

“Effectiveness of Credit Guarantees
in the Japanese Loan Market” by
Uesugi, Sakai and Yamashiro

Comments by:
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Interesting Results

- Low leverage small firm borrowers in Japan (“well capitalized borrowers”) that availed themselves of the SCG loan guarantee program had higher subsequent profit increases than non-participants
- High leverage borrowers that did the same had lower subsequent profit increases than non-participants
- Average participant had a higher profit increase than non participants.

Important properties of the SCG

- Available to **all** firms in the Japanese small and medium business sector, except those with Negative Net Worth, tax delinquency, obviously fake balance sheets or already in default.
- 1% guarantee fee to all borrowers.
- Widely used
- Some fraud occurred

More detailed results

- Empirical results are very similar to raw results once self-selection of borrowers into the system is accounted for (and industry and other fixed effects are included).
- They use a Heckman style first stage propensity score for selection, identified by assuming an exact functional form for the propensity.

What model should we use to draw policy conclusions from the results?

- The authors test
 - An adverse selection model based on borrower private information = “the investment effect”

against an alternative of

- “unfettered competition” a full information competitive equilibrium with no frictions apart from the government loan guarantee.

Model 1: Adverse Selection: “The Investment Effect”

- Adverse selection gets worse as the interest rate paid increases, so interpreting the program as a rate subsidy means that it reduces adverse selection.
- This means that good borrowers with private information that they are low risk **moderate return** (type H firms) will no longer refrain from borrowing under the program.

Alternative Hypothesis: The “Unfettered Equilibrium Model.”

- Suppose that we start from a full information competitive equilibrium
- SCG introduces a fixed price loan guarantee
- This allows negative NPV (risky) borrowers (type L firms, observable due to public information) to borrow, while they could not be previously.
- This will make those financed worse borrowers than before the program was introduced.

The evidence favors the Investment Effect/ Adverse Selection Model

- Because ex-post profits increase by those who borrow, on average and especially for low leverage borrowers, the authors conclude that this is a reduction in adverse selection.
- The authors suggest that this is an example where government intervention improves economic efficiency as a result.

My Comments and Interpretation

- There is another hypothesis/model (**Bank Capital Shortage**) that seems more compelling given the period and which is consistent with the data.
- The only available performance measure, change in profits (ΔROA), is an imprecise measure of the effect of the program on the present value of the borrower's investments (a more minor point)

Key “Performance Measure”

$$\Delta ROA = \Delta \text{return on assets}$$

- Used instead of ex-post market value due to private firms (leads to horizon problem)
- ROA used is profit **after** interest expense but before tax, and thus **includes** any subsidy to borrowers, relative to an EBIT measure.
- The ROA measure controls for year, region and industry fixed effects

Key “Performance Measure:”

ROA=return on assets

- Data is only for firms who do not default, ex-post, and the increase in profits is upward biased
- For this reason, and because it includes a subsidy, it is difficult to interpret the profit increase as an “improvement in efficiency”
- However, comparison of the results by ex-ante leverage level is still very interesting.

Another hypothesis: Bank Capital Shortage causes a Credit Crunch

- There was a credit crunch due to keeping open under-capitalized banks in this period (1998-2001)
- This has several interesting implications, see Diamond (*Monetary and Economic Studies (BoJ)*, 2001).

Bank Capital Model

- Banks won't foreclose on defaulted loans if it impairs bank capital (will roll over bad loans)
- This reduces borrowers incentive to repay
- Thus banks would not lend to new borrowers (refinancing only existing borrowers to avoid default)

Bank Capital Model

- The lending market before the SCG loan guarantee program was failing not due to severe adverse selection but low bank capital and regulators who did not recapitalize banks or close them.
- There was a pre-existing market failure due to delayed regulatory response to past bank losses

Summary of Bank Capital hypothesis

- It was not adverse selection that limited loan supply but bank capital
- Very credit worthy small borrowers could not borrow, **even with full information**
- This is neither an “unfettered” competitive equilibrium nor one limited by severe adverse selection

Which borrowers benefit most from the guarantee?

- If “no one” can borrow without guarantee, and “everyone” can with a guarantee, public information measures of creditworthiness, such as low leverage, should predict good performance after receiving a loan.
- This is consistent with the results

Additional empirical implications of Bank Capital Model

- If these small firms tend to stay with the same bank over time (or borrow from local banks), the health (capital ratio) of the existing bank (or local banks) should matter.
- Borrowers with weak banks should have the most unfunded good investments that the SCG can fund, and should have more improved profits due to the program.

Problems with the Adverse Selection Interpretation

- Why wouldn't the low leverage (high remaining debt capacity) borrower's be able to borrow without guarantee?
 - They should have the least adverse selection
- I would not use the public information about leverage as a measure of privately known borrower type.
- The program could only help if it were a subsidy (lost money ex-ante for all observable groups that use it)

Conclusion

- The credit guarantee program seems to have helped credit worthy borrowers get funding
- This is similar what the paper concludes
- However, I would not see this as showing that government guarantees can improve allocations in a competitive credit market
- Instead, this program helped work around problems caused by delay in resolving the bank crisis.

Conclusions

- Interesting
- Suggests more future work with this data
 - Effects of local bank health
 - Effects of defaults on average profits of borrowing firms
 - Ex-ante determinants of ex-post default