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Banks, Interest Rates, Investments, and Collateral

Steven Ongena and Jean-Charles Rochet are SFI Professors of Banking at the University of Zurich.

Ongena holds an SFI Senior Chair since 2013 and obtained his PhD in economics from the University of Oregon. His main research interests lie in the areas of empirical financial intermediation and applied financial econometrics. Rochet holds an SFI Senior Chair since 2010 and obtained his PhD in mathematical economics from the University Paris Dauphine. His main research interests lie in banking crises and regulation. Both have published extensively in leading finance and economics journals.

Executive Summary

In this spring issue of SFInsight, Rochet shares his view on negative interest rates and their consequences on investment, whilst Ongena stresses the importance of collateral in the credit market (front page). Ongena further provides us with a unique empirical perspective by taking advantage of a change in law to study the role of collateral in debt contracts, credit availability, and bank monitoring (see the back page).

Jean-Charles Rochet
To view Rochet's profile, please visit sfi.ch/rochet

Having central banks apply negative interest rates is something generally unheard of, yet this is what has been done recently in Denmark, the Eurozone, Japan, Sweden, and Switzerland. Why is this?
The general opinion wrongly assumes that interest rates cannot go below zero percent, because small investors have the possibility to avoid negative interest rates by hoarding currency under their mattress. Although this is true for small investors, this would be highly impractical for fund managers who invest large amounts and are also today's marginal investors.

"Agents have to be aware that this situation is exceptional and should not bet their future on its durability."

What is the impact of negative nominal interest rates on investments?
The supply of risk-free placement opportunities in the financial market is limited; any excess demand for risk-free placements inevitably comes with a cost. Nominal negative interest rates are actually a penalty, or tax, on risk-free investments which add no value to the real economy. Central banks are trying to restore trust in the financial markets by incentivizing firms and individuals to invest back into risky investments.

"In today's situation, governments can be perceived as being subsidized to borrow."

Who actually benefits from the current negative nominal interest rate situation?
The main winners are clearly governments. In today's situation, governments can be perceived as being subsidized to borrow. Private borrowers can also benefit from the situation. One must keep in mind the fact that the current situation is not a long-term one. Agents have to be aware that this situation is exceptional and should not bet their future on its durability.

Steven Ongena
To view Ongena's profile, please visit sfi.ch/ongena

On the one hand, collateral reduces the risk of debt by offering lenders better securities; on the other hand, borrowers get to benefit from lower loan rates. Why did the Swedish government then remove the advantage of floating liens, a form of collateral, in 2004?
The legislator's idea was that removing the special priority rights of the floating lien, and reducing its value, would give stronger incentives for banks granting credit decisions to analyze profitability. In a nutshell, less collateral should have encouraged banks to be more active and more analytical. It turns out this was a mistake based on an incorrect understanding of the floating lien and its features. The law was overturned five years later and a better understanding of the incentives in monitoring collateral has now sunk in.

Contrary to what the legislator anticipated, banks actually became less active when they had less collateral to secure their loans. Why is this?
Floating liens cover risky assets, such as inventories and movables, therefore lenders are incentivized to monitor these assets closely as their value changes frequently with time. By reducing the value of the floating lien, the incentives to monitor drop proportionately. Should the value of the collateral claim drop to zero, then clearly the lender would no longer monitor any of it. Of course, lenders can rely on more than just collateral to secure their loans by shifting their attention onto the borrower's cash flow, for example.

"The law reform seems to have distorted investment and asset allocation decisions. Firms that reduce their holding of assets with low collateral or that hold more liquid assets become less productive and less innovative."

What have been the consequences of the change in the legislation regarding floating liens on the credit market and the economy in general?
Empirical results suggest that the loss in collateral value reduces both the amount and the maturity of firm debt, and leads firms to reduce investment, employment, and assets. The law reform therefore seems to have distorted investment and asset allocation decisions. Indeed, firms that reduce their holding of assets with low collateral or that hold more liquid assets become less productive and less innovative. This result therefore documents the effectiveness of the so-called "collateral channel" through which asset market fluctuations influence the debt capacity and investment of agents.

How Important is Collateral for Borrowers and Creditors?

Introduction

In a forthcoming Journal of Finance publication, Steven Ongena (SFI@UZH) and his co-authors aim to better understand the role of collateral in debt contracts, credit availability, and bank monitoring. Collateral helps reduce the risk of debt by facilitating enforcement against a defaulting debtor and by offering protection against competing claims when an insolvent debtor faces liquidation. Empirically determining the role of collateral in debt is by no means an easy task. On the one hand, one faces a challenge as collateral is jointly determined with other terms of the debt contract; on the other hand, one needs data to assess how the creditor values the particular security interest of the debtor's assets. The researchers are able to solve this conundrum by exploiting a change in the law system that abolishes special priority rights for lending banks and by using a rich proprietary data set.

Motivation and Research Question

There is no question that credit helps provide a smooth flow of money through the economy by bridging the gap between those that have an excessive supply of cash and those that are in an excessive demand. The reward for the lenders and the cost for the borrowers of such a commodity is the interest rate. The interest rate is a function of the real risk-free rate, the expected inflation rate, the liquidity premium, the maturity premium, and the default-risk premium. Collateral is an important factor in reducing the bank's credit-risk and consequently the amount of the default-risk premium. With this in mind the authors seek to determine how collateral impacts the behavior of borrowers and lenders, and the design of debt contracts.

> "Collateral is a central feature of many debt contracts. It is valuable for the borrower and important for the bank."

Results

The researchers take advantage of a change in Swedish law that occurred in 2004 and reduced the value of all floating liens as a natural experiment. A floating lien is a general security interest that carries on a specific class of assets. The assets are not individually identified and thus the property underlying the lien can change over time. In the specific case of Sweden, if a business has registered multiple floating liens, these claims have priority rights depending on their registration date with an official register. The law change abolished special priority rights of floating liens and converted them into general priority claims, and also halved the total eligible assets that could be covered by the floating lien.

Data

The authors obtained a unique and comprehensive database containing all corporate accounts of a major Swedish commercial bank. The data covers the 2003 to 2005 period and the analysis focuses on business term loans exclusively. Such loans can be either unsecured or secured, and floating liens can be pledged to secure only this type of loan. The collateral value, the key variable of interest in this analysis, is estimated based on the firm's assets that the bank could seize in case of default and the seniority of the bank's claims within the firm's debt structure. Other variables included in the analysis include collateral coverage ratio, loan spread, borrower's internal loan limit and internal rating, frequency at which the borrower's situation and collateral value is reviewed, and whether the borrower received a notice, faced a court injunction, or missed tax payments. A total of 89'466 loan-month observations are employed for the estimates, of which 95% are in the control group and 5% in the treated group before matching; 35% of the loans are fully secured, whilst 44% have a coverage rate of zero. The average collateral value and loan balance are of EUR 50K and EUR 92K.

> "Collateral truly is the grease in the wheels in any part of the financial system."

Empirical Estimation

The results are obtained by examining the effects of the law change and comparing the treated group, which should be directly affected by the law change, with the control group, which should not be affected by the change. Results show that, on average, following the law reform, the bank i) reduces the estimated value of its outstanding collateral, ii) increases the interest rate on loans and reduces the internal loan limit, iii) delays the updates of borrower and collateral reviews, and finally iv) that borrowers miss payments more frequently.

Conclusion

Collateral is a central feature of many debt contracts. It is valuable for the borrower and important for the bank. When a debtor pledges high-quality collateral, he benefits from lower loan rates and increased credit availability, whilst the creditor improves its credit risk and preserves its incentives to monitor the borrower. Collateral truly is the grease in the wheels in any part of the financial system.

To download the full paper, please visit the Journal of Finance or SSRN

SFI NEWS

Upcoming Events

25.06.2015 Evolutionary Foundations of Economic Behavior, Bounded Rationality, and Intelligence,
Prof. Andrew W. Lo (MIT), Zurich.

25.06.2015 Can Financial Engineering Cure Cancer? New Approaches to Funding Biomedical Innovation,
Prof. Andrew W. Lo (MIT), Zurich.

Outstanding Paper Award

The 2014 SFI Outstanding Paper Award has been awarded to "Shadow Insurance", a research paper by Ralph Koijen of the London Business School and Motohiro Yogo of the Federal Reserve Bank of Minneapolis showing the implications of shadow insurance on financial risk and market equilibrium in the life insurance industry.

To download the full paper, please visit SSRN.

Faculty Changes

Philipp Krüger has joined SFI as a Junior Chair. Philipp has been an assistant professor with the University of Geneva since 2014 and holds a PhD from the Toulouse School of Economics. His primary research interests are sustainable and responsible finance, corporate finance, corporate governance, and behavioral finance.

Paul Schneider has been promoted to an SFI Junior Chair. Paul has been an associate professor with the Università della Svizzera italiana since 2014 and holds a PhD from the Vienna University of Economics and Business Administration. His main research areas are asset pricing and empirical finance.

SFI White Papers

Prof. Semyon Malamud, SFI@EPFL, investigates the impact of recent regulatory changes and technological advances on investment banking. He highlights opportunities for Swiss investment banks to remain competitive in today's changing environment.

To download the full paper, please visit www.sfi.ch/whitepaper

Impressum

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Bd. du Pont d'Arve 42,
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insight@sfi.ch
T +41 (0)22 379 84 71