmetry causing worse  
adverse selection



**Excludes good firms from the loan market  
Reduces efficiency**

# Investment vs adverse selection effect

pre-crisis ('97-'98)

crisis ('99-'01)

post-crisis ('02-'03)

SMEs (3,488  
sample firms)

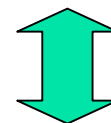


SCG users  
(1,344 firms)



Non-users  
(2,144 firms)

$\Delta$  ROA<sub>user</sub>  
 $\Delta$  Leverage<sub>user</sub>  
 $\Delta$  FixedAsset<sub>user</sub>



**Different?**

$\Delta$  ROA<sub>non\_user</sub>  
 $\Delta$  Leverage<sub>non\_user</sub>  
 $\Delta$  FixedAsset<sub>non\_user</sub>

Incorporate all these processes to examine difference



## Investment vs adverse selection effect

$$(\Delta_{t+1,t-1} \text{ User}) - (\Delta_{t+1,t-1} \text{ Non-user})$$

	All	Lowest quartile	2nd quartile	3rd quartile	Highest quartile
<b>Leverage</b>	+4.06 a	+3.50 a	+2.84 a	+4.74 a	+3.42 a
<b>Long-term loans ratio</b>	+3.79 a	+3.61 a	+2.64 a	+3.98 a	+4.03 a
<b>Fixed asset ratio</b>	+0.70 b	+0.65	+0.93	-0.53	+1.14
<b>ROA</b>	+1.02 a	-0.11	-0.28	+0.94 b	+0.49

Unit is percentage point. Quartile is by the capital ratio in period t-1. a and b indicate the significance level at the 1% and 5%, respectively.

- Credit allocation improves for all firms with different credit-worthiness
- Efficiency also improves

**Investment Effect  
Dominates**



## How credit guarantees change “relationship lending”

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- For the entire sample, credit guarantees users are more closely monitored by banks than non-users
  - Document submission and contact frequency are higher among users than non-users
- However, banks' attitude toward defaulting firms seems to be different from survivors
- Focus on defaulters to see how the bank-borrower relationship differs between users and non-users

# How credit guarantees change “relationship lending”

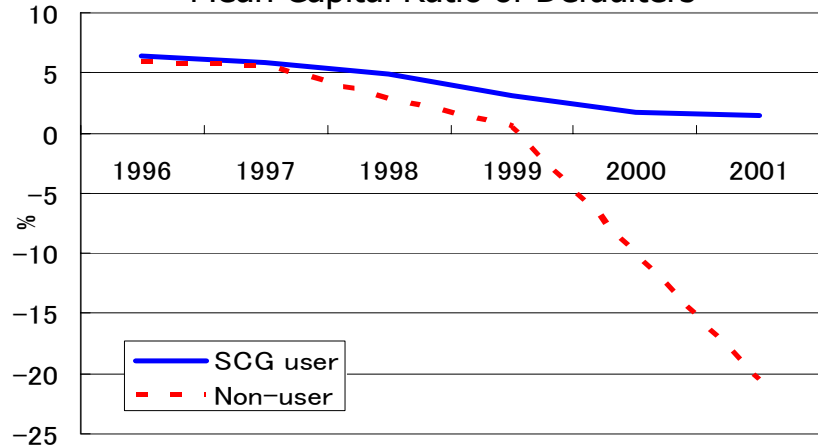


- Non-user defaulters: More frequently monitored than non-user survivors  
Some are assisted even with huge negative net worth
- User defaulters: Charged with higher interest rates than user survivors



Credit guarantees may affect lending relationships between banks and defaulters

Mean Capital Ratio of Defaulters



Interest Payment Rate (%)

	SCG user	Non-user
Survivor	2.79	2.47
Defaluter	3.38	2.35

Document Submission Frequency Index  
(Larger figure means more frequent monitoring)

	SCG user	Non-user
Survivor	2.82	2.44
Defaulter	3.07	3.57

Median values are higher among non-users than SCG users



## Conclusions

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- The special guarantee program contributed to the availability of long-term funds and improvement of efficiency
- Though detailed cost-benefit analyses needed, government interventions in the credit market can be justified
- The guarantee program changes lending relationships between banks and defaulting SMEs