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The deterioration of bank balance sheets in Japan: Risk-taking and recapitalization

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Abstract

This paper empirically investigates whether the slowdown in the credit supply of Japanese banks during the early 1990s was caused by the deterioration of their equity capital as suggested by the capital crunch hypothesis. This hypothesis predicts that a decrease in capital will induce banks to restrict their credit supply. Panel data of the major banks shows that the banks with lower capital/asset ratios tended to increase their credit supply at a faster rate. Thus, our empirical analysis rejects the capital crunch hypothesis. Rather, it supports the moral hazard hypothesis that an increase in banks' equity capital induces them to take a conservative stance toward the expansion of credit supply. We also observe that, after a substantial decline in their capital base the major Japanese banks issued subordinated debt to recover their capital. Most of the subordinated debt were absorbed by their affiliated financial and nonfinancial companies. The traditional relationships between the major banks and other firms helped the major banks to recapitalize in the face of an increasing non-performing loans in the early 1990s. © 1998 Elsevier Science B.V. All rights reserved.

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1. Introduction

Since the bursting of the so-called bubble at the beginning of the 1990s, prices of stocks and real estates have remained stagnant in Japan. This stagnation of asset prices has undermined the capital base of the banking industry in two ways. First, the sharp fall in stock prices from the record high attained at the end of 1989 has decreased banks' hidden reserves which are a major component of Tier II capital. Second, the fall in real estate prices has increased the amount of non-performing loans in the banking system. This is because during the 1980s and the early 1990s, banks had aggressively increased their property-related lending in expectation of a continuous rise in real estate prices. The deterioration of banks' equity capital has brought the fragility of the Japanese banking system to light. The problem of how to cope with the fragility is an urgent policy issue in Japan. [1]

How has the fragility of the banking sector influenced banking behavior in supplying credit? We are particularly concerned with the issue of whether banks with deteriorated equity capital reduced their credit supply, thereby exacerbating the macroeconomic depression that started in Japan immediately after the bubble burst. The prolongation of the depression would increase the amount of non-performing loans, which would further decrease the banks' equity capital. Thus, there may be a vicious circle between the deterioration of banks' capital and depression. Actually, Bernanke and Lown (1991) and Peek and Rosengren (1995) argue that the decline in banks' capital forced U.S. banks to decrease their credit supply and deposit liabilities in the early 1990s. According to their analyses, the BIS capital adequacy regulation was responsible for the decrease in bank credit which was a response to the decline in equity capital. They call this phenomenon the 'capital crunch'. [2]

What about Japanese banks? Has the 'capital crunch' phenomenon also been observed in Japan? The purpose of this paper is to answer this question. In particular, we will statistically analyse panel data using the balance sheets of the so-called major 21 to obtain the results comparable to what Bernanke and Lown (1991) produced for the U.S.

The organization of this paper is as follows. Section 2 will examine to what extent the major 21 banks, which make up the core of the Japanese banking industry, lost their equity capital since 1990, and how they tried to recover from under-capitalization. We find that the major banks' equity capital dropped significantly mainly because of both increases in non-performing loans and decreases in

[1] See Yoshikawa et al. (1994), Horiuchi (1996) and Ueda (1996) for other empirical evidence of the Japanese bad loan problem.

[2] We differentiate 'capital crunch' from 'credit crunch' in this paper. 'Capital crunch', which is discussed in this paper, is concerned with how banks will respond to decreases in their equity capital. On the other hand, 'credit crunch' is when the decline in bank credit exerts a negative impact on the macroeconomy.