# Banks Lending Behavior under the “Zero-Zero” Loan Policy[1]

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[1]This study is the product of the collaboration between Tokyo Shoko Research(TSR) and the University of Tokyo.

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## “Zero-Zero” Loan Policy

During the COVID-19 pandemic, the Japanese central government helped SMEs to receive bank loans.

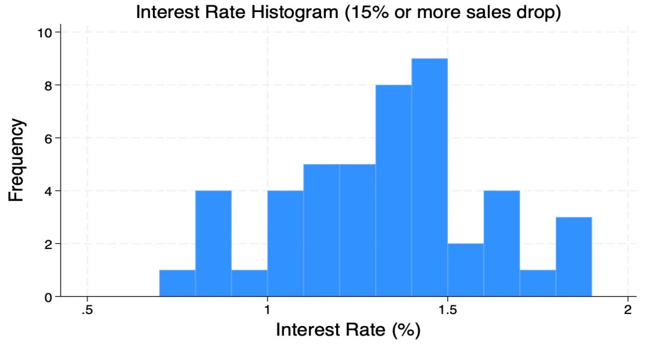
1. 100% loan guarantee for free.
2. 100% reimbursement for interest payments (for 3 years).

→Banks get profits without risks.

→Interests varied and were set by prefectural governments.

Research Question: Distortions in allocating credits?

**Graph 1: Interests Variations across Prefectures**




## Data

**Joint survey conducted with Tokyo Shoko Research (TSR), a major credit rating agency in Japan**

1. Survey in May 2024
   - Asked questions on applications and repayment status of the “zero-zero” loan, and the effects of COVID-19 on sales.
2. Combined with TSR firm-level financial data (annual data)
   - Sales, # of employees, credit score, main bank, etc.
   - Containing SMEs regardless of industry and prefecture.

3. Combined sample size: 1473 SMEs

- Here. limiting samples to SMEs with 15% or more sales.

## Descriptive Statistics

| Variables | Explanation | N | mean | SD |
|---|---|---|---|---|
| **Bankapprove** | Binary variable that takes 1 if a firm was approved for “zero-zero” loan. | 1,471 | 0.533 | 0.499 |
| **Interest Rate** | Interest rates of the “zero-zero” loan policy set in each prefecture. The median is taken if there is a range of interest rates. | 1,471 | 1.44 | 0.36 |
| **Defaultscore_2019** | Credit score is the main product TSR offers. We calculate “100 - credit score” and normalize it to evaluate firms' risk in 2019. (Good 0.0 – Bad 1.0). | 1,396 | 0.485 | 0.061 |
| **Sales Drop Dummy** | Dummy variable that takes 1 if a firm's largest monthly sales drop after COVID-19 was 15% or larger. | 1,471 | 0.644 | 0.479 |
| **Emp_19** | The number of employees of a firm in 2019 | 1,394 | 49.169 | 127.3 |
| **Sales_19** | Sales of a firm in 2019. (thousand yen) | 1,367 | 2165533 | 8763081 |

## Estimation Results

- Moral hazard (arbitrage): Banks operating in multiple prefectures give more loans in prefectures with higher interest rates.
- (Higher risk SMEs attract more loans, but this may stem from the demand factor.)

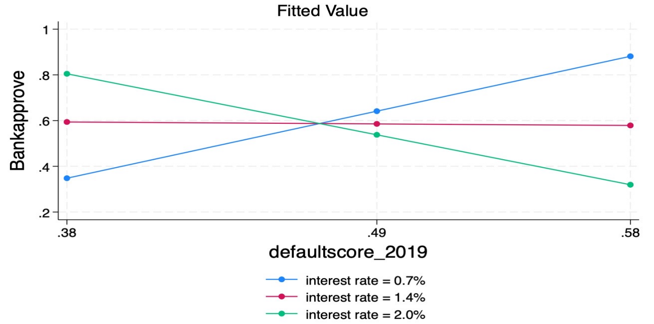
**Table 2: FE Estimation Result about Bank Approval**

| | (1) Single Prefecture | (2) Multiple Prefectures |
|---|---|---|
| interest rate | 0.494 | 1.841*** |
| | (1.334) | (0.574) |
| defaultscore_2019 | 4.365 | 5.411*** |
| | (3.255) | (1.617) |
| interest rate * defaultscore_2019 | -1.135 | -3.919*** |
| | (2.546) | (1.166) |
| Observations | 143 | 555 |
| Industry FE | YES | YES |

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

**Graph 2: Heterogeneity in Approval by Banks in multiple prefectures**




- For low-risk SMEs (small default score), banks offered more loans in prefectures with high interest rates
  - Typical supply curve: High interest rates = high revenue.
- For high-risk SMEs (large default score), banks offered more loans in prefectures with low interest rates.
  - Adverse selection: Low interest rates = low default risk

## Conclusion

Find credit allocation distortions by the “zero-zero” loan policy.

- Moral hazard: Banks operating in multiple prefectures give more loans in prefectures with higher interest rates.
- Adverse selection: For high-risk SMEs, banks offer more loans in prefectures with low interest rates.
- These distortions were derived from the design of the “zero-zero” loan policy.