行政院國家科學委員會專題研究計畫　成果報告

資產價格與貨幣政策

計畫類別：個別型計畫
計畫編號：NSC91-2415-H-002-017-
執行期間：91 年 08 月 01 日至 92 年 07 月 31 日
執行單位：國立臺灣大學經濟學系暨研究所

計畫主持人：陳南光

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摘要

我們研究銀行在面對企業獲利不佳情況下，對於擔保放款的展延政策。模型中內生的擔保品價值在該展延政策扮演關鍵性的角色。我們證明在某些條件下均衡的借貸契約會有以下的特性：銀行的展延政策，相對於事後的效率準則而言，會對企業有「寬容」以對的現象。主要原因是由於如果銀行不再展延放款並清理逾放，大批擔保品將湧入市場拍賣，從而壓低擔保品的價格，如此一來銀行清理逾放的報酬可能反而不及繼續展延放款所能獲得的預期報酬。一個明顯的例子是日本的銀行在 1990 年代對日本虧損累累的企業仍然持續放款，而沒有緊縮銀根的現象。

關鍵詞

擔保品價值、寬容放款、政府保證

Abstract

We investigate the foreclosure policy of collateral-based loans in which the endogenous collateral value plays a crucial role. The idea is that collateral value may drop too low when banks call in loans by auctioning off borrowers' collateral and this makes clearing up non-performing loans less attractive. We find that if creditors are able to commit, then the equilibrium arrangement is more likely to feature forbearance lending by specifying a lower level of liquidation (or roll over all of the loans) relative to the ex post efficiency criterion for each realization of the interim signal. We attribute the banks' leniency as we have observed in Japan during the 1990s to an equilibrium arrangement where banks can commit due to either relationship banking or implicit lender-borrower contract, such as the arrangement under Japan's main-bank system.

Key words

Collateral value, forbearance lending, government guarantee.

計畫緣由與目的

Regulatory forbearance has been considered to be one of the main suspects for financial institutions to roll over non-performing loans and delay in clearing up bad loans, and thus eventually responsible for the weakness of financial institutions and prolonged contractions in real economic activity. The measures may include relaxing regulatory supervision, outright government subsidies and bailout. For

example, For example, Mitchell (1998) argues that banks choose to roll over bad loans if they expect government bailout ex post. In turn, the government fails to commit not to rescue insolvent financial institutions if there are too many of them. Furthermore, Cargill et al. (1997) argue that Japan's government has adopted "buy time" policies since the burst of its real estate market and stock market booms, such as relaxing bank capital requirements, allowing banks to hold non-performing loans without special write-offs, and also allowing insolvent financial institutions to operate, in the hope that the economy and the real-estate market would soon recover, so as to float these financial institutions back to health.

In this paper we argue that the "forbearance" phenomenon needs not to be a consequence of anticipated government subsidy or bailout, rather, it can arise from an equilibrium arrangement between financial institutions and their borrowers. This "private forbearance" story is motivated Okina and Shiratsuka (2001) and Mori et al. (2001), who documented that even though Japanese banks' non-performing loans rose significantly after stock and real estate prices crashed in the early 1990s, financial institutions continued to lend to unprofitable firms in order to prevent loan losses from materializing, because collateral was of little value to cover their losses. The empirical testing by Kobayashi et al. (2002) also found evidence that Japanese banks exercised forbearance lending in construction and real estate industries during 1993-1999.

結果與討論

We investigate the foreclosure policy of collateral-based loans in which the endogenous collateral value plays a crucial role. Creditors may or may not be able to commit to the pre-specified foreclosure policy. With commitment the foreclosure policy may specify a lower level of liquidation (or roll over all of the loans) relative to the ex post efficiency criterion, which we dub as "forbearance lending." When the world interest rate is lower, the public is initially more optimistic about the prospects of project returns, firms hold a higher level of collateralizable asset initially, or when creditors can better enforce repayments, the equilibrium arrangement with commitment tends to feature forbearance lending. On the other hand, the model with no commitment always specifies a higher level of liquidation than ex post efficiency requires. We attribute the observed leniency of banks to their customers as the equilibrium arrangement when banks are able to pre-commit due to either relationship banking or implicit lender-borrower contract, such as the arrangement under Japan's main-bank system. This is consistent with the observation that Japan's Keiretsu banks prop up weak firms in their group, rather than liquidating a firm that oughts to shut down (Hoshi et al. (1990), Morck and

Nakamura (1999), and Peek and Rosengren (2002)).

Our model is based on the building blocks of recent works that emphasize the interaction between the credit constraints and the value of collateralized assets. This literature, such as Kiyotaki and Moore (1997), Carlstrom and Fuerst (1997), and Chen (2001), concentrates on the transmission mechanism of an exogenous shock which generates large fluctuations in asset prices and persistent effects on economic activity. Structurally, our model is closer to Holmstrom and Tirole (1998). They consider a three-period model in which at the interim period a stochastic amount of liquidity is required to keep the project going. Lenders will reconsider whether to supply the extra working capital based on the realization of liquidity shock. If terminated, the liquidity value of the project is zero. Investment is subject to moral hazard in that an entrepreneur can gain some private benefit by privately choosing to shirk, which affect the project's probability of success. They find that the optimal cutoff is always between the ex post first-best cutoff and the other cutoff of which lenders cannot pre-commit, there can be no leniency arising from the second-best contract.

This paper is also related to the literature of soft budget constraint (SBC), in particular to those works that conceive SBC as a dynamic commitment problem, due to, for example, government subsidy and expected bailout, financial structure, or asymmetric information. For example, some of these works argue that failure to enforce bankruptcy rule due to expectations of government bailout creates creditor passivity. Our paper challenges the view of soft budget constraint literature that failure to commitment generally leads to leniency. We shows that creditors tend to liquidate more ex post when they cannot commit ex ante, while they may roll over more loans with commitment. Also the results do not rely on government subsidy or expected bailout.

Morris and Shin (2001) also investigate how creditors decide to roll over or terminate loans, based on other creditors' moves. They show that the coordination problem leads to multiple equilibria when the state of the economy is common knowledge. On the other hand, when private information is introduced, there is a unique equilibrium provided that the private signal is sufficiently precise and multiplicity of equilibrium re-emerges if the private signal is not informative enough. In our paper there is no private information and the equilibrium is unique. The key is that the value of collateral depends on the fraction of loans to be liquidated and in their model the yields from foreclosure (liquidation value) does not depend on the number of creditors who foreclose

計畫成果自評

In this paper we show that, as an alternative view to the government's

regulatory forbearance, private forbearance can emerge as an equilibrium result with commit when the world interest rate is lower, the entrepreneurs hold more collateral, creditors can better enforce repayments, or the public is initially more optimistic about the economy's outlook. The key to this result is that the endogenous collateral value acts as a safe valve to prevent creditors from liquidating too much.

This explains why creditors sometimes roll over loans even when the returns seem not so promising, without resorting to expected government subsidy or bailout. Our model thus provides an alternative aspect of problems of a bank-based financial system in which loan-making is determined by collateralizable asset's value.

We may empirically observe the amount of loans supplied by creditors to be negatively correlated with firms' financial stance and collateral value, which may seem counter-intuitive if forbearance lending is not taken into account. Thus, the hypothesis of forbearance lending can then be tested. However, the effect of private forbearance may be observationally equivalent to the effect of government guarantee regarding banks' foreclosure policy. To disentangle the effect of private forbearance from regulatory forbearance, further measures should be taken to control for the government's actions. This will be an interesting extension of our theoretical model.

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