

# Numerical and Empirical Studies on the Financial Economy

学位申請論文要旨

Taehun Jung

Graduate School of Economics, Hitotsubashi University

Kunitachi, Tokyo 186-8601

ce00721@srv.cc.hit-u.ac.jp

In the 1990s, often referred to as “the lost decade”, Japan began experiencing long recession. Following the collapse of the asset bubble, the Japanese economy steadily deteriorated. Both public sector, in particular, the central bank and private sector, in particular, many firms have made efforts toward overcoming this protracted deflationary slump. The central bank has carried out monetary policy to prop up economic activity and many firms have strived for high efficiency in management.

As a kind of these endeavors, before and after year 2000, there were two large economic changes in Japan. My dissertation treats these two practical issues with the Japanese economy has been faced. One is macroeconomic change, the other is microeconomic change. More concretely, macroeconomic change is that the Bank of Japan(BOJ) adopted the so-called zero interest rate policy(ZIRP) from February 1999 to August 2000. Microeconomic change is the revision of the commercial law in 2003, which enables the Japanese listed companies to choose either the traditional statutory audit system or the new, American-style, company with committee system.

It is very important to analyze the large changes in economic situation because these changes give us more deep reflection which has not been made at normal situation. Therefore, the Japanese economy before and

after year 2000 is a good research material. In macroeconomic perspective, through the analysis of the ZIRP, I intend to understand why the deflation of the Japanese economy in the 1990's arose and under what circumstances a central bank should terminate the ZIRP to escape from the prolonged deflation.

On the other hand, in microeconomic perspective, I focus on directors of the Japanese firms because the revision of the commercial law in 2003 is closely correlated with the board composition. Considering that one of the most crucial points of the revised commercial law is how board members consist of, the close examination on board composition must have a significant meaning. Therefore, I make a careful investigation of the board in two sides. One is horizontal mobility of directors, the other is vertical mobility. More specifically, the horizontal mobility is correlated with appointment of outside directors and the vertical mobility is correlated with the promotion of directors in the board. In particular, in the analysis of the promotion of directors, I focus on the effect of academic cliques because it is a big traditional issue.

Through the analysis of horizontal mobility of directors, i.e., appointment of outside directors, I intend to find whether the recently revised commercial law has an effect on monitoring management. On the other hand, through the analysis of vertical mobility of directors, i.e., promotion of directors, I intend to find whether the efficient evaluation on directors functions. It should be emphasized that these analyses in two sides of board composition are connected in the sense whether the Japanese board system efficiently functions.

More specifically, my dissertation consists of five chapters. The first chapter is the introduction of the dissertation. The rest of this disserta-

tion is organized as follows:

## **Chapter 2. The Zero-Interest-Rate Bound and Optimal Monetary Policy in a Closed Economy**

What should a central bank do when faced with a weak aggregate demand even after reducing the short-term nominal interest rate to zero? To address this question, in a closed economy, I solve a central bank's intertemporal loss minimization problem under circumstances that the non-negativity constraint on nominal interest rates is explicitly considered. Given an adverse shock to aggregate demand, I computed the dynamic path of a short-term nominal interest rate in both discretion and commitment. I find that the optimal path is characterized by policy inertia, in the sense that the ZIRP should be continued for a while even after the natural rate of interest returns to a positive level. By making such a commitment, the central bank is able to achieve higher expected inflation, lower long-term nominal interest rates.

## **Chapter 3. The Zero-Interest-Rate Bound and Optimal Monetary Policy in a Small Open Economy**

This chapter is the extension of chapter 2 to a small open economy. Except for the exchange rate channel, I think the same question with one of chapter 2. That is to say, to address the question of how long the ZIRP would be continued in the framework of the small open economy, I solved a central bank's intertemporal optimization problem. I discovered that the timing to terminate the ZIRP in the case of large openness would be earlier than that in the case of small openness. The reason is that the effect of commitment would be intensified through the exchange rate channel of monetary policy. That is to say, this commitment creates an expectation of a weaker currency, leading to the depreciation of the

current spot rate. This result is proved theoretically.

#### **Chapter 4. Outside Directors and Managerial Turnover**

In this chapter, I investigate the monitoring role of outside directors in Japan with detailed classifications of each outside director. More specifically, I classify all directors into four smaller subgroups, which are former bankers, former shareholders, former cross-shareholders, and “pure” outsiders and analyze their effects on the turnover of inside directors. Main finding is that only “pure” outside directors increase the sensitivity of the turnover of insider to company performance when the ownership is concentrated. That is to say, without detailed classification, outside directors do not seem to play major role in the turnover of inside directors. This finding fills the gap between the previous studies in the US and Japan. The outsider defined by Japanese corporate code does not correspond to the “independent” director in the US. The outside directors who worked for a shareholding company before his/her appointment cannot be expected to monitor the managers in order to maximize profits. This finding in this chapter casts serious doubts on the current movements in the reform of corporate governance in Japan. Without strict definition of being “outsider”, the notion is not useful in order to achieve outsider-driven system.

#### **Chapter 5. The Academic Cliques in Directors’ Promotion**

This chapter investigates the effect of academic cliques on directors’ promotion in Japanese manufacturing firms. My empirical strategy asks whether a shacho(a CEO of a Japanese corporation) tends to promote directors who graduated from the *same* university with him/her. Controlling firm’s own characteristic, each director’s innate ability and the suitability of a specific university to a specific firm, I find that there

do not exist academic cliques in directors' promotion. Picking out shachos who worked more than 3 years in shacho position, I track the ratio of directors who graduated from the same university with shachos in promotion for the 6 years before and after shachos' changes. This dynamic analysis also produces the same result with regression analysis consistently.