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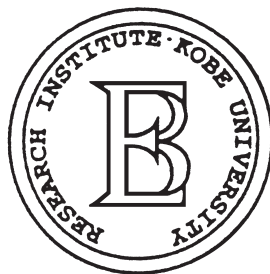
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THE USEFULNESS OF FINANCIAL STATEMENTS UNDER CHINESE-GAAP VS. IAS: EVIDENCE FROM THE SHANGHAI STOCK EXCHANGE IN PRC.

HU, DAN* Kobe University

Abstract

Using a sample from the Shanghai Stock Exchange, this paper analyzes the information content of earnings and book value under two sets of accounting practice: IAS (International Accounting Standards) and Chinese-GAAP (Chinese General Accepted Accounting Principles). The rapid development of the Chinese economy, its accounting system and the requirement that two sets of accounting information are to be prepared to list B-Shares are the background of this study. This paper adopted the Ohlson (1995) model and used the Davidson-MacKinnon J-test to test which one of these two competing sets of accounting information is more relatively with the stock's prices. The results show that Chinese-GAAP amounts are more highly associated with the stock's prices than IAS amounts. The results of yearly regression analyses generally suggested that the explanatory power of these earnings for stock's prices decreased over time.

JEL Classification: M41, P20, G14

Keywords: Usefulness of financial statements; Chinese accounting; Information content; Value-relevance; Accounting harmonization; IAS

1. Introduction

The objective of this paper is to investigate the usefulness of financial statements under

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Chinese-GAAP and IAS through two viewpoints of 'the usefulness of financial information' and 'the globalization of accounting standards'. I adopt an investor perspective on the effects of international accounting differences and seek to provide insights potentially relevant to regulators and accounting standard-setters who are concerned with the effects of international accounting differences on equity markets. My inquiry is also motivated by the rapid development in China's capital markets and accounting infrastructure.

With the globalization of the economic environment, accounting standard-setters in various countries have been trying to modify the accounting standards through various approaches. Though the Chinese political system is still socialist, the economic system is changing from a planned economy to a market economy, and it is not an exception to international trends. Consequently, economic policy makers have modeled accounting regulations along the IAS.

Regulatory requirements of international financial markets have forced companies in different countries to publish financial statement information that differ from their usual reporting to domestic audiences. Virtually all European stock exchanges currently allow foreign listed companies to follow IAS. The stock exchanges in the US and Canada have not accepted foreign listed companies to follow IAS without a reconciliation to US or Canadian GAAP. Moreover, B-Share companies in China are required to make two financial statements based on both Chinese-GAAP and IAS.

Discussions about the usefulness of financial information based on IAS have been varied and a unified view has yet to appear. More discussion is needed, as the globalization of the economic environment progresses. Through the accounting system, China has been approaching international GAAP, and the distance between Chinese-GAAP and IAS has been reduced. Research about the usefulness of financial information under Chinese-GAAP and IAS in the actual economy has been limited to Bao and Chow (1999). Since economic conditions have changed since Bao and Chow's (1999) research, and the fact that they studied both Chinese stock exchanges (Shanghai Stock Exchange and Shenzhen Stock Exchange), it seems necessary to undertake an update study that focuses on one stock exchange.

This paper investigates financial information's usefulness for equity valuation using the characteristic of B-Share companies listed in the Shanghai Stock Exchange. These stocks must have two sets of financial statements, one under Chinese-GAAP and another under IAS. This paper examines the following main issues.

(1) Which accounting practice (Chinese-GAAP or IAS) of reporting earnings and book value better reflect stock prices? (2) Similar to the phenomenon in other countries, does the value-relevance of earnings and book value decrease over time regardless of the improvement of accounting system by Chinese government?

The paper proceeds as follows. Section 2 discusses the background of this study, the development and features of capital markets in China, the accounting system in China and the

advances in accounting regulations in China. Section 3 describes the research design. Previous research, sample selection, and methodology will be discussed. Section 4 reports the empirical results and provides a discussion of the significance of the results. Section 5 concludes this paper.

2. Background

2.1 Development and Features of Capital Markets in China

Despite their short history, capital markets in China have developed quickly since the establishment of the Shanghai Stock Exchange in 1990 and the Shenzhen Stock Exchange in 1991. In 2001, in spite of stock markets in the world being sluggish, business increased in China with the hope of being added to the WTO, and the Chinese stock market continued to rise.¹ Refer to Table. 1 for the development of the Chinese stock market.

Chinese listed companies initially issued shares only to Chinese nationals. These shares are generally called ‘A-Shares’, denominated in *renminbi* (Chinese currency). From 1992, selected companies were allowed to issue shares to non-domestic investors, including foreign

Table. 1 The Development of the Stock Market in China

Items \ Years	1993	1994	1995	1996	1997	1998	1999
The listed companies' number	183	291	323	530	745	851	947
The listed stocks' number (billion)	22	35	38	60	82	93	103
A-Shares	18	28	31	51	72	82	92
B-Shares	4	57	7	9	10	11	11
The total market capitalization (billion RMB)	353	369	347	984	1,753	1,951	2,647
A-Shares	332	352	331	945	1,715	1,930	2,617
B-Shares	21	17	16	39	38	21	30
The tradable shares' market capitalization (billion RMB)	86	97	94	287	520	575	821
A-Shares	68	81	79	251	486	555	794
B-Shares	18	16	15	36	34	19	27

(Source: China Statistical Yearbook (2000);

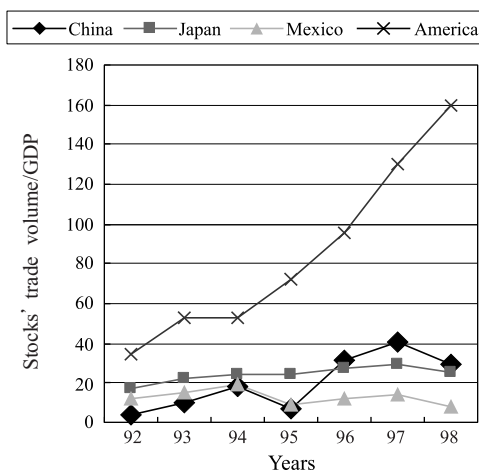
Note: Until February 2001, A-Shares means the stocks which are sold to the domestic investors and B-Shares means the stocks which are sold to the foreign investors. Listed companies issued two categories stocks, tradable shares and non-tradable shares. Tradable shares are owned by individual investors. Non-tradable shares are divided ‘State-Owned’, ‘Corporation-Owned’ and ‘Employee-Owned’ and the negotiation of which is strictly limited.).

¹ At the end of September 2001, the total market capitalization was RMB 4,581 billion (about 380.4 billion dollar, if one RMB=0.083 dollar); the trade sum from January 2001 to September 2001 was RMB 744 billion (about 62 billion dollar). The two numbers divided by GDP during the same time are 68.1% and 11% respectively. Also, the number of listed companies at the end of September 2001 was 1,154 and the number of investor was 66 million. National Bureau of Statistics of China (<http://www.stats.gov.cn/>).

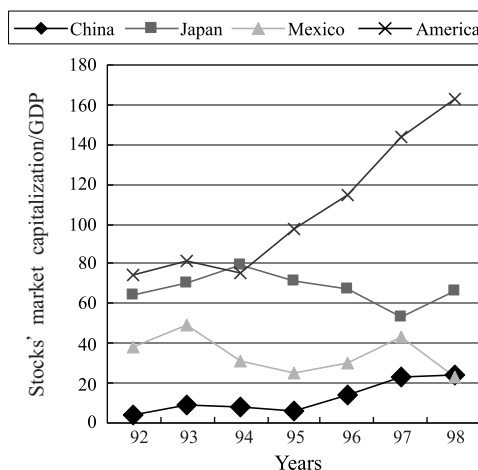
investors as well as residents of Hong Kong, Macau and Taiwan, denominated in U.S. dollars or Hong Kong dollars. These shares are called 'B-Shares'. Listed companies may issue both A-Shares and B-Shares, or one type of share only.² Shares are also divided into two categories: tradable shares and non-tradable shares (Table. 1). A great proportion of A-Shares are non-tradable. Non-tradable shares include state shares, corporation shares and shares held by employees.³

Despite the rapid development of Chinese stock market, it is still in the developing stage (Fig. 1 (a) and (b)). The ratio of stocks' trade volume/GDP in China is at about the same level with that in Japan (Fig. 1 (a)), being higher than that in Mexico and other emerging markets. This suggests that trade in China is very active, and speculation at the stock market in China is high as well. From Fig. 1 (b), we find that though the ratio of stocks' market capitalization/GDP is lower than in other countries it is growing, suggesting that the market capitalization's increase is higher than the growth rate of GDP. It should be noticed that GDP

Fig. 1 (a)



(b)



2 Shanghai Stock Exchange (<http://www.sse.cn>). Both A-Shares and B-Shares have the same voting rights and profit distribution, although the price of A-Shares is usually 4 or 5 times higher than that of B-shares (Japanese Financial News 28th, May 2001). The substantial price difference can be explained by foreign investors having less information about local companies (relative to domestic investors). This information disadvantage is caused by language barriers, different accounting standards, and lack of reliable information about the local economy and companies (Chen *et al.* (1999)). Arbitrage between the two types of shares was prohibited until Feb. 2001. Since then domestic investors who have U.S. dollars or Hong Kong dollars can trade in B-Shares.

3 State shares are issued to the government agencies representing the government funds invested in a company. corporation shares are issued to domestic legal entities that have associations with governmental organizations or agencies. Tradable shares include individual A-Shares held by public investors, B-Shares and other shares circulated in overseas stock exchanges including Hong Kong. Market capitalization of tradable shares is only 3/10 of the total market capitalization. The existence of these two categories of shares is peculiar to the Chinese stock market. Due to these factors, any conclusion on the Chinese market may be limited.

growth is high because of the rapid development of Chinese economy.

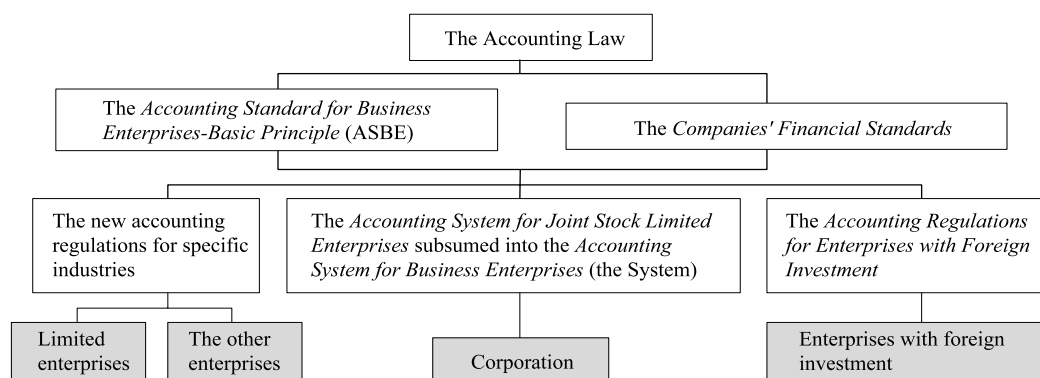
Due in part to globalization, the Chinese emerging market has developed rapidly during the past decade. A high level of speculation exists in the Chinese stock market because of its small size, high levels of trade, and wide fluctuation in the stock prices. It should be noticed that there are risks associated with the accounting system, for example window-dressing, underestimation of the asset's value, etc. The need for protection from these risks is the driving force behind regulatory reforms in capital markets.

2.2 The Accounting System in China

A framework of today's Chinese accounting is depicted in Fig. 2. It is based on P.R.C *Accounting Law*., which was promulgated in 1985 and revised twice in 1993 and 1999. In November 1992, the *Accounting Standard for Business Enterprises-Basic Principle* (ASBE) and the *Companies' Financial Standards* were promulgated. These are the basic accounting regulations and basic accounting principles for all companies. Under these basic regulations, there are three accounting regulations: the new accounting regulations for specific industries (promulgated in 1992-1993), the *Accounting System for Joint Stock Limited Enterprises* (promulgated on January 1998), and the *Accounting Regulations for Enterprises with Foreign Investment* (promulgated on June 1992).⁴ Since the most of the framework was created in 1992-1993, the time period after 1992 is very important, as China moved closer to international accounting.

Another important phase was from 1997-1998. On January 1998, the *Accounting System*

Fig. 2 The Framework of Chinese Accounting System



4 The *Accounting Regulations for Enterprises with Foreign Investment* is applicable to enterprises with foreign investment; the *Accounting System for Joint Stock Limited Enterprises* is applicable to corporations; and the new accounting regulations for specific industries is applicable to the rest of enterprises.

for *Joint Stock Limited Enterprises* was promulgated to eliminate the differences between IAS and Chinese-GAAP (Ban and Chow, 1999, 91; Charles J.P. et al., 1999, 99, table 2; Hu Dan, 2001, 137-141). The *Accounting System for Joint Stock Limited Enterprises* (1998) is the base of **the System** (to be discussed next) which is at the center of the current Chinese accounting system. Other important regulations are the Accounting Standards in China (see Table. 2). Thirty drafts were published between 1994 and 1996, of these, twelve have been officially promulgated starting in 1997.

Table. 2 The Accounting Standards in P.R.C.

Panel A: A Summary of Exposure Drafts of Accounting Standards			
Relating to General Accounting Issues		Relating to Specific Accounting Issues and Industries	Relating to Disclosure
- Receivables - Payables - Inventories - Fixed assets - Intangible assets - Deferred assets - Owners’ equity - Revenue recognition Employees’ benefits Income taxes		- Construction contracts - Research and Development - Basic banking business - Capitalization of borrowing costs - Foreign currency translation - Donation and government grants - Liquidation - Lease transactions - Futures contracts - Business combination - Non-monetary transactions	- Balance sheet - Income statement - Cash flow statement - Consolidated financial statements - Accounting policy and changes in accounting policy and estimates - Post balance sheet events - Contingency and commitment - Related party disclosure
Panel B: Standards Promulgated (1997-2001)			
	Accounting Standards	Effective Date	Applicability
1	Disclosure of Related Party Relationships and Transactions	January 1 st . 1997	Listed enterprises
2	Cash Flow Statements (revised 2001)	January 1 st . 2001	All enterprises
3	Events Occurring After the Balance Sheet Date	January 1 st . 1998	Listed enterprises
4	Debt Restructuring (revised 2001)	January 1 st . 2001	All enterprises
5	Revenue	January 1 st . 1999	Listed enterprises
6	Investments (revised 2001)	January 1 st . 2001	Joint Stock Listed Enterprises (listed enterprises only prior to Jan. 1 st . 2001)
7	Construction Contracts	January 1 st . 1999	Listed enterprises
8	Changes in Accounting Policies and Estimates and Corrections of Accounting Errors (revised 2001)	January 1 st . 1999	All enterprises (prior to Jan. 1 st . 2001, it was listed enterprises only)
9	Non-monetary Transactions	January 1 st . 2001	All enterprises
10	Contingencies	July 1 st . 2001	All enterprises
11	Intangible Assets	January 1 st . 2001	Listed enterprises
12	Borrowing Costs	January 1 st . 2001	All enterprises
13	Leases	January 1 st . 2001	All enterprises

Also in the near future MOF (Ministry of Finance) intends to disregard the new accounting regulations for specific industries and the *Accounting Regulations for Enterprises with Foreign Investment* leaving **the System** as the sole regulation governing all large and medium-sized enterprises operation in China. Since 1996, about 21 new or revised regulations have been introduced, thus making further research needed. Table.2 presents the current accounting standards in P.R.C. It is clear that the Chinese government has made titanic efforts in changing accounting standards.

2.3 The Accounting System for Business Enterprises (the System)

The *Accounting System for Joint Stock Limited Enterprises* was amended in late 2000 and renamed the *Accounting System for Business Enterprises (the System)* (Fig. 2). **The System** became effective from January 1 2001.

MOF intends **the System** eventually to apply to all large and medium-sized enterprises in China, eliminating the accounting distinctions based on industries or on the form of business enterprises. Enterprises other than joint-stock limited enterprises are also encouraged to follow **the System**. State-owned enterprises require prior approval from the relevant government authority. New provisions relating to asset impairments, debt restructuring, and non-monetary transactions that occurred in prior years should be applied retrospectively. In addition, if a parent company adopts the System, all subsidiaries are to adopt **the System** as well. **The System** is much more in line with international practices than were the prior accounting regulations.⁵

5 **The System** is not just a group of accounting standards, it is more like an all-inclusive financial reporting structure that includes concepts, definitions, standards, presentation, and record-keeping (Deloitte Touche Tohmatsu (2001a)). The System dissolved differences among specific industries, and state-owned. The System is based, in part, on the experience of MOF in implementing the Accounting System for Joint Stock Limited Enterprises and, in part, on the existing individual Chinese accounting standards issued in the past few years, and the disclosure rules promulgated by the China Securities and Regulatory Commission (CSRC). Differences between the System and IAS can be mainly classified into 3 groups, 'Similarity group', 'Difference group' and 'Lack of guidance group' (Table3). The 'Similarity group' is composed of regulation that is essentially the same, except for small differences. For example, the articles regarding short-time investment, receivables, inventories in **the System** and IAS. Though, for example, the retail procedures for inventories are only slightly. FIFO, weighted average, moving average, specific identification, and LIFO are all acceptable for determining cost in **the System** while FIFO, and weighted average are acceptable, but LIFO is alternative in IAS. The 'Difference group' is composed of regulation that is essentially different. For example, the articles regarding foreign currency translation, repair and maintenance costs are examples. Foreign currency exchange rates published by the Bank of China are required to be used in **the System**, while in IAS, no publishing authority is mentioned. Regarding repair and maintenance costs, **the System** allows periodic major inspection and overhaul costs either to be capitalized when incurred and depreciated over the inspection intervals or to be accrued during the inspection intervals; IAS does not allow this. The 'Lack of guidance group' refers to a group of articles where regulations are specified in one of the two systems, but not the other. For example, there are articles about equity adjustments in the System while none in IAS, and there are articles about earnings per share-diluted in IAS while none in **the System**.

Table.3 The Major Items in the System and IAS

Items	the Accounting System for Business Enterprises (the System)	International accounting standards (IAS)
Foreign currency translation	Article119: Translate at rate on date of transaction or the rate of the beginning of the period; the rate published by the China Bank should be used as possible.	IAS21: Translate at rate on date of transaction; monetary assets /liabilities at balance sheet rate; non-monetary items at historical rate.
Short-time investments	Article16: Carry at lower of cost or market.	IAS25: Valuation and provision based on prudence concept.
Receivables	Article18: Receivables should be stated as the net value after minus the bad debt provision.	Provision based on prudence concept
Inventories	Article20: FIFO, weighted average, moving average, specific identification, and LIFO are all acceptable for determining cost; If a standard costing system is used, a variance must be apportioned back to inventory; Inventories must be carried at the lower of cost and net realizable value.	IAS2: The cost of inventories, should be assigned by using FIFO, or weighted average formulas, LIFO is alternative; Inventories should be measured at the lower of cost and net realizable value.
Long-term investment: valuation and consolidation	Article22: Equity investments are carried at cost, subject to and impairment test, except use the equity method if the investor has significant influence or joint control; The investor stops using the equity method when it intends to dispose of the investment in the near future (different from IAS); the goodwill implicit in an equity method investment (termed the "equity investment difference" in China) is the excess of cost over the carrying amounts of the investor's assets, rather than the excess over fair values. Article23: Debt investments are carried at amortized cost, with interest recognized using either the effective interest or straight-line method, and subject to and impairment test. Article24: Stated at cost less provision (the difference of book value and net realizable value)	IAS25: Long-term investments are carried at cost or revalued amounts; Record revaluations consistently in income statement or equity; Carry current asset investments at lower of cost and market value or at market value; Record market value changes in income statement; Recent proposals to carry some financial assets at fair value.
Borrowing costs	Article77: Borrowing costs on project-specific borrowings must be capitalized; All other borrowing costs are expensed as incurred; The amount capitalized is determined by applying a capitalization rate to the weighted average cumulative expenditures for the fixed assets during the construction period.	IAS23: Permitted for qualifying assets.
Fixed assets: valuation, depreciation and revaluation	Article34: Depreciation of all fixed assets begins when the asset is put into use; Depreciation continues if an asset is under major repair or is not being used due to seasonal factors Article38: General repair and maintenance costs are charged to expense when incurred; The System allows periodic major inspection and overhaul costs either to be capitalized when incurred and depreciated over the inspection intervals or to be accrued during the inspection intervals (a method not allowed by IAS). Article42-Provision is the difference of book value and net realizable value, is the minus item to fixed asset	IAS16: Revaluation is permitted
Intangible assets amortization	Article46: Amortized on an estimated period of useful period not more than 10 years	IAS38: Amortization period is determined by an estimate of the period over which benefits accrue
Equity adjustments	Article79-83: Special requirements for appropriation on reserves and welfare funds.	Not applicable
Earnings per share-diluted	No guidance is given.	IAS33

More details concerning the differences between **the System** and IAS can be found in Table. 3. From Table. 3, we can see that **the System** is approaching IAS. Chinese accounting has significantly changed in the recent past. While there are a number of accounting matters that remain to be addressed, such as business combinations, consolidation procedures, discontinued operations, revaluation, earnings per share, reorganization, liquidation, and employee benefits, **the System** constitutes an important building block in the continuing development of the PRC socialist market economy to meet international expectations.⁶

3. Research Design

3.1 Previous Research

There are several studies on the information content or value-relevance of reported earnings based on two or more different GAAPs for the same set of companies (Amir *et al.* (1993); Barth and Clinch (1996); Harris and Muller (1999)). Furthermore, some studies have compared the information content of earnings reported by different companies in different countries (Alford *et al.* (1993); Harris *et al.* (1994)).

However concerning the financial information's usefulness of the international GAAP, for example IAS, conclusions have been mixed. They can be classified into three groups: positive, negative and limited evaluation. A few researchers such as Bao and Chow (1999) found that IAS had a more positive correlation to true stock price than Chinese-GAAP.

At the same time, Harris and Muller (1999) found that US-GAAP earnings reconciliation amounts are value-relevant after controlling for IAS amounts for market value and return models and the US-GAAP earnings reconciliation adjustment is valued differently than IAS earnings for market value and return models. Barth *et al.* (1999) concluded that 'Harmonization is not necessarily a desirable singular goal'. They found that harmonization accomplished by making accounting standards more precise measure firm value in some conditions decreased market performance measures. Also, harmonization accomplished by making accounting standards measure firm value less precisely does not necessarily decrease price informativeness or trading volume and harmonization does not always decrease the cost of capital.

6 However, it is likely that it will take some time for all Chinese enterprises to adopt **the System**, as it is necessary to train a large number of accounting professionals to ensure that the System is applied effectively. In addition, the change from the former rule-oriented accounting regulations to **the System**, which requires more professional judgements, will increase the work of the accounting personnel significantly. That is why, as a transition measure, the MOF encourages, but does not require, non-joint stock limited enterprises to follow **the System** (Deloitte Touche Tohmatsu (2001a)). The MOF has a clear mandate to harmonize the various existing accounting regulations so that the financial statements of all enterprises become more comparable. Even when **the System** is in full effect, small enterprises will be excluded from it. A separate accounting system will have to be developed for them.

One example of IAS having a limited evaluation can be found in Kinnunen *et al.* (2000). Their findings are consistent with the view that foreign and domestic investors use earnings information based on the Local and International Accounting Standards differently in the valuation of shares. They found that restating local GAAP earnings according to the IAS helps to meet foreign investors' information needs, but is of limited use to domestic investors.

On the other hand, some studies reported a steady decline in the value-relevance of earnings over time (Lev (1997)). Amir and Lev (1996) found that earnings, book values, and cash flows are largely irrelevant on a stand-alone basis when valuing firms in the intangible intensive cellular telephone industry. Collins *et al.* (1997) found that the combined value-relevance of earnings and book values has decreased slightly over the past forty years. They also found that while the incremental value-relevance of 'bottom line' earnings has declined, the value-relevance of book values has decreased instead. The methodology of this paper is mostly referred from Bao and Chow (1999) and Collins *et al.* (1997).

3.2 Methodology

In the field of financial accounting, especially among the researches of 'the usefulness of accounting information', the mainstream until now is MBAR (Market-Based Accounting Research) which is suggested by Ball and Brown (1968). Using MBAR, accounting information has only potential usefulness through its relationship with stock price. Differing from MBAR, Ohlson (1995) suggested a model which shows a straight relationship between company's market value and accounting numbers. His valuation model is derived from DDM (Divided Dividend Model), CSR (Clean Surplus Relation) and LIDM (Linear Information Dynamics Model). It is a linear additive function of earnings and book value.

For this paper, the Ohlson (1995) model was adopted to investigate the association between B-Share prices and the two sets of earnings and book values reported by the same company. The following valuation model, consistent with that used by Collins *et al.* (1997) and Bao and Chow (1999), is employed:

$$P_{jt} = \gamma_0 + \gamma_1 E_{jt} + \gamma_2 BV_{jt} + \theta_{jt} \quad (1)$$

Where:

P_{jt} : B-Share price of firm j four months after fiscal year end of year t . That is, on the end of April in year $t+1$, the price translated into *Renminbi* using the exchange rate at that date⁷

⁷ In this paper, I used the rate published by FRB. Through the results that used the rate published by Foreign Currency Management Office in China have not been disclosed, it is robust with the results used FRB' rate.

E_{jt} : earnings per share for firm j for year t

BV_{jt} : book value per share for firm j at the end of fiscal year t

θ_{jt} : error term

Using the model above, data from 1994 to 1999 were included. Stock closing price of the last trading day of April was used due to the China Securities Regulatory Commission (CSRC)'s requirement that all the companies should disclose annual reports at least four months after the fiscal year ending December 31.

To examine the relative information content of earnings and book value reported based on the two sets of accounting standards, Davidson-MacKinnon J-test was applied, which is similar to Chan and Seow (1996) and Bao and Chow (1999). The models are as follows:

$$\text{The Chinese-GAAP model: } P_{jt} = \alpha_0 + \alpha_1 E_{jt}^c + \alpha_2 BV_{jt}^c + \varepsilon_t \quad (2)$$

$$\text{The IAS model: } P_{jt} = \beta_0 + \beta_1 E_{jt}^i + \beta_2 BV_{jt}^i + \theta_t \quad (3)$$

Where:

P_{jt} : B-Share price of firm j four months after the end of fiscal year t . That is, on the end of April in year $t+1$, the price converted into *Renminbi* using the exchange rate at that date.

E_{jt}^c : earnings per share for firm j for year t based on Chinese-GAAP

E_{jt}^i : earnings per share for firm j for year t based on IAS

BV_{jt}^c : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP

BV_{jt}^i : book value per share for firm j at the end of fiscal year t based on IAS

To perform the J-test, reported earnings and book value using IAS were used to estimate $Price_{jt}^i$. Then, use the $Price_{jt}^i$ as a new independent variable to estimate the following model (4). After that, equation (2) can estimate $Price_{jt}^c$. Then add the predicted $Price_{jt}^c$ as an additional regressor to make the model (5):

$$P_{jt} = \alpha_0 + \alpha_2 BV_{jt}^c + \alpha_3 Price_{jt}^i + \varepsilon_t \quad (4)$$

$$P_{jt} = \beta_0 + \beta_1 E_{jt}^i + \beta_2 BV_{jt}^i + \beta_3 Price_{jt}^c + \theta_t \quad (5)$$

The Davidson-MacKinnon's J-test is a flexible test to compare two models. There are four possible results:

- (1) When α_3 and β_3 are significantly different from zero, both the Chinese-GAAP model and the IAS model will be accepted;
- (2) When α_3 is significantly different from zero but β_3 is not significantly different from

- zero, the Chinese-GAAP model will be rejected while the IAS model will be accepted;
- (3) When α_3 is not significantly different from zero and β_3 is significantly different from zero, the Chinese-GAAP model will be accepted while the IAS model will be rejected;
- (4) When both α_3 and β_3 are not significantly different from zero, both the Chinese-GAAP model and the IAS model will be rejected.

On the other hand, this paper decomposes total explanatory power into three parts similar to Collins *et al.* (1997): (1) the incremental explanatory power of earnings; (2) the incremental explanatory power of book value; and (3) the explanatory power common to both earnings and book value. This decomposition is used in Easton (1985) and is derived theoretically by Theil (1971). The models are as follows:

$$P_{jt} = \gamma_0 + \gamma_1 E_{jt} + \gamma_2 BV_{jt} + \theta_{jt} \quad (1)$$

$$P_{jt} = \alpha_0 + \alpha_1 E_{jt} + \nu_t \quad (6)$$

$$P_{jt} = \beta_0 + \beta_1 BV_{jt} + \varepsilon_t \quad (7)$$

The coefficients of determination from equations (1), (6), (7) are denoted R_T^2 , R_6^2 , R_7^2 respectively. Then $R_{BV}^2 = R_T^2 - R_6^2$ represents the incremental explanatory power provided by book value (incr BV), and $R_E^2 = R_T^2 - R_7^2$ represents the incremental explanatory power provided by earnings (incr EARN). The remaining $R_C^2 = R_T^2 - R_E^2 - R_{BV}^2$ represents the explanatory power common to both earnings and book value (COMMON).

3.3 Sample Selection

Samples consisted of B-Share companies (companies which issued B-Shares) on the Shanghai Stock Exchange from 1994 to 1999, selected using the following criteria:

- (1) Annual earnings and book value based on Chinese-GAAP and IAS, stock sizes are available on the Shanghai Stock Exchange's official homepage.⁸
- (2) Stock price data published in the Shanghai Stock Newspaper.
- (3) Total assets and stockholders' equity are both greater than zero.

The selection process yields 264 firm-year observations for B-Share companies. To control for the effects of extreme values,

- (4) the top and bottom $3 \times \text{S.D.}$ of each earning, book value and stock price (P^t , E^c , BV^c , E^i , EV^i) are removed.

After meeting the criteria above, the sample selected has 252 firm-years, consisting of 30

⁸ <http://www.sse.com.cn/>

for 1994, 35 for 1995, 40 for 1996, 50 for 1997, 50 for 1998, and 47 for 1999.

4. Statistical Results and Implications

4.1 Value-Relevance of Accounting Numbers Based on Chinese-GAAP VS. IAS

Table.4 Descriptive statistics for firm-year observations for the years 1994-1999

Panel A: Descriptive statistics					
Variables	Minimum	Maximum	Mean	Median	Standard deviation
E^c	-0.470	0.800	0.193	0.192	0.189
BV^c	1.070	4.440	2.481	2.340	0.631
E^i	-0.572	0.640	0.141	0.140	0.217
EV^i	0.727	4.940	2.400	2.298	0.707
P^t	0.431	7.892	2.392	1.871	1.632
Panel B: Test of significance of differences in mean scores					
Variables	Two-tailed t test			Wilcoxon signed ranks test	
	t-value	p-value	Correlation coefficient	Z-value	p-value
E^c vs. E^i	8.126***	0.000	0.883	-9.038***	0.000
BV^c vs. BV^i	5.145***	0.000	0.935	-5.634***	0.000

P^t : stock price; E^c : earnings per share based on Chinese-GAAP; BV^c : book value per share based on Chinese-GAAP; E^i : earnings per share based on IAS; BV^i : book value per share based on IAS.

Note:***: significant at 1% level;** : significant at 5% level;* : significant at 10% level.

Table.5 The results of cross-sectional regressions of price on earnings and book value

Panel A: $P_{jt} = \alpha_0 + \alpha_1 E_{jt}^c + \alpha_2 BV_{jt}^c + \varepsilon_t$				(2)
	α_1	α_2	Adjusted R^2	
Coefficient	6.503***	-0.012	0.559	
t-value	16.312	-0.100		
Panel B: $P_{jt} = \beta_0 + \beta_1 E_{jt}^i + \beta_2 BV_{jt}^i + \theta_t$				(3)
	β_1	β_2	Adjusted R^2	
Coefficient	5.062***	0.165	0.501	
t-value	13.281	1.408		

P_{jt} : B-Share price of firm j four months after fiscal year end of year t . That is, on the end of April in year $t+1$, the price translated into Renminbi using the exchange rate at that date.

E_{jt}^c : earnings per share for firm j for year t based on Chinese-GAAP.

E_{jt}^i : earnings per share for firm j for year t based on IAS.

BV_{jt}^c : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.

BV_{jt}^i : book value per share for firm j at the end of fiscal year t based on IAS.

Note:***: significant at 1% level;** : significant at 5% level;* : significant at 10% level.

Table. 4 presents descriptive statistics and the test of significance of differences between earnings and book values based Chinese-GAAP and IAS respectively. The mean of earnings per share based using Chinese-GAAP is 0.193, while IAS produces a value of 0.140. In Panel A, the mean book value per share based on Chinese-GAAP is 2.481 and that based on IAS is 2.400. It seems that IAS's numbers are more conservative than Chinese-GAAP's. In Panel B, the results from two-tailed t test and wilcoxon signed ranks test suggest that the differences between two sets of earnings and book values are statistically significant at 1% level.

Table. 5 reveals that the book values based on Chinese-GAAP and IAS are not significantly associated with the stock prices. While the earnings per share based on Chinese-GAAP and IAS are both significantly associated with the stock prices at 1% level. The Chinese-GAAP model's Adjusted R^2 is 0.559 which is greater than the 0.501 of the IAS model.

Table. 6 reports the results from the J-test. In Panel A, if $\alpha_3 = 0$ (the null hypothesis) is statistically significant, the IAS model has no additional explanatory power in equity valuation. The test shows that the regression coefficient of the estimated price ($Price_{jt}^i$) in the IAS model is statistically significant at 5%, indicating that the IAS model has additional explanatory power beyond that contributed by the Chinese-GAAP model. In Panel B, the null hypothesis is $\beta_3 = 0$. β_3 is significantly different with zero at 1%, indicating that the Chinese-GAAP model has additional explanatory power at 1% level over the original IAS model. The joint results in Panels A and B show that though both the IAS model and the Chinese-GAAP model have additional explanatory power over each other, the Chinese-GAAP model has more information content, since the level of significance is 1% which is more

Table. 6 The results of J-test between Chinese-GAAP model and IAS model

Panel A: $P_{jt} = \alpha_0 + \alpha_1 E_{jt}^c + \alpha_2 BV_{jt}^c + \alpha_3 Price_{jt}^i + \varepsilon_t$ (4)				
	A_1	α_2	α_3	Adjusted R^2
Coefficient	4.898***	-0.053	0.305**	0.567
t-value	6.265	-0.446	2.377	
Panel B: $P_{jt} = \beta_0 + \beta_1 E_{jt}^i + \beta_2 BV_{jt}^i + \beta_3 Price_{jt}^c + \theta_t$ (5)				
	B_1	β_2	β_3	Adjusted R^2
Coefficient	1.528**	0.036	0.750***	0.567
t-value	2.289	0.324	6.254	

P_{jt} : B-Share price of firm j four months after fiscal year end of year t . That is, on the end of April in year $t+1$, the price translated into Renminbi using the exchange rate at that date.

$Price_{jt}^i$: Estimated share prices for firm j on the end of April in year $t+1$ from the IAS model shown in Table. 5.

$Price_{jt}^c$: Estimated share prices for firm j on the end of April in year $t+1$ from the Chinese-GAAP model shown in Table. 5.

E_{jt}^c : earnings per share for firm j for year t based on Chinese-GAAP.

E_{jt}^i : earnings per share for firm j for year t based on IAS.

BV_{jt}^c : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.

BV_{jt}^i : book value per share for firm j at the end of fiscal year t based on IAS.

Note:***: significant at 1% level;** : significant at 5% level;* : significant at 10% level.

precise than IAS model's 5%. This indicates that the earnings and book value reported based on Chinese-GAAP are more closely associated with the stock prices of B-Shares. It is clear that using Chinese GAAP is enough to provide financial information while not using IAS for the investors in the Shanghai Stock Exchange.

J-test results of this paper differ from Bao and Chow's (1999). These differences arise due to the range of the data selected and the different stock exchanges selected. Bao and Chow (1999) used data from 1992 to 1996, while this paper's data is from 1994 to 1999. The quite fewer data available in 1992,⁹ the introduction of new accounting regulations, and the fact that China's stock market has shown explosive growth since 1996, makes new research in this area vital. Not disclosed in this paper, perform the J-test every year respectively, the results are the same except for 1999. Also, the conclusion is robust when using the panel analysis.

Bao and Chow (1999) used the data from the Shanghai Stock Exchange and the Shenzhen Stock Exchange, while this investigation used only the data from the Shanghai Stock Exchange.¹⁰ Table. 7 shows that investors are different in the two exchanges, which can alter the results.

From Table. 7, we can see that the investors in Hong Kong comprise almost half of the investors in the Shenzhen Stock Exchange. As the majority of investors in Hong Kong have English as their native language, they more than likely base their investment decisions

Table. 7 The Distribution of the B-Share Accounts of Investors on Two Stock Markets at the End of 2000

Shanghai			Shenzhen		
Rank	Country or region	Rate	Rank	Country or region	Rate
1	China	72.0%	1	Hong Kong	47.1%
2	Hong Kong	8.8%	2	China	39.1%
3	America	5.3%	3	America	3.5%
4	Taiwan	2.6%	4	Macao	1.9%
5	Japan	2.0%	5	Taiwan	1.2%
6	Canada	1.3%	6	Canada	1.0%
7	Australia	1.3%	7	Australia	1.0%
8	United Kingdom	1.0%	8	United Kingdom	1.0%
9	Singapore	0.9%	9	Singapore	0.6%
	Macao	0.4%		Japan	0.4%
10	Others	4.4%	10	Others	3.1%

(Source: *Asia's Stock Market 2001*, 266)

Note: China refers to continental China excluding Hong Kong, Macao and Taiwan.

⁹ In 1992, the firm-years in Shanghai Stock Exchange are 33 that is the 1/3 of the firm-years in 1993. In 1997, the companies listed are 372 which is 10 times of 1992's.

¹⁰ Not disclose in this paper, the results of Chow test are statistically significant to both the 1994-1996 data of the Shanghai Stock Exchange and the 1993-1996 data of the Shenzhen Stock Exchange, and the 1994-1999 data of the Shanghai Stock Exchange and the 1993-1999 data of the Shenzhen Stock Exchange. It shows that the data of the two stock exchanges are different.

according to IAS. On the other hand, the majority of investors in the Shanghai Stock Exchange are from mainland China. They almost certainly base their investment decisions on Chinese-GAAP.

Summaries of Chinese-GAAP based statements are required to be published in at least one of the securities newspapers or a journal selected by the CSRC by April 30 (after the fiscal year ending December 31).¹¹ The audited IAS based statements for the B-Shares are published in Hong Kong in Chinese or in English, on the same day that the Chinese-GAAP based report are released in China (Charles J.P. *et al.*, 1999, 96). Due to Hong Kong investors having the ability to get the information under IAS in English or in Chinese and being nearly half of the investors on the Shenzhen Stock Exchange, it is natural to think that they will use IAS-based information more than those under Chinese-GAAP. However, this point has yet to be proved. More research in this area should be done.

4.2 Changes in the Value-Relevance of Earnings and Book Value over time

Table. 8 Yearly cross-sectional regressions based on Chinese-GAAP

$P_{jt} = \alpha_0 + \alpha_1 E_{jt} + \nu_t$ (6)										
$P_{jt} = \beta_0 + \beta_1 BV_{jt}^i + \varepsilon_t$ (7)										
$P_{jt} = \gamma_0 + \gamma_1 E_{jt} + \gamma_2 BV_{jt} + \theta_{jt}$ (1)										
Years	Firm-years	α_1	Adj- R^2 (B)	β_1	Adj- R^2 (C)	γ_1	γ_2	Adj- R^2 (A)	(A)-(C): incr EARN	(A)-(B): incr BV
94	30	9.238*** (12.456)	0.842	0.764 (1.594)	0.050	9.256*** (11.617)	-0.016 (-0.074)	0.836	0.786	-0.006
95	35	6.928*** (10.510)	0.763	1.088*** (3.266)	0.221	6.475*** (8.920)	0.283 (1.399)	0.770	0.549	0.007
96	40	9.585*** (10.671)	0.743	0.138 (0.273)	-0.024	9.678*** (10.639)	-0.208 (-0.808)	0.741	0.765	-0.002
97	50	0.288*** (8.215)	0.584	1.008*** (2.717)	0.115	1.962*** (4.938)	0.258** (2.141)	0.567	0.452	-0.017
98	50	5.585*** (8.353)	0.584	1.118*** (3.528)	0.189	1.962*** (4.938)	0.258** (2.141)	0.478	0.289	-0.106
99	47	4.904*** (7.338)	0.535	0.694*** (3.327)	0.181	4.609*** (5.865)	0.133 (0.722)	0.530	0.349	-0.005

P_{jt} : B-Share price of firm j four months after fiscal year end of year t . That is, on the end of April in year $t+1$, the price translated into Renminbi using the exchange rate at that date.

E_{jt}^c : earnings per share for firm j for year t based on Chinese-GAAP.

BV_{jt}^c : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.

Note: Coefficient estimates are based on ordinary least-squares estimation. The table reports the average of the coefficient estimates and t-statistics from the yearly cross-sectional regressions. T-statistics are in parentheses.

***: significant at 1% level; **: significant at 5% level; *: significant at 10% level.

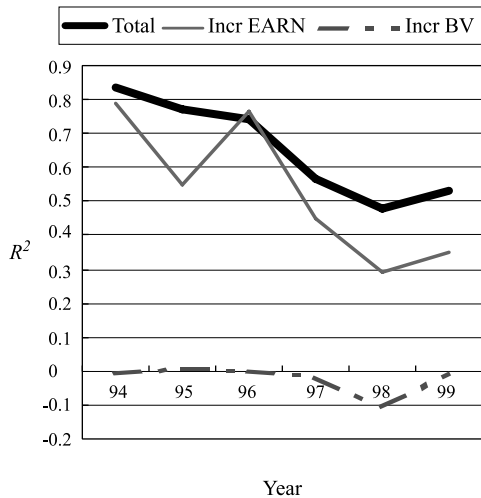
11 There are seven securities newspapers and one journal selected by the CSRC for this purpose, *China Securities News*, *Shanghai Securities News*, *Securities Times*, *Financial Times*, *Economic Daily*, *China Reform*, *China Daily (English)*, and *Security Markets Weekly*. However, most companies select the first three newspapers to publish their financial reports.

Table 8 summarizes the yearly cross-sectional regressions of Eqs. (1), (6), (7) which are based on Chinese-GAAP. Earnings and book values are significant at a 1% level in almost every year. The adjusted R^2 for earnings in every year are more than 0.53, indicating that earnings can explain more than 53% of stock prices. In contrast, the adjusted R^2 for book value in every year are small, indicating that book value does not explain stock prices.

Fig. 3 (a) and Fig. 3 (b) show the trends in common and incremental explanatory power of earnings and book values across time. The figures differ only in the presentation of the incremental and common explanatory power. The various R^2 overlap in Fig. 3 (a), so that they collectively add up to the total explanatory power of Eq. (1). The darkest-shaded region in Fig. 3 (b) shows the incremental explanatory power of book value, which is so small that it can be overlooked easily. The shaded region shows the incremental explanatory power of earnings. The light-shaded region shows the explanatory power common to both earnings and book values. By definition, these add up to the total explanatory power of both variables.

Fig. 3 (a) and Fig. 3 (b) show that the total explanatory power and the incremental explanatory power of earnings are decreasing over time, while the incremental explanatory power of book value is extremely small.

Fig. 3 (a)



(b)

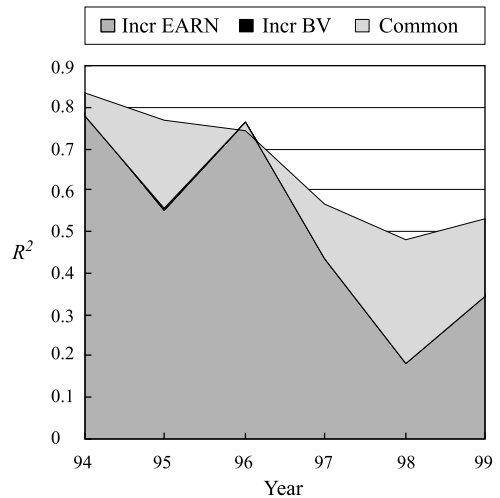


Fig. 3.(a) Yearly cross-sectional regressions representing the common and incremental explanatory power of earnings and book values (stacked). In each year, three cross-sectional regressions are run. Price is regressed on (1) earnings, (2) book values and (3) both earnings and book values. The incremental explanatory power of earnings (Incr EARN) is the explanatory power, R^2 , from regression (6) less the R^2 from (1). The incremental explanatory power of book values (Incr BV) is the R^2 from regression (7) less the R^2 from regression (1). The explanatory power common to both earnings and book values (Common) is the remaining explanatory power.

(b) Yearly cross-sectional regressions representing the total and incremental explanatory power of earnings and book values (unstacked). The total explanatory power (TOTAL) is the R^2 from regression (1), the yearly cross-sectional regressions of price on both earnings and book values.

and Fig. 3 (b) were obtained when analyzing earnings and book values reported based on IAS.

Table. 9 summarizes the yearly regression analyses using book value at the beginning of the fiscal year as the deflator for all variables presented. The conclusions are generally consistent with those shown on Table. 8. Explanatory power of earnings is large, but decreasing over time. The total explanatory power also decreases over time. The results are shown in Fig. 4 (a) and Fig. 4 (b).

Table. 8-9 and Fig. 3-4 show that total explanatory power including earnings and book value has decreased over time, the separate explanatory and incremental explanatory powers of earnings also decreased over time. This may be due to speculation in the Chinese capital market. Fig. 5-6 present the time-series of the turnover ratio of trading in the Shanghai capital market with a deflator or not. The Chinese capital market has a high level of speculation; investors wishing to acquire high capital gains ignore earnings and book value. Another explanation for this may be Chinese culture. China is a society where close net personal relationships are the norm. Thus the practice of insider trading is culturally accepted. As generally known, the window-dressing settlement is a critical problem to the China Stock Market.¹² Stock prices may be built from information which has yet to be disclosed publicly.

Table. 9 Yearly cross-sectional regressions based on Chinese-GAAP (Beginning Book Value is used as the Deflator)

$$P_{jt}/BV_{jt-1}^c = \alpha_0 + \alpha_1 E_{jt}^c/BV_{jt-1}^c + \nu_t$$

$$P_{jt}/BV_{jt-1}^c = \beta_0 + \beta_1 BV_{jt}^i/BV_{jt-1}^c + \varepsilon_t$$

$$P_{jt}/BV_{jt-1}^c = \gamma_0 + \gamma_1 E_{jt}^c/BV_{jt-1}^c + \gamma_2 BV_{jt}^c/BV_{jt-1}^c + \theta_{jt}$$

Years	N	α_1	Adj- R^2 (B)	β_1	Adj- R^2 (C)	γ_1	γ_2	Adj- R^2 (A)	(A)-(C): incr EARN	(A)-(B): incr BV
95	35	6.592*** (8.761)	0.690	1.686*** (2.981)	0.188	6.262*** (7.325)	0.329 (0.828)	0.687	0.499	-0.003
96	40	10.486*** (11.339)	0.766	2.230*** (2.735)	0.143	10.145*** (10.062)	0.401 (0.864)	0.764	0.621	-0.002
97	50	5.966*** (8.028)	0.564	1.801*** (5.042)	0.333	4.928*** (5.612)	0.703** (2.062)	0.592	0.259	0.028
98	50	1.846*** (6.232)	0.436	0.247*** (3.575)	0.194	1.773*** (4.501)	-0.075 (0.285)	0.425	0.231	-0.011
99	47	4.084*** (6.156)	0.445	0.855*** (3.310)	0.178	3.719*** (4.722)	0.226 (0.866)	0.442	0.264	-0.003

P_{jt} : B-Share price of firm j four months after fiscal year end of year t . That is, on the end of April in year $t+1$, the price translated into Renminbi using the exchange rate at that date.

E_{jt}^c : earnings per share for firm j for year t based on Chinese-GAAP.

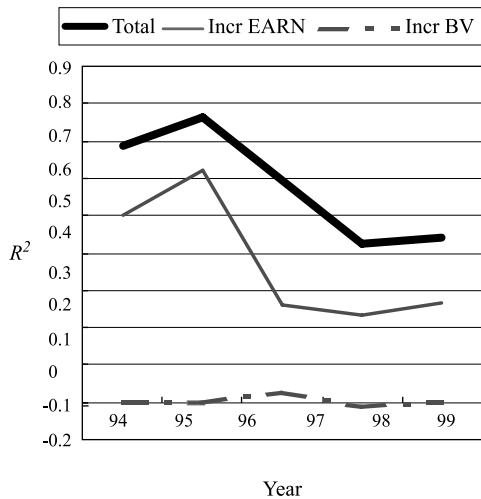
BV_{jt}^c : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.

BV_{jt-1}^c : book value per share for firm j at the end of fiscal year $t-1$ based on Chinese-GAAP.

Note:***: significant at 1% level; **: significant at 5% level; *: significant at 10% level.

12 Japanese Financial News 26th, December 2002.

Fig. 4 (a)



(b)

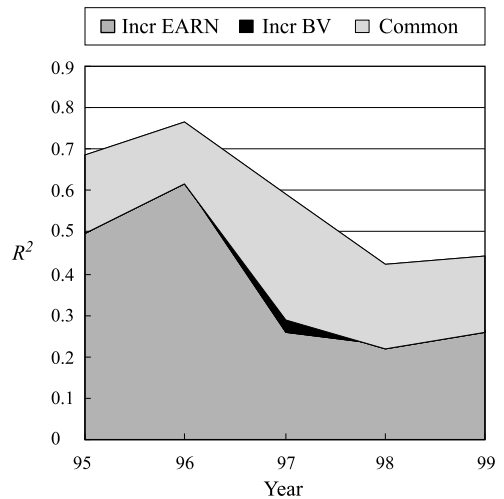
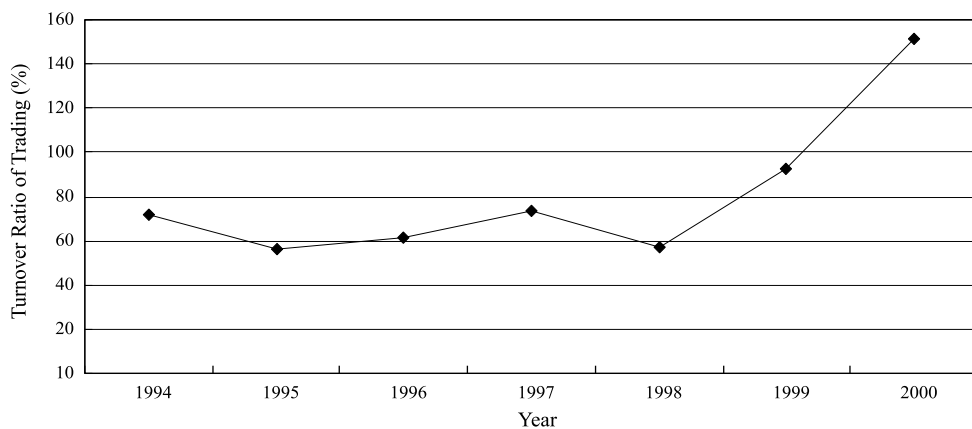


Fig. 4.(a) Yearly cross-sectional regressions representing the common and incremental explanatory power of earnings and book values (stacked). In each year, three cross-sectional regressions are run. Price is regressed on (1) earnings, (2) book values and (3) both earnings and book values. The incremental explanatory power of earnings (Incr EARN) is the explanatory power, R^2 , from regression (6) less the R^2 from (1). The incremental explanatory power of book values (Incr BV) is the R^2 from regression (7) less the R^2 from regression (1). The explanatory power common to both earnings and book values (Common) is the remaining explanatory power.

(b) Yearly cross-sectional regressions representing the total and incremental explanatory power of earnings and book values (unstacked). The total explanatory power (TOTAL) is the from regression (1), the yearly cross-sectional regressions of price on both earnings and book values.

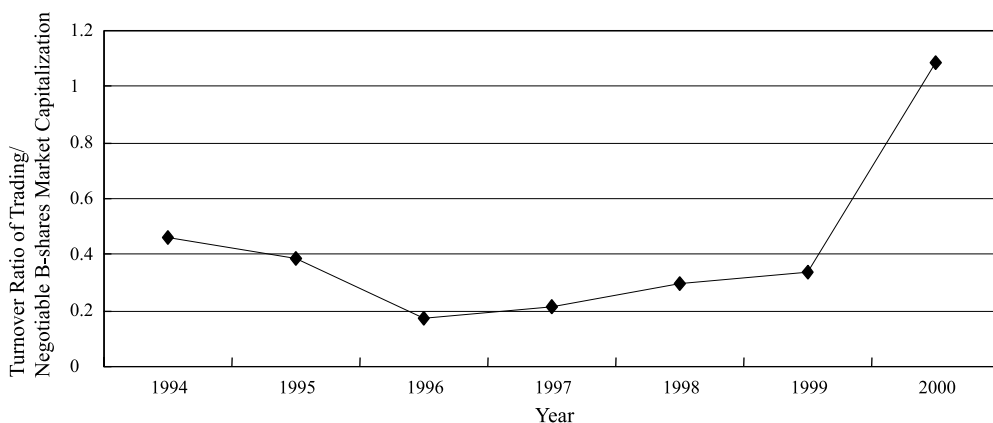
Fig. 5 The Time-Series of the Turnover Ratio of Trading in Shanghai Capital Market



Source: Shanghai Stock Exchange Statistical Yearbook (1994-2001).

The decline of the value-relevance of the accounting information is not a phenomenon limited to China. Historical cost financial statements have lost their value-relevance because of large changes over economies. In particular, the shift from an industrialized economy to a high-tech, service-oriented economy has rendered traditional financial statements less relevant for assessing shareholder value (the 'Jenkins committee 1994', Collins *et al.* (1997)). Consistent with these indication of a loss in value-relevance, Amir and Lev (1996) find that earnings, book values and cash flows are largely irrelevant on a stand-alone basis when valuing firms in the intangible-intensive cellular telephone industry. In addition, studies by Elliott, Hanna and Hayn (1995) find that negative earnings and nonrecurring items can adversely affect the value-relevance of earnings. They also suggest that in recent years firms

Fig. 6 The Time-Series of the Turnover Ratio of Trading in Shanghai Capital Market Using the Negotiable B-shares Market Capitalization as a deflator.



Source: Shanghai Stock Exchange Statistical Yearbook (1994-2001) and China Statistical Yearbook (1994-2001).

Table. 10 B-Share Companies in Shanghai Stock Exchange Reporting Negative Earnings Across Time

Year	The numbers of companies		The ratio to total companies' numbers	
	Chinese-GAAP	IAS	Chinese-GAAP	IAS
1994	0	1	0	0.02
1995	1	6	0.02	0.12
1996	2	9	0.04	0.17
1997	3	9	0.06	0.17
1998	6	13	0.11	0.24
1999	8	17	0.15	0.31

are likely to report negative earnings and nonrecurring items, which indicates a decline in the value-relevance of earnings across time.

Table.10 shows the number and the rate of the Chinese firms that reported negative earnings from 1994 to 1999. It is clear that the firm's number and the rate of total firms that reported negative earnings have increased over time. This adds to the body of the previous researches. Chinese companies have a tendency to disclose negative earnings, so the

Fig. 7 The Explanatory Power of Earnings with Deficit Firms Included and Deleted

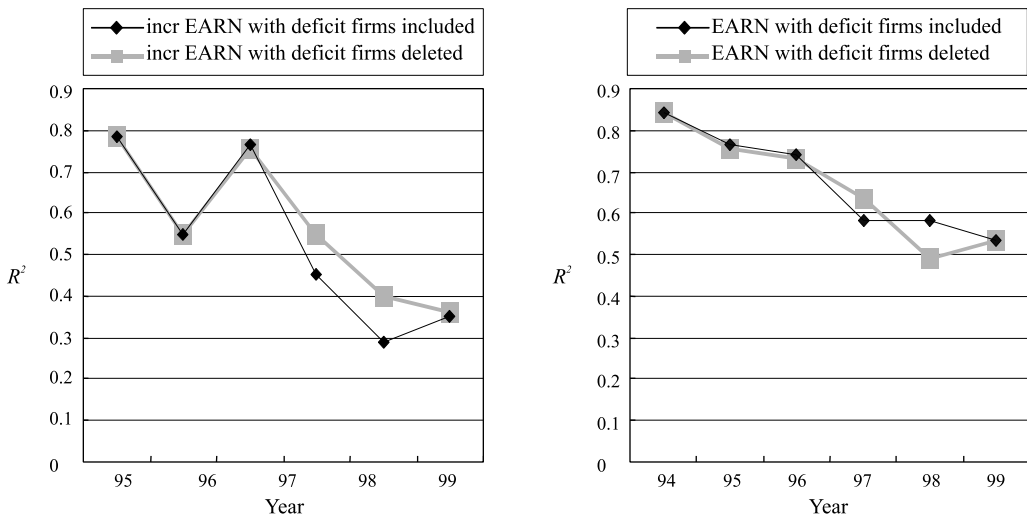
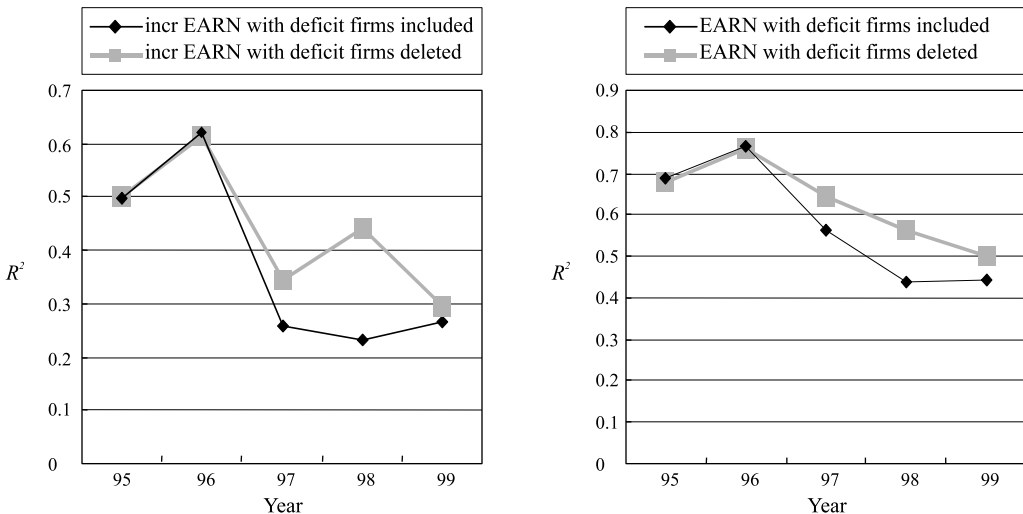


Fig.8 The Explanatory Power of Earnings with Deficit Firms Included and Deleted (Beginning Book Value is used as the Deflator)



value-relevance of B-Share companies' earnings in the Shanghai Stock Exchange has decreased, supporting Elliott, Hanna and Hayn's (1995) finding. It can also be checked by Fig. 7 and Fig. 8. Fig. 7 and Fig. 8 show the incr EARN (incremental explanatory power provided by earnings) and EARN (explanatory power provided by earnings) with deficit firms included and deleted. From these figures, we can find that when deficit firms are removed the incremental explanatory power of earnings increases.

5. Conclusion

This paper seeks to discuss the development of Chinese accounting system, capital markets and the present state. It also investigates the usefulness of accounting information under Chinese-GAAP and IAS, and suggests that due to cultural norms, IAS may not be the only way to standardize accounting.

First, it discusses the development and features of capital markets in China. The rapid development of Chinese capital markets since early 1990s has become an important vehicle to channel the society's resources to business activities. However, there are still echoes from the days of China's planned economy reverberating through the capital markets. One of which is the existence of two classes of shares. One which can be traded and one which can not be traded. Another relic from the past is the system of A-Shares and B-Shares, shares for domestic investors and shares that are traded in US dollars. Due to these two remnants of the past, the circulated stock in China is much smaller than it first appears and the markets themselves have a high level of speculation. On the positive side, the accounting system in China has developed and is approaching IAS.

This paper also investigates the value-relevance of earnings and book value under Chinese-GAAP and IAS. Using the Ohlson (1995) model and the Davidson-MacKinnon J-test, the empirical results show that through both the IAS model and the Chinese-GAAP model have additional explanatory power over each other, it seems that the Chinese-GAAP model has more information content, since the significant level of the Chinese-GAAP model is 1% which is more precise than that of the IAS model. It is clear that using IAS doesn't necessarily provide useful financial information. The differences with previous research can be explained by difference of the data's time ranges and the nationality of investors in the two markets (the Shanghai Stock Exchange and the Shenzhen Stock Exchange). 72% of the Shanghai Stock Exchange investors are from mainland China. Because of this, nearly all the investors in the Shanghai Stock Exchange use Chinese-GAAP to base their investment decisions.

Yearly analyses of the correlation between B-Shares' prices and earnings and book value suggests that total explanatory power including earnings and book value has decreased over time, while the separately explanatory and incremental explanatory powers of earnings have decreased over time as well. This may be due to the speculation and the tradition of large

numbers of insider stock transactions. The number of firms and the rate of total firms reporting negative earnings have increased over time. That supports previous researches, that negative earnings and nonrecurring items can adversely affect the value-relevance of earnings.

Moreover, the results suggest that regulators and standard-setters should exercise caution in their blind drive towards international standards. In some cases the push towards international accounting standards increases neither the usefulness nor the explanatory power of accounting information. The movement towards international standards will not achieve regulators' objectives; they will in fact do just the opposite.

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THE EFFECTS OF STRUCTURAL CHANGES IN FINANCIAL SYSTEM ON CORPORATE GOVERNANCE IN JAPAN*

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Abstract

This paper examines the effects of structural changes in financial system on corporate governance in Japan. The primary purpose of the study is twofold: to identify important features of changes in Japanese financial system and their effects on corporate governance; to develop insights concerning corporate governance and capital market under institutional and regulatory environments. Major shifts in the Japanese corporate governance are under way. The significant changes in the Japanese financial system are now in consideration: new standards of accounting and financial disclosure; heightened capital adequacy requirements for banks; and reforms in the financial system. As the economy continues to be sluggish, the market-based governance system is likely more effective.

JEL codes: G21; G32

Keywords: Corporate governance; Financial deregulation; Financial relationships; Japanese firms; Main bank

1. Introduction

As capital and product markets have become global, the differences in corporate behaviors across the countries have been shown distinct. Since behaviors and performances of

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firms substantially depend on institutional and regulatory environments where firms run, peculiar patterns of behaviors turn out to be the rational economic responses to those environments. One of the major differences in corporate behaviors among different countries can be financing patterns and corporate governance. Corporate financing practices in Japan appear distinctive in comparison with those in other countries. Specifically, it is commonly observed that financial institutions in Japan tend to have close, long relationships with their clients. In large part, these differences are due to differing institutional and regulatory environments. While legal and historical considerations help to explain why patterns of corporate behaviors in each country have followed distinctive trajectories, we need to explain the difference of patterns across the countries as well as the similarity within each country with providing economic rationales under specific institutional and regulatory environments.

Japanese financial institutions may hold equity and debt at the same time. Besides strengthening the long-term relationships between the financial institutions and the firm, the simultaneous holding of debt and equity clearly reduces the scope for conflict between stockholders and debtholders over the choice of policies, particularly in situations of financial distress. The significance of the main bank system is the close information-sharing relationship that exists between the bank and the firm. It is possible to view the main bank system as functioning as a substitute for the kind of screening and monitoring institutions that are prevalent in other capital markets such as bond and credit-rating institutions and security analysis agencies. It can be argued that this function of the main bank provides an important substitute mechanism for what in effect is inactive market for corporate control in Japan.¹

Much of corporate finance in Japan has evolved around the main bank relationship. This is changing for many Japanese firms, particularly large and highly liquid firms. Financial liberalization in Japan has created difficulties for the main bank system. Nevertheless, that system seems likely to adapt and continue to provide valuable support for medium-sized and rapidly growing firms. More generally, the effects of financial liberalization over the last decades have been enormous. The process of change will continue, both because of continuing liberalization and because some financial patterns change sluggishly. Increasing financial sophistication and capability to exploit opportunities arising from regulatory changes will also continue to alter corporate financial practices. Financial liberalization tends to undermine the main bank system because major non-financial firms have greater access to bond market as well as borrowing from foreign financial institutions. This makes it potentially much more difficult for the main bank to monitor and control those firms. Consequently, the main bank system could continue to be viable and advantageous for firms which is restricted the access to alternative debt sources and need strong bank support. The financing patterns of large Japanese firms are beginning to resemble the more arms-length financing patterns

¹ See Aoki and Patrick (1994) for research in main bank system in Japan.

observed in the U.S. The infrastructure in financial market including rating agencies, disclosure rules, regulation and enforcement of insider trading has been developing in Japan. Even though the deregulation made it possible for major firms to arm's length financing, some firms would still maintain main bank relationships.

Major shifts in Japanese corporate governance are under way. The government bureaucrats' ability to manage the Japanese economy through traditional methods has been severely eroded by the financial deregulation. Large Japanese firms can no longer be pressured to do whatever banks and government may ask. The financial liberalization in Japanese capital market led to a period of excessive investments by many Japanese firms. Lacking proper oversight, many investment projects are now in great trouble. These misguided investments were partially created by the government itself, but many of the changes made are now beyond government control. The significant changes in the Japanese financial system are now in consideration. The Japanese corporate system has worked well in the most of the post-war period. But the balance of power in the Japanese corporate system is changing. As equity financing replace bank financing as the primary source of capital in Japanese major firms, the power of main banks and the government to direct corporate behavior through funds control are waning. As the economy continues to be sluggish, the effective role of relationship-based governance system is under serious consideration. As a result, the potential power of stock market is likely to be rising.

This paper examines the effects of structural changes in financial system on corporate finance and governance in Japan, and discusses the future directions. The primary purpose of the study is twofold: to identify important features of changes in financial system in Japan and their effects on corporate finance and governance; to develop insights concerning corporate governance and capital market under institutional and regulatory environments.

This paper is organized as follows. The next section presents the major changes of Japanese corporate finance. It also discusses characteristics of chronic problems in the Japanese corporate finance. Some aspects of Japanese corporate finance have changed dramatically over the last decade. Most of these changes are the result of changes in the structure of the Japanese financial market, which in turn can be traced to regulatory changes. Section 3 describes major problems and changes in the Japanese financial system. In particular, it describes serious bad loan problems and major financial reforms in Japan. And it also discusses structural changes in main bank system, which is one of the most distinctive features in the Japanese corporate finance. Some aspects of Japanese corporate finance have changed dramatically over the last decade. Most of these changes are the result of changes in the structure of the Japanese financial market, which in turn can be traced to regulatory changes. Section 4 describes reorientation of financial institutions in Japan. Section 5 discusses recent shifts in Japanese corporate governance under structural changes in the financial system and its direction in future. Finally, section 6 presents concluding remarks.

2. Changes in Japanese Corporate Finance

2.1 Financial Emancipation

Liquidity in the form of cash and marketable securities for Japanese firms has been increasing. Much of this liquidity increase occurred during the second half of the 1980s in parallel with expansion of money supply, lower interest rates, and rising real estates prices in Japan. Paralleling the liberalization of Japanese corporate finance has been a dramatic buildup of financial slack on Japanese corporate balance sheets. During Japan's high-growth periods in 1948-73, Japanese firms were confronted with a volume of attractive investment opportunities that vastly exceeded their cash flow and the amount of funds most firms could reasonably expect to raise externally. Throughout this period, Japanese corporate finance served simple function. Financial managers raised the cash necessary to fund the approved projects securing a sufficient volume of external finance. Minimizing capital costs was a secondary concern to most of them.

For all practical purposes, there are only two major sources of external funds: collateralized loans and trade credit. Essentially the same institutions-banks, insurance companies, and major suppliers-stakeholders that were also major shareholders in their firms supplied these, in turn. These stakeholders monitored client firms closely, even to the point of occasionally injecting new management to ensure a rational deployment of scarce funds. Thus high growth, the rigors of competition at home and abroad, the heavy use of debt and trade credit, and the ownership of these claims by institutional shareholders that monitored performance closely were sufficient to ensure the deployment of cash in a pattern consistent with the priorities of the suppliers of capital.

Although remarkable growth in Japan had begun to wane even prior to 1973, the oil shock produced a sudden and dramatic reduction in Japanese economic growth. The joint effect of investment reduction and cost improvement was to lessen gradually the external capital needs of the firms. Large firms finance internally from less than 20% in the 1960s and early 1970s to more than 100% by the 1990s as shown in Table.1 The latter figure reflects the fact that many large Japanese firms were using their enormous cash flow during this period to repay debt and build up liquid assets on the balance sheet rather than to increase dividends for shareholders. As a consequence, Japanese firms have accumulated considerable financial slack in the form of unused debt capacity and temporary investments in marketable securities. The buildup of financial slack on corporate balance sheets, the persistence of excess cash flow throughout the 1980s and gradual financial deregulation have led to financial liberation of Japanese non-financial firms from their traditional lenders.

Close, stable relationships between non-financial firms and banks have been essential elements of Japanese corporate finance. As such, they have contributed significantly to the

Table. 1 Net sources of funds for investment of manufacturing firms in Germany, Japan and the United States
Five-years average (Percentage)

Germany				
	1975-79	1980-84	1985-89	1990
Internal Funds	80.4	92.3	97.4	78.1
Retained Profits	26.5	31.2	40.3	23.6
Depreciation	50.4	56.3	55.8	51.6
Stock Issues	n.a.	4.7	1.2	3.0
Bonds	n.a.	−1.0	0.1	−0.1
Loans	4.9	4.4	−1.8	0.8

Japan				
	1975-79	1980-84	1985-89	1990-94
Internal Funds	68.8	71.7	103.3	111.15
Retained Profits	15.8	17.7	22.8	18.92
Depreciation	44.7	40.0	58.8	92.23
Stock Issues	8.3	11.9	22.1	7.6
Bonds	4.0	6.7	24.8	−2.66
Loans	9.7	6.3	−18.5	5.81

U.S.A.				
	1975-79	1980-84	1985-89	1990-94
Internal Funds	62.8	64.5	53.3	79.15
Retained Profits	25.9	16.5	3.1	6.13
Depreciation	31.8	39.6	45.5	78.54
Stock Issues	5.1	8.3	4.7	14.04
Bonds	10.1	7.6	17.2	6.25
Loans	2.0	6.9	12.1	2.94

Sources: The Bank of Japan (1974, 1978, 1986, 1993, 1994, 1996), *Comparative Economic and Financial Statistics: Japan and Other Countries*.

Source Note: Statistisches Bundesamt, *Unternehmen und Arbeitsstätten*, The Bank of Japan, *Syuyokigyo Keieibunseki* (Business Analysis on Main Enterprises in Japan), The U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*

Note: Book values of assets in Japanese firms differ greatly from current values because face values are much lower than market values.

mitigation of takeover activity in the Japanese capital market. Today, however, this stability is being shaken by two major changes in the world of finance: the buildup of financial slacks on balance sheets in Japanese corporation and the globalization and deregulation of the Japanese financial system. The former change is altering the nature of business that banks execute with their major industrial clients and generally weakening bank control over these firms. Concurrently, the latter change is causing banks and other institutional owners of equity to demand greater returns on their holdings of client-firm stocks. Together these trends are evoking a creeping instability in close financial relationships (Kester, 1991).

Japanese firms are not liquidity constrained in recent years. It is no mere coincidence that this period of less liquidity constraints has also been accompanied by weakening firm-bank relationships. The increased availability of internally generated cash to fund projects has reduced the need to raise funds externally, thus diminishing the financial dependence of industrial firms on bank. In addition, growth and gradual deregulation of capital markets at home and opening of capital markets abroad have distanced Japanese industrial firms still further from banks.² In the absence of the discipline exerted by capital market, Japanese managers find themselves with far greater discretion in the allocation of corporate resources than ever before. Since firms are unwilling to breach long-standing implicit contracts with key stakeholders, especially long-term employment relationships, and unable to execute past strategies of simply growing themselves out of their current situations, they hold the direction to sustain marginal businesses and retain unrelated diversification. Thus, the free cash flow of these corporations may be reallocated from shareholders to other stakeholders, primarily employees. Despite the low priority traditionally accorded to shareholders in Japan, it is unlikely this trend can continue for long. One by-product of the increasingly global market in which Japanese financial institutions must compete, and of their weakening relationships with industrial clients, has been a growing concern for obtaining higher direct returns on their equity investments (Kester, 1991).

Over the past two decades, capital market liberalization in Japan has made available financial instruments not previously available to corporate borrowers. Firms are now free to raise investment funds through a variety of equity, bond, and hybrid mechanisms, and in both domestic and overseas markets. Many large Japanese firms have taken advantage of these opportunities, and the results has been a substantial decline in the proportion of external corporate capital coming from traditional sources such as bank loans. Furthermore, even as banks and other financial institutions account for an increasing share of securities-based capital, the ability of highly performing non-financial firms to fund their investments through retained earnings has reduced their overall external capital dependency and shifted the balance of bargaining power with lending firms in their direction (Gerlach, 1992).

As constraints on corporate finance relax and capital markets deregulate in Japan, competition among banks has further weakened traditional firm-bank relationships.³ The

2 Japanese firms moved quickly to raise capital outside Japan as soon as Japan's Foreign Exchange Control Law was relaxed in 1980. Total funds raised by Japanese firms in overseas bond markets leaped from an average of 489 billion yen per year between 1975 and 1979 to 5 trillion yen per year in 1990 through 1994. As a percent of all securities issued by Japanese firms, overseas issues rose steadily from less than 20% before 1980 to nearly 50% by 1985. Most of the funds raised outside of Japan were used to repay domestic borrowing. Thus by the late 1980s, large Japanese firms had already dramatically restructured their liabilities, substituting cheaper foreign capital for domestic financing.

3 Petersen and Rajan (1995) argue that competition in market for financial services is likely to undermine the stable bank-relationships because the banks can no longer extract rents from the client firms.

securitization of Japanese corporate finance had made financing increasingly price-sensitive transactions in which past relationship count for little. A firm's main bank may win a mandate to lead-manage a deal, but only if it offers a better idea or a competitive quote. Nonetheless, although Japanese non-financial firms may be distancing themselves from banks, Japanese banks and other financial institutions still own considerable fractions of these firms' outstanding shares. However diminished the need by no-financial corporations for a close banking relationship, Japanese banks will maintain close relationships with their clients for the success of their institutions. Even though large no-financial firms no longer rely heavily on intermediated credit to meet financing needs, financial institutions still look to these firms for access to affiliated firms of commercial lending, access to employees for retail banking and insurance underwriting, and as customers for new products and service offered on a fee basis (Kester, 1991).

2.2 Chronic Problems in Japanese Corporate Finance

Most of the restructuring undertaken by Japanese firms in the 1990s failed to improve corporate profitability. Much of the improvement in firms' financial performance in the last decade was a reflection of inexpensive capital rather than improved efficiency. Japanese firms made excessive use of capital in the late 1980s, failing to take into serious consideration the long-run return for their investments. Japanese firms were making low-return, long-term capital investment based on short and medium-term costs of capital. In the bubble economy of the late 1980s, Japanese executives could look forward to an immediate impact on sales and asset growth of large-scale investment projects, ignoring the long-term risk to corporate profitability and to shareholder wealth. Now most of Japanese firms need to focus more on corporate value maximization. As well as cost reducing efforts, moves to restructure business units and project developments are intensifying. Moreover, adding capacity and diversification are being reviewed where they are considered to have been pursued to be infeasible, and then intensive efforts in restructuring their businesses are prevailing.

Japan's economic slowdown in the 1990s is not cyclical phenomenon, but one of Japan's worst and potentially long-lasting recessions in the post-war era. Japanese major firms are experiencing a substantial downward trend in profitability that has pushed returns on investment to their lowest levels in the postwar era. One cause of decline in profitability can be pointed out that Japanese managers failed to adapt to structural changes of Japanese economy since 1980s. Over the past decade, major firms have significantly reduced their dependence on bank financing by improving their cash flows. Table.2 shows that major manufacturing firms in Japan have improved debt-equity ratio substantially since 1980. As a consequence, major mechanism of corporate governance has gradually been eroding including the main bank system and the burden of debt. The core strategy of major corporations has

Table. 2 Debt-equity ratio of manufacturing firms in Germany, Japan, and the U.S.A
Five-years average (Percentage)

	1960-64	1965-69	1970-74	1975-79	1980-84	1985-89	1990-94	1995
Germany	139.48	152.2	196.94	226.08	238.41	248.25	259.79	n.a.
Japan	236.36	309.91	409.74	460.37	310.72	204.70	164.37	152.07
U.S.A	55.76	73.45	88.24	90.56	105.13	133.62	161.90	159.74

Sources: The Bank of Japan (1974, 1978, 1986, 1994, 1996, 1997), *Comparative Economic and Financial Statistics: Japan and Other Countries*.

Source Note: Statistisches Bundesamt, *Unternehmen und Arbeitsstätten*, The Bank of Japan, *Syuyokigyo Keieibunseki* (Business Analysis on Main Enterprises in Japan), The U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*.

been simply to increase recurring profits without giving proper consideration to the interests of shareholders. Thus, Japanese firms have continued to make investments that earn low returns, creating a situation in which extra assets with low return can easily build up under the strategy for long-term growth.

Growths in market share and continued employment clearly have been two of the dominant corporate goals in Japanese firms for most of the post-war period. A more difficult item to assess is what performance measures are typically used by Japanese firms. Annual profitability is considered an important financial goal, whether it is attaining an increase in annual profits or achieving certain level of profits to satisfy the requirement of main banks. Generating adequate cash flow to cover debt interests is also a high priority for Japanese managers. But Japanese managers do not appear to consider consistently their earning stream, cash flow, return on investment, or capital structure with a viewpoint of corporate value maximization.

The accumulation of their cash flow and fewer growing investment opportunities in major businesses has produced considerable financial slack for Japanese firms. Coupled with freer access to international capital markets, this has led to distancing of Japanese non-financial firms from their banks, widening of managerial discretion over the allocation of resources, and a drive to diversification. Freedom from product and capital market discipline is prompting Japanese managers to deploy cash in ways more likely to benefit themselves and other employees of the firm by maintaining jobs than to benefit shareholders. The problematic use of excess cash to speculate in capital markets and plunge into strategies of unrelated diversification is two major deployments ending in failure. In this regard, the remarkable success of Japanese corporations in the post-war period has revealed its weakness. The managerial entrenchment afforded by excess cash has given rise to the expression of latent self-interests that were contained during high-growth period. With their diminishing control over non-financial firms, the ability of banks to monitor and undertake corrective action is greatly reduced. It is weakening of vital control mechanism in the Japanese corporate governance system that can substitute for market for corporate control. Since Japanese major

firms are no longer subject to substantial control from main banks, the lack of an effective control mechanism would be detrimental to corporate value maximization in the long run. The stable cross-shareholding isolates firm's executives from the control of stock market, depriving managers of an effective mechanism for checking against the accumulation of extra assets. Stable cross-shareholding insulates managers from short-term oriented investors, thereby enabling managers to carry out long-term investments. Cross-shareholding, however, leads to a lack of close monitoring on management, leaving it up to managers to discipline themselves. Japanese managers could be entrenched to run firms as they want (Kester, 1991).

Japan has been managing to avoid the worst of the pain from the collapse of its bubble economy earlier this decade. Japan has two chronic problems. The first is excess capacity. In the 1980s Japanese firms raised cheap equity-linked debt to investment in the expectation that the economy would continue to grow at a fair rate. But rather than reduce capacity since then, firms borrowed to add more, encouraged by interest rates that were close to zero. Overseas markets soaked up some of the resulting output, thank to a falling yen. But demand from Asia, which takes more than 40% of exports from Japan, is decreasing. Japan would try to export more to the U.S. and Europe, but would require a further sharp and politically unacceptable fall in the yen. Two decades of heavy spending have left Japanese firms laden with debt. While Japan's fairly healthy manufacturing sector is abundant in cash, the rest of the economy, particularly construction and property companies, is hugely indebted. Firms have been able to meet the interest charges on this debt mainly because the Bank of Japan has kept short-term interest rates at the bottom levels since 1994. Easy borrowing is rapidly becoming a thing of the past. Banks have been tightening up their lax lending practices. So have domestic bond investors, to whom borrowers have turned in increasing numbers. Until lately, lenders assumed that large firms would not be allowed to fail, so they paid little attention to creditworthiness. This has changed dramatically. In November 1997, credit spreads; that is, the extra rate riskier borrowers must pay to sell their paper, shot up when

Table. 3 Bankruptcy of Japanese firms
Five-year average

	Number of Cases	Amount of Liabilities (100 million yen)	Average Amount of Liabilities (100 million yen)
1970-74	9,199	8,588	0.934
1975-79	15,725	23,650	1.540
1980-84	18,522	28,072	1.515
1985-89	13,260	26,845	2.025
1990-94	11,977	60,446	5.047
1995	14,834	81,228	5.475
1996	16,464	140,447	8.530

Sources: The Bank of Japan (1974, 1978, 1986, 1995), *Economic Statistics Annual*, The Bank of Japan (1997, 1998), *Economic Statistics Monthly*.

Source Note: Tokyo Shoko Research Ltd.

Yamaichi Securities, the Japan's fourth largest security firm, and Hokkaido Takushoku, a large city bank, went bankrupt. These bankruptcies had two important implications: that even large firms can fail, and that a main bank's implicit promise to rescue its major client firms is doubtful (*The Economist*, March 14 1997).

Table. 3 shows that number of bankruptcies and average amount of debt default have been growing since 1995. The Japanese corporate finance is now in trouble: excess capacity; too much debt; rising interest costs; falling demand; declining profits. More bankruptcies seem inevitable, as firms become unable to service their debts. Without growth, the only way to improve the profitability of Japanese is drastic restructuring to remove excess capacity and unrelated businesses.

3. Structural Changes in Japanese Financial System

3.1 Financial Deregulation

It is clear that the ongoing financial deregulation in Japan is having important effects on corporate financing practices. In some respects, financial liberalization has been taking place since the 1960s; however, the process accelerated dramatically in the 1980s. The revised Foreign Exchange and Foreign Trade Control Law in December 1980 removed major impediments to offshore financing by Japanese firms and improved access by foreigners to the Japanese financial market. Beginning around 1984, the liberalization process accelerated with a number of regulatory changes that were at least partially in response to external pressure for greater openness of Japanese financial markets.⁴ Since then a stream of regulatory changes have eliminated a variety of interest rate restrictions, allowed trading in new types of securities, relaxed controls on both domestic and foreign financial institutions, and generally promoted freer and more flexible financial markets. However, some regulations and practices, which cause distortions and result in unusual financing patterns, still remain. The elimination of one restrictive regulation results in a regulatory arbitrage opportunity with market participants using their increased freedom to profitably exploit another, still-existing regulation. This continues until the consequent pressure on the second restriction forces its elimination or modification. Consequently, the liberalization process tends to produce windows of opportunity permitting firms to earn additional profits by exploiting regulatory differences (Hodder and Tshoegl, 1992).

There have been several dramatic shifts in funding patterns, which can be traced to regulatory changes. It is also important to understand that the government's own financing needs have been an important influence on market regulations as well as the general character

4 Comprehensive survey for the financial regulation in Japan since 1984 is conducted by Osugi (1990).

of the domestic bond market. Indeed, government issues since the mid-1970s with corporate issues representing a relatively small fraction of the total market have dominated that market. For example, during the 1985-1989 period, straight corporate bond issues accounted for just 3% of total bond issues in Japan. Table 4 provides additional data on domestic bond issues by Japanese firms during 1960-1994. In recent years, other Japanese firms have essentially forsaken the domestic straight debt market in favor of other funding sources, including offshore bond issues. This striking aversion to domestic issues has produced enormous pressure for regulatory and procedural changes.

To a large extent, the underlying problems for domestic corporate bond issues have to do with who determines issue terms and collateral requirements. It was only after 1979, that Japanese firms were allowed to issue unsecured bonds for the first time since the 1930s. Initially, only two firms were eligible to make unsecured issues. This situation continued until January 1983, when the restrictions on convertible bonds were further relaxed so that some 30 firms become eligible to issue such bonds without collateral. Subsequently, restrictions for

Table 4 Direct financing of public firms in Japan (Billion Yen)

	1960-64	1965-69	1970-74	1975-79	1980-84	1985-89	1990-94
Stock Issues							
No. of Cases	3,014	1,366	2,342	1,623	1,227	2,106	1,564
Amounts	2,673	1,352	3,743	4,463	6,173	18,376	6,778
Straight Bonds Domestic							
No. of Cases	1,689	2,172	1,304	884	427	171	375
Amounts	953	2,187	3,598	6,152	4,725	3,478	13,640
Overseas							
No. of Cases	8	8	10	155	240	455	827
Amounts	17	109	55	988	1,848	5,785	12,529
Convertible Bonds Domestic							
No. of Cases	3	3	237	153	272	1,227	464
Amounts	1	15	1,106	1,246	2,951	23,360	8,648
Overseas							
No. of Cases	15	9	9	230	575	529	187
Amounts	61	52	46	1,456	4,364	5,311	2,020
Warrants Bonds Domestic							
No. of Cases	n.a.	n.a.	n.a.	n.a.	16	26	35
Amounts	n.a.	n.a.	n.a.	n.a.	87	544	1,306
Overseas							
No. of Cases	n.a.	n.a.	n.a.	n.a.	81	983	792
Amounts	n.a.	n.a.	n.a.	n.a.	678	18,934	11,279
Sub-Total of Bonds Domestic							
No. of Cases	1,692	2,175	1,541	1,037	715	1,424	874
Amounts	954	2,202	4,704	7,397	7,763	27,382	23,595
Overseas							
No. of Cases	23	17	19	385	896	1,967	1,806
Amounts	78	160	101	2,444	6,890	30,030	25,830
Grand Total							
No. of Cases	4,729	3,558	3,902	3,045	2,838	5,497	4,244
Amounts	3,704	3,715	8,548	14,303	20,826	75,788	56,203

Sources: Tokyo Stock Exchange (1996), *Annual Securities Statistics*.

both convertibles and straight bonds were relaxed in stage until several hundred firms were eligible for unsecured issues as of November 1988. The official logic for a collateral requirement has been the protection of investors. However, this restriction has also made bond issuance in Japan relatively unattractive. Not only did corporate issuers have to pay management fees and underwriting commissions, but they also had to compensate a trustee for a variety of services, which substantially increased issue costs. Firms also have to obtain approval on the terms and timing of issues from a committee dominated by a group of large banks. This procedure is cumbersome and lacks flexibility regarding issue terms. This bond issuing procedure endowed the Japanese banks with considerable control over non-financial firms' access to debt markets. Under the main bank lending system, such control was important for dealing with highly levered clients. In recent years, financially sound firms have naturally tended to view this process as an expensive nuisance. Consequently, offshore issues have been attractive as a way around cumbersome and expensive procedures in the domestic market (Hodder and Tshoegl, 1992).

Offshore bond issues by Japanese firms have been growing rapidly over the last decade. It was not until the early 1980s and Japanese participation no longer required permission of Ministry of Finance that the offshore market began to really take off. Total corporate issues during the 1985-1994 period were greater in the offshore market than domestically. The fact that a very large fraction of offshore issues would up in Japanese investors' portfolios provides a strong indication that the domestic market was inefficient. In the domestic market, convertible bonds have dominated straight issues since 1983. There seem to be several reasons for this. First, collateral requirements have been relaxed more rapidly on convertibles-resulting in lower effective issue costs for more firms. Second, issuing terms on straight corporate debts have been tied to government bond yields in ways that made many corporate issues relatively unattractive for initial purchasers. In contrast, terms on convertibles were more easily adjusted to make them attractive for purchasers. Third, the lower coupon rate on a convertible coupled with the generally low dividend yield on shares after conversion implies a lower cash flow drain relative to issuing straight debt. Fourth, historically, a firm could not issue bonds in excess of its paid in capital plus reserves. The June 1990 revision to the Commercial Code roughly doubled the limit; but even this relaxed constraint can be binding for a rapidly growing firm needing external funds. A convertible issue provided immediate funding but, as it was converted into shares, enhanced a firm's ability to issue additional bonds in the future.⁵ The main concern for corporate bond issues during the last

5 Horiuchi (1995b) shows the supporting evidences that the active issue of convertibles by a firm tends to increase its managerial perquisites, thereby deteriorating the firms' performance from their shareholders' interests. He argues that Japanese corporate governance which give large latitude to managers did not lead to serious losses for the other stakeholders, mainly because the remarkable growth of firms covered up the potential conflict of interests among the stakeholders. When the economy is faced to the structural changes, however, large discretionary power of managers may not be effective to respond to the change.

decade has been the shift to issuing overseas. This is clearly due to reduced regulatory constraints on access to offshore markets where there is greater flexibility and lower costs. The rise of the offshore primary market has, however, seriously undermined the domestic primary market. Consequently, efforts are currently underway to reform domestic bond issuance procedures and make them more competitive with offshore markets.⁶ This will presumably require more flexibility with regard to pricing and issue terms as well as largely eliminating the additional costs imposed by the commissioned bank system. Otherwise the dominance of the offshore markets is likely to continue (Hodder and Tshoegl, 1992).

3.2 Financial Reforms

The Japanese financial system would have its own “Big Bang” to free it from heavy regulation and segmentation. The reforms in the Japanese financial system are intended to shrink the banking system and its ability to lend recklessly. This should increase competition and thus welfare for savers. The most compelling reason for deregulation is a fundamental flaw in the Japanese financial system: its inefficiency at allocating money. Despite recent deregulation, the system remains hugely biased against savers and in favor of borrowers and intermediaries such as banks. Since savers have little choice over where to invest their money, most of them put it on deposit at the bank or the post office. Deposit-takers, on the other hand, until recently had little reason to worry about the credit risk seriously. Lending has been backed by collateral and if that was not enough, a firm’s main bank would bail it out. Ultimately the government guaranteed the banks. And cross-shareholdings among firms with common interests made it hard for outsider shareholders to apply pressure on banks to lend more profitably. While the system worked reasonably well while the economy was growing and money was scarce, but now that the economy has got mature and money more plentiful, the system has become counterproductive (*The Economist*, June 28 1997).

The most urgent need is for great flexibility in the Japanese financial system. Only specific institutions allowed by the government offered certain financial products and services. Banks cannot underwrite or deal in shares, but only they can offer foreign-exchange services; securities firms cannot offer banking services, but only they can directly sell investment trusts. Neither is allowed to sell or underwrite insurance. Commissions on all but the largest equity trades are still fixed. The main obstacle in the way of more flexibility has been the Japanese finance ministry. The ministry’s strong control on new product also makes for some odd inconsistencies. Japan’s Big Bang is supposed to change all this. In response to the

6 Eligibility requirements of issuing bonds were changed to abolish the minimum net wealth and introduce rating in 1990. Since the relative importance of corporate bonds issued by Japanese firms overseas has increased, the Ministry of Finance introduced the regulation to forbid securities companies’ subscription sale of Eurobonds issued by Japanese firms to domestic investors in 1993 in order to recover the domestic bond market.

ministry's mishandling of the banking crisis, a decision has already been made to move supervision of banks and securities firms to a new independent body, which will start to work in July 1998. The reforms in the Japanese financial system will have profound consequences for the way firms are run. Although the Japanese corporate finance reflects the inadequate rewards that capital has attracted, firms will now have to start counting the true cost of capital. Deprived of cheap funds from the banks, many of the weaker ones would be forced out of business (*The Economist*, June 28 1997).

The shifting patterns of Japanese corporate finance and the competitive pressures on Japanese financial institutions to increase their return on assets is collectively resulting in a gradual separating of claims held against non-financial firms. Rather than being key shareholders, lead lenders, and primary vendors of financial services in long-term relationships with clients, Japanese banks are now being reduced to the position of minority shareholders that must compete fiercely for a client's business on a transaction-by-transaction basis.⁷ For their part, Japanese banks, lately under pressure to meet BIS (Bank for International Settlements) capital requirements, are becoming more sensitive to performance on their equity investments.⁸ Japanese banks are now forced to liquidate some of their equity holdings to maintain adequate cash balances.

More generally, the effects of financial deregulation over the last decades have been enormous. The process of change will continue, both because of continuing deregulation and because some financial patterns change sluggishly. Financial deregulation tends to undermine the main bank system because major non-financial firms have greater access to market debt as well as borrowing from foreign financial institutions. This makes it potentially much more difficult for the main bank to monitor and control those firms' behaviors. In consequence, the main bank system could continue to be viable and advantageous for small-and-medium-sized firms, which need strong bank supports.⁹ As Table. 5 shows, there are significant differences in capital structure and external financing between large and small-and-medium size firms in Japan.¹⁰ Small and medium firms depend heavily on borrowing from banks. As firms reduce

7 Horiuchi (1995a) points out that bank regulation in Japan provided banks with a considerable amount of rent that could be utilized when regulatory authority had a chance to rescue troubled banks. Furthermore, competition-restricting regulations kept the franchise value in the banking at a high level, giving banks incentives not to engage in activities associate with moral hazard that are likely to prevail under extensive nets.

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9 Petersen and Rajan (1994) find that borrowing from a single lender increases the availability of credit for small firms. For smaller firms without publicly traded common stock, the benefit of bank monitoring are likely to be large relative to the potential adverse incentive effects of information monopoly by a single bank.

10 Horiuch (1995a) describes the evolution of Japanese bond market from the early postwar period to the late 1980s, particularly explaining the process of relaxing eligibility of bond issues and its distorted nature. The process ■

Table. 5 Capital structure by size of manufacturing firms in Japan (Percentage)

	1970	1975	1980	1985	1990	1995	1997
Large Firms							
Accounts Payable	20.4	20.4	23.1	21.5	17.1	14.4	15.2
Bank Loans	35.1	37.1	31.9	26.2	15.3	17.5	15.7
Bonds	3.6	2.8	3.5	4.8	11.2	10.3	9.2
Stockholder's Equity	22.8	18.4	20.8	28.2	36.7	40.2	41.5
Debt-Equity Ratio	338.6	443.5	380.8	254.6	167.0	148.8	141.0
Small and Medium Firms							
Accounts Payable	32.9	30.3	34.2	28.7	24.4	19.2	19.1
Bank Loans	29.7	31.7	28.9	35.9	36.9	40.4	40.2
Bonds	0.1	0.0	0.0	0.0	0.0	0.2	0.3
Stockholder's Equity	20.4	21.0	20.5	20.2	24.0	25.4	25.9
Debt-Equity Ratio	390.2	376.2	387.8	395.0	316.7	293.7	286.1

Source: Ministry of Finance (1970, 1975, 1980, 1985, 1990, 1995, 1997), *Houjinkigyō Toukei Nenpō* (Annual Statistics of Corporations).

Note: Size of firms is based on their stocks. Large firms have more than 1 billion yen value of stocks, and small and medium firms have between 10 and 49 million yen value of stocks.

their dependence on bank financing, they might lose some of the benefits of relationship-based borrowing. They may have a less ready source of financing, and creditors may be less willing to help during the time of financial difficulty.

3.3 Bad Loan Problems

In the late 1980s, deregulation of interest rates, which raised the cost of funds to banks, caused the change of bank portfolio. Coping with decreasing operating margin, Japanese banks introduced various measures to reduce operating costs and started to compete for deposits and loans more eagerly than ever. Many banks loosed loan examination cutting the staff in the department to reduce costs and accelerate the loan making. Then the bank increased easy collateralized loans to investment in real estates. Prices of assets have been stagnating since the early 1990s in Japan.

This stagnation of asset prices caused the large amount of non-performing loans to investments in real estates. Non-performing loans include four kinds of loans: loans to bankruptcy; loans overdue in six months; loans with reduced interest rates; and other loans used for rescue. According to the report of Ministry of Finance in April 1995, the amount of non-performing loans was 23.8 trillion yen in major banks. Large amount of non-

■ of liberalizing the domestic bond market was distorted during the 1980s in the sense that only well-established major firms were allowed to issue convertible and other equity-related bonds. Small-sized and relatively newly established firms are excluded from domestic bond market during the recent gradual process of liberalization.

performing loans has deteriorated banks' equity and major banks unable to meet BIS capital requirement. Japanese banks issued the subordinated debts to recover their capital-assets ratio. Non-performing loans to real estates caused the serious problems with banks' own balance sheets.

The size of the bad-loan problem has been growing since then. Japanese economy has stalled and bankruptcies, already at record levels, are increasing. Furthermore, there are substantial amounts of loans by Japanese banks to companies in Asian countries. The latest official figure for the banks' bad loans, 77 trillion yen (600 billion dollar), may still be an underestimate, and the gap in life-insurance companies' accounts may be 60 trillion-yen more. The government announced it was ready to spend 30 trillion yen to restore the banking system to be healthy. The government intended to obtain funds mainly by borrowing from the government-run postal saving system, and to use them in two different ways. About ¥17 trillion would go to pay off depositors in failed banks. The rest, about ¥13 trillion, would buy preferred stock and subordinated debt in individual banks. This injection of capital would bolster the banks so that they can lend again to reduce the purported credit crunch on which many Japanese blame a sluggish economy.

While paying off depositors is unavoidable, the Japanese government has long promised its citizens that all of their bank deposits are insured. It would not force the banks to write off and sell assets that have lost value. This would leave investors, depositors and foreign banks with only the most ambiguous view of any institution's true financial conditions. Recapitalization will also interfere with the long-overdue shrinkage of the financial system, Japan lags well behind the U.S. in restructuring its banking sector. Only handful of banks have merged or gone out of business. The survival of so many banks has made it hard for the more efficient ones to earn a decent return. The onset of financial deregulation will only add to these competitive pressures. The government needs to allow weak institutions to fail rather than helping them survive.

Although the finance ministry assured that they have nearly solved their bad loan problems, many of Japanese banks are still in trouble with bad loans. By the end of the financial year 1997, banks had written off, reserved against some ¥25.4 trillion of bad loans, with about ¥15 trillion still to go and at a time when interest rates are at a record low. Japanese government had continued to protect even the weakest banks well into the 1990s. Until recent failure, no Japanese bank had gone burst since the Second World War. None of the top 20 banks had actually gone bust. Although the government claimed that none would be allowed to at least one, Hokkaido-Takushoku bank has been shut down (*The Economist*, June 28 1997).

Japan is in the grip of a credit crunch. Strapped for capital, most Japanese banks are loath to lend to any firms with the slightest trace of risk, which means mainly small domestically oriented ones. The government has rushed forward with solutions in credit

crunch. The government's source of funds will allow the public institutions, which it finances to lend an extra 12 trillion-yen to small firms. The government is also proposing to strengthen banks to buying preference stocks and subordinated debt and by approving some new accounting method, such as not deducting unrealized losses on equities from banks' capital. In addition, the prompt corrective action program, which would automatically penalize banks, which capital falls below a certain level has been deferred for a year (*The Economist*, January 24 1998).

The average spread between the rate at which banks borrow and the rate at which they lend has fallen, suggesting that banks are not deliberately deterring borrowers by raising the price of credit. That does not mean that funds are easy to come by. Banks are favoring larger, creditworthier borrowers, and becoming more careful about lending to the rest. This reflects a great awareness of credit risk. Historically, credit risk has never been much a serious concern; Japanese banks have tended to lend to anyone who wanted money. This was possible because loans were backed by collateral and because a borrower's main bank could be counted on to bail it out before it defaulted. Now that the economy has slowed, the value of collateral is dubious and main banks no longer have the funds enough to bail out their clients, credit risk matters. Banks are anxious about lending to firms that are unlikely to repay.¹¹

4. Reorientation of Financial Institutions

The liberalization of Japanese corporate finance dramatically changed the business of major banks in Japan. As shown in Table. 6, the rapid growth and low profitability of Japanese banks has led to concern about their capital adequacy. Japanese banks are watching their financial performance carefully. In contrast to the low-margin, volume-oriented banking practices, Japanese banks are now restraining growth and carefully tracking the profitability of their relationships with clients. Increasingly, banks according to the profitability of the relationship with them are ranking clients. Just as industrial clients are now short listing the banks with which they do business, banks are now beginning to identify and terminate relationships with clients that do not provide them with sufficiently attractive rates of return (Kester, 1991).

Major patterns of corporate finance in Japan have evolved around the main bank relationship. Those are changing for large firms. Financial liberalization in Japan has created difficulties for the main bank system. Nevertheless, that system seems likely to adapt and continue to provide valuable support for rapidly growing firms. Exactly how this will come

¹¹ Kang and Stulz (1997) show that bank-dependence affects firms adversely during the 1990 and 1993 period in Japan when bank balance sheets were weak. It suggests that a firm can be constrained from investing in valuable projects when banks do not have sound assets enough to support a firm.

Table.6 Profit performances of commercial banks in Germany, Japan, and the U.S.A
Five-years average (Percentage)

Gross Profit Margin	Germany	Japan	U.S.A.
1980-84	2.24	1.75	1.99
1985-89	2.21	1.35	3.47
1990-94	2.10	1.23	3.35
1995	1.95	1.51	3.42
Pre-tax Return on Assets	Germany	Japan	U.S.A.
1980-84	0.54	0.53	0.90
1985-89	0.70	0.58	0.78
1990-94	0.54	0.26	1.10
1995	0.73	-0.16	1.80
Return on Equity	Germany	Japan	U.S.A.
1980-84	14.06	14.43	15.34
1985-89	12.11	16.41	11.13
1990-94	10.49	6.11	16.04
1995	9.59	-3.35	22.49
Equity to Assets	Germany	Japan	U.S.A.
1980-84	5.89	3.69	6.19
1985-89	6.84	3.64	6.50
1990-94	8.15	4.41	7.20
1995	7.66	4.91	8.01

Sources: The Bank of Japan (1974, 1978, 1986, 1994, 1996, 1997), *Comparative Economic and Financial Statistics: Japan and Other Countries*. Source Note: Statistisches Bundesamt, *Unternehmen und Arbeitsstätten*, The Bank of Japan, *Syuyokigyo Keieibunseki* (Business Analysis on Main Enterprises in Japan), The U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*.

about is not yet clear; however, there are substantial incentives for preserving the system's advantages. More generally, the effects of financial liberalization over the last decades have been enormous. The process of change will continue, both because of continuing liberalization and because some financial patterns change sluggishly. Increasing financial sophistication and a consequence ability to exploit opportunities arising from regulatory changes will also continue to alter corporate financial practices for some time to come. It is reasonable to expect that the role of offshore financing will not decline. Untangling the web of domestic regulations, traditional practices, and conflicting interests of various financial constituencies will take time. Financial liberalization tends to undermine the main bank system because major non-financial firms have greater access to market debt as well as borrowing from foreign financial institutions. This makes it potentially much more difficult for the main bank to monitor and control those firms' behaviors (Hodder and Tshoegl, 1992).

Japanese financial institutions may hold equity and debt at the same time. Besides strengthening the long-term relationship between the financial institutions and the firm, the simultaneous holding of debt and equity clearly reduces the scope for conflict between

shareholders and debtholders over the choice of policies, particularly in situations of financial distress. The significance of the main bank system is the close information-sharing relationship that exists between the bank and the firm. It is possible to view the main bank system as functioning as a substitute for the kind of screening and monitoring institutions that are prevalent in other capital markets such as bond and credit-rating institutions and security analysis agencies. The close association that the main bank has with the firm means that the bank is able to obtain inside access to the firm and its management, which is not readily available to the external capital market. The main bank system can be also characterized in terms of banks themselves delegating the monitoring of a particular firm to one particular bank: the main bank. The bank delegated to be monitoring is not only the bank with the largest loan share but also holds a significant stake in the firm as a shareholder. Having a sufficient large loan share may be the way in which the bank ensures that it obtains an adequate return on its monitoring outlays. In this regard, it is worth noting the free-rider problem may be mitigated somewhat by virtue of the fact that non-monitoring banks will not be able to imitate the loan portfolio of the main bank in size. It can be argued that this function of the main bank provides an important substitute mechanism for what in effect is inactive market for corporate control in Japan. Main bank intervention can take a number of forms, ranging on the one hand from cases where the main bank stipulates certain measures that requires the firm to take in exchange for the bank's support during a period of financial difficulty to cases where the bank sends officers to take over the management and carry out the reorganization of a firm that is on the verge of bankruptcy on the other. As a consequence, one can suggest that the relationship-based corporate governance substitutes for the more market-based in Japanese firms.

Financial deregulation in Japan has created difficulties for the main bank system. That system seems likely to adapt and continue to provide supports for small and medium firms. The process of change will continue because of continuing deregulation in capital market. Increasing financial sophistication and capability to exploit opportunities arising from regulatory changes will also continue to alter corporate financial practices. Financial deregulation tends to undermine the main bank system because major non-financial firms have greater access to arm's length debt as well as borrowing from foreign financial institutions. This makes it potentially much more difficult for the main bank to monitor and control those firms. Consequently, the main bank system could continue to be viable and advantageous for firms which is limited to access to alternative debt sources and need strong bank support. The financing practice of large Japanese firms is beginning to resemble the more arms-length financing patterns observed in the U.S. The shift to the arms-length financing system may emerge, although it will certainly take time. The infrastructure in financial market including rating agencies, disclosure rules, regulation and enforcement of insider trading are now being developed in Japan. Even though the deregulation made it possible for major firms to arm's

length financing, some firms still maintain main bank relationships. The firms seeking the benefits of main bank relationships will continue to have close ties with banks.

5. Effects on Japanese Corporate Governance

Drawbacks in Japanese corporate governance may eventually give rise to sufficiently large abuses of non-controlling shareholders interests. Economic incentives are beginning to change, in large measure because of emerging weaknesses in the traditional Japanese corporate governance system. Ironically, part of the cause of that weakness is due to an abundance of cash. The combined effects of sluggish economic growth and considerable success in product markets around the world have been the buildup of free cash flow. With this have come profound changes in the financing patterns of large corporations. New investment by Japanese corporations has been growing less quickly and the funds have been raised from securities markets, not from banks. This has meant a shift in the balance of power among corporate stakeholders away from financial intermediaries, the traditional primary suppliers of capital, and into the hands of corporate managers.

Financial independence has further the deployment of cash in ways that are disputable. Cash was expended in diversification of unrelated businesses. The rationale for doing so was to escape the limitations and intensifying rivalry of mature core businesses and, in particular, to keep personnel continuously employed, thereby honoring implicit promises of lifetime employment. However well intentioned these efforts might be, there was little reason to be optimistic about their prospects for success. Many of the new businesses being pursued had loose connections with firms' present capabilities. To the extent that these capabilities were exceeded, under-performance resulted and capital has been wasted. No longer mainly dependent on bank credit to fund investment programs, Japanese firms make less substantive disclosures of information about past performance and future plans to their main banks (Kester, 1992).

The primary objective of Japanese firms has been to sustain growth. For many of these firms, growth is a useful proxy objective for the maximization of the value of the firm. Given the wartime destruction of much of Japanese industrial capital and substantial economies of scale in many basic industries, there was a strong fundamental profit incentive underlying strategy oriented toward high rate of investment and high market shares. However, the bias of Japanese firms toward growth extended well beyond the period of reconstruction. This suggests a wider role for growth than as a proxy for value maximization. It might be a means by which management might entrench itself. Managers might proactively seek to secure their positions in the firm by investing heavily in those assets that they have a special expertise in managing, even to the point of expanding beyond the point justified by corporate value maximization considerations. It can be also argued that growth and managerial

Table. 7 Profitability of manufacturing firms in Germany, Japan, and the United States
Five-year average (Percentage)

Return on Assets	Germany	Japan	U.S.A.
1960-64	3.00	3.19	6.28
1965-69	3.07	3.31	6.94
1970-74	1.87	2.60	5.92
1975-79	1.80	1.39	7.21
1980-84	0.97	2.16	5.68
1985-89	3.87	2.37	5.24
1990-94	2.66	1.65	3.24
1995	n.a.	1.73	6.08
Return on Sales	Germany	Japan	U.S.A.
1970-74	1.49	2.94	4.53
1975-79	1.29	1.37	5.20
1980-84	0.65	1.92	4.34
1985-89	2.54	2.24	4.66
1990-94	2.23	1.70	3.09
1995	n.a.	1.89	5.72

Sources: The Bank of Japan (1974, 1978, 1986, 1994, 1996, 1997), *Comparative Economic and Financial Statistics: Japan and Other Countries*.

Source Note: Statistisches Bundesamt, *Unternehmen und Arbeitsstätten*, The Bank of Japan, *Syuyokigyo Keieibunseki* (Business Analysis on Main Enterprises in Japan), The U.S. Department of Commerce, *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*.

Note: Book values of assets in Japanese firms differ greatly from current values.

entrenchment are desired because they support the continuity of valuable long-term relationships. Growth in particular may forestall potentially costly stakeholder disputes while maladjusted contracts are realigned to changed economic circumstances. The managerial discretion afforded by excess cash has given rise to the expression of latent self-interests that were successfully contained during Japan's high-growth period. Today, Japanese stakeholders appear to be gaining at the expense of others without any immediate prospects of re-contracting. With their diminished control over the supply of capital, and being largely owned by their industrial clients, the ability of lending-shareholding financial institutions to undertake corrective action has been greatly reduced (Jensen, 1989; Kester, 1991).

Return on investments (hereafter, ROI) of Japanese firms is considerably lower than those of the U.S. firms. As shown in Table. 7 returns on assets have been consistently higher in the United States than in Japan since 1960.¹² It suggests that Japanese firms are much less

12 Brown, Soybel, and Stinckney (1994) compare the operating performance of Japanese and U.S. firms using financial statement data restated to a similar reporting basis during the period of 1985-88. The result show that neither country appears to generate systematically higher profit margin, but that U.S. firms have higher turnover assets and therefore higher rates of return on assets. Although financial statement ratios of Japanese and U.S. ■

profitable than their U.S. counterparts. The relatively low returns of Japanese firms have been attributed to differences in accounting practices, corporate tax rates, and exchange rates, capital structure, and cost of capital. Even after adjusting for differences in tax rates, accounting practices, and debt levels between the two countries, Japanese firms in most industries have consistently lower operating margin and return on assets than equivalent U.S. firms. The operating margin provides the most fundamental measure of profitability since taxes, interest earnings and expenses, and extraordinary gains and losses do not affect it. Japanese firms appear to be consistently less profitable than their U.S. counterparts.

U.S. firms rely heavily on cost-of-capital calculations to guide investment decisions, and those firms that do not earn a sufficient return on capital to satisfy the investors will fail. But for Japanese firms, investment decisions are not made on a discounted cash flow basis. Japanese managers usually view the cost of equity as the firm's expense to serve this source of capital, that is, dividends. With this view of cost-of-capital, it is easy to see why the market price of their stock has little impact on investment decisions of Japanese firms. Rather, barring market-imposed capital constraints, Japanese managers' investment decisions are guided by what they believe the cost of capital by what is quite different from prevalent financial theories in the U.S. Japanese managers care about borrowing costs and they push their banks and securities firms to get the best terms. The most important criterion of Japanese firms is long-term goal of maintaining and enhancing their positions in the Japanese industry. Serious considerations of ROI and capital costs thus play only a minor role in investment decisions of Japanese firms.

Major changes are now under way. Investors taking a new interest in performance have started rewarding firms with higher ROI. Not many executives of Japanese firms care about their firm's share price. But firms, which have started to set their goal in increasing their ROI, have been gradually prevailing.¹³ But at least it has made a start, taking its cue from signs that Japanese investors are beginning to care more seriously about corporate governance. Traditionally, the system has been that main banks made sure management of client firms with monitoring closely. In return for providing funds, and a rescue policy against financial trouble, main banks wielded a great deal of influence over a firm's management. That system worked fairly well while corporate funds was scarce, and the banks were correspondingly enough resources. But as money became easier, the system started to break down. The bubble

■ firms are not directly comparable because of the use of different accounting principles, their results suggest that alternative accounting principles do not seriously distort the comparability of financial statement data in both countries. Return on assets of U.S. firms are significantly higher than those of the Japanese for the year 1985 to 1988 do, primarily because turnover rates of assets are higher for U.S. firms.

13 After a change in the law in 1994, and a change in their tax treatment the following year that made it easier for firms to buy back their own shares, 14 firms have said that they will take advantage of the new rules. Toyota repurchased ¥100 billion-worth of shares last year and will do the same again in 1998.

and its aftermath accelerated its demise. Firms flush with cash no longer needed the insurance that banks used to provide. Those without money no longer believed that the banks could provide it. The banks, mired in bad loans, lacked the money to rescue ailing firms. Moreover, their moral high ground has been undermined by the dismal state of their own business. Then, who are supposed to replace their places, if the banks are no longer capable of ensuring that managers can act in shareholders' interests? While the stock market provides a mechanism for corporate control in the U.S., it has not been in a position to play the same role in Japan. Since most of firms' shares are typically held in closely related firms, hostile takeovers have been almost impossible (*The Economist*, June 28 1997).

Two recent changes have given shareholders opportunity of more voice. The first was a revision to Japan's Commercial Code in 1993, making it easier and cheaper to sue a firm. Previously, the legal cost to the plaintiff was in proportion to the amount claimed, making most suits prohibitively expensive. Now the flat-rate fee to the plaintiff is a mere 8,300 yen. The effect had been to remove the barrier to shareholder suits. As a result, such suits have often been brought against executives. The second change is that giving stock option to employees has become much easier. An option to buy their firm's shares at a fixed price gives directors an incentive to push up the share price, bringing the interests of management and shareholders more closely into line. Awarding stock options was possible only in a roundabout way because firms were not allowed to hold their own shares directly. A few firms got round this restriction through a technical fix, but now the law has been changed there is no longer any need for that. Toyota and other firms have already announced that they will grant stock options to employees, although there are still questions over their tax treatment.

Japanese corporate governance has been an arrangement that arguably reduces the agency costs associated with outside equity and debt financing. The differences may help explain how, from the perspective of the U.S., Japanese firms can run in an environment in which corporate control mechanisms appear very weak. Viewed together, these patterns seem to suggest that Japanese managers can operate virtually independent of the interests of their shareholders. The agency problem is addressed in Japan by placing representatives of significant share-owning stakeholders on the board, and by relying on main banks as delegated monitors for other major lender-owners. Importantly, the business relationship, itself, also serves as a kind of monitoring system for share-owning stakeholders in Japan. Such monitoring by large shareholders does not completely resolve agency problems of the separation between ownership and management. Indeed, from the perspective of Japanese individual or non-group-affiliated institutional shareholders without a representative on the board, agency problems may actually be serious in Japan.

Excess capacity in mature businesses, excess employment, excess diversification, and speculative uses of excess cash has been problematic in Japan. While possibly recognizing

deficiencies in the value maximizing behavior of the corporations in which they invest, non-controlling Japanese shareholders may, nevertheless, acquiesce to such behavior so long as they perceive the advantages of sustaining long-term business relationships that support their investment to be worth more than the foregone incremental value. In other words, they may tolerate agency costs associated with the separation of ownership from management if the offsetting gain from bearing such cost is substantially reduced transaction costs.

The goals that guide Japanese managers are adequate return, secure employment, and increased corporate capabilities. Within the context of the Japanese stakeholders, good management is measured not so much by its ability to maximize the welfare of any one isolated stakeholder as by its ability to maximize the aggregate size of the welfare. Certainly the training, promotion, and reward systems for Japanese managers are aligned with these objectives. Other corporate stakeholders' preferences do indeed become part of Japanese managers' preferences. Japanese corporate system has worked well in the most of the post-war period. But the balance of power in Japanese corporate system is changing. As equity financing replace bank financing as the primary source of capital in Japanese major firms, the power of main banks and the government to direct corporate behavior through funds control are waning. As the economy continues to be sluggish, the effective role of the relationship-based governance system is under serious consideration. As a result, the potential power of stock market is likely to be rising.

6. Conclusions

Corporate financial patterns and practices in Japan appear quite different in comparison with those in other countries. In large part, these differences are due to differing institutional and regulatory environments. Then, a peculiar financing pattern turns out to be the rational economic response to a constraining regulation. The key to understanding such patterns can be identifying the underlying structure of constraints.

Japanese financial institutions may hold equity and debt at the same time. Besides strengthening the long-term relationship between the financial institutions and the firm, the simultaneous holding of debt and equity clearly reduces the scope for conflict between stockholders and debtholders over the choice of policies, particularly in situations of financial distress. The significance of the main bank system is the close information-sharing relationship that exists between the bank and the firm. It can be argued that this function of the main bank provides an important substitute mechanism for what in effect is inactive market for corporate control in Japan. As a consequence, one can suggest that the relationship-based corporate governance substitutes for the more market-based in Japanese firms.

Much of corporate finance in Japan has evolved around the main bank relationship. This

is changing for large firms. Financial liberalization in Japan has created difficulties for the main bank system. Nevertheless, that system seems likely to adapt and continue to provide valuable support for rapidly growing firms. The process of change will continue because of continuing liberalization in capital market. Increasing financial sophistication and capability to exploit opportunities arising from regulatory changes will also continue to alter corporate financial practices. Financial liberalization tends to undermine the main bank system because major non-financial firms have greater access to arm's length debt as well as borrowing from foreign financial institutions. This makes it potentially much more difficult for the main bank to monitor and control those firms. Consequently the main bank system could continue to be viable and advantageous for firms which is limited to access to alternative debt sources and need strong bank support. The financing patterns of large Japanese firms are beginning to resemble the more arms-length financing patterns. The shift to the arms-length financing system will certainly take time.

Japan has been managing to avoid the worst of the pain from the collapse of its bubble economy earlier this decade. In the late 1980s Japanese firms raised cheap equity-linked debt to investment in the expectation that the economy would continue to grow at a fair rate. Two decades of heavy spending have left Japanese firms laden with debt. While Japan's fairly healthy manufacturing sector is abundant in cash, the rest of the economy, particularly construction and property companies, is heavily indebted. Firms have been able to meet the interest charges on this debt mainly because the Bank of Japan has, for the past two-and-a-half years, kept short-term interest rates at the bottom levels. Japanese government has continued to protect even the weakest banks into the mid-1990s. Until recent failure, no Japanese bank had gone burst since the Second World War. Lending has been collateralized by real estates, the price of which always seemed to go up until the burst of the bubble. Japanese firms did not seriously consider profitability of firms. Credit risk was not a problem: fast economic growth would in due course take care of it. If a firm ran into trouble, its main bank would rescue it. But such an implicit guarantee created moral hazard of managers in banks and firms.

Major shifts in the Japanese corporate governance are under way. The government bureaucrats' ability to manage the Japanese economy through traditional methods has been severely eroded by the financial deregulation. Large Japanese firms can no longer be pressured to do whatever banks and government may ask. The financial liberalization in the Japanese capital market led to a period of excessive investments by many Japanese firms. The significant changes in the Japanese financial systems are now in consideration: new standards of accounting and financial disclosure; heightened capital adequacy requirements for banks, and reforms in financial system.

The Japanese corporate system has worked well in the most of the post-war period. But the balance of power in the Japanese corporate system is changing. As equity financing

replace bank financing as the primary source of capital in Japanese major firms, the power of main banks and the government to direct corporate behavior through funds control are waning. As the economy continues to be sluggish, the effective role of the relationship-based governance system is under serious consideration. As a consequence, the market-based governance can be likely more effective. There is some evidence that these systems of corporate governance are converging. Japanese corporate governance is moving toward the U.S. Yet these changes are slow. As in Japan, these changes do not appear significant so much. Strengthening broad participation in corporate governance and extensive disclosure of corporate management will help ensure both a strong and open investment market and prompt and meaningful managerial accountability for consistent profitability and growth.

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A DYNAMIC MODEL OF EXPORT ADJUSTMENT WITH DEEP-POCKET EFFECT: EVIDENCE FROM JAPANESE KEIRETSU FIRMS

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Abstract

This paper constructs a dynamic optimization model, predicting that expected future export expansion costs, rather than current export reduction costs, retard a firm's export adjustments during currency appreciation. As export expansion costs tend to increase with the firm's dependence on export, the export dependence of firms will diverge as the exchange rate appreciates. On the other hand, the deep-pocket effect leads to the convergence of export dependence since firms heavily dependent on exports are likely to face binding financial constraint. By splitting 309 Japanese firms depending on their affiliation with Keiretsu groups, this paper finds evidence consistent with theoretical predictions.

JEL Classification: L11; L16; F14

Keywords: adjustment costs; export dependence; liquidity constraint; Keiretsu.

1. Introduction

The exchange rate appreciation forces exporters to reduce their exports. The speed of adjustment, however, shows a remarkable diversity across firms even within the same

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industry. This paper constructs a dynamic optimization model which predicts more persistent exports, under a given level of currency appreciation, for firms with higher expected costs of future export expansion, rather than those with higher current costs of export reduction. If a firm's export expansion costs tend to increase with her export dependence, this expectation effect suggests that export dependence diverges across firms during a currency appreciation phase. On the other hand, the deep-pocket/long-purse effect, which will be formalized by the liquidity constraint under capital market imperfections, forces firms heavily depending on exports to reduce their exports more when the exchange rate appreciates. This paper constructs a theoretical model and empirically investigates the firm-level data of the Japanese exporters to quantify the effects of these two opposing forces.

This paper focuses on how the export dependence of a firm affects her export adjustment decisions. In the terminology of Lieberman (1990), the main issue of my empirical study can be expressed in one question; Are more export-dependent firms "shaken out" or do they "stake out" less export-dependent firms during a currency appreciation period? The former shake-out story reflects the conventional "deep pocket" idea, which suggests that a more diversified firm can keep higher export level under a more severe currency appreciation because of his richer home market base as a source of cross-subsidization within a firm. The financial constraint in imperfect capital market will be introduced to formalize this argument. On the other hand, the latter stake-out story, which considers the costs of reallocating resources across sections (e.g. export section and home-sales section) within a firm, implies that firms more seriously dependent on exports tend to stick to exports because higher export dependence means higher "stake" in the export market.

The firm-level study is indispensable here because the costs of adjusting exports may vary significantly from firm to firm. The investigation of individual firms will hopefully fill the gap between the representative firm model in international economics and the empirical studies in industrial organization. Furthermore, my motivation to study the variation among firms is beyond pure curiosity because who survives the exchange rate appreciation determines the future market structure of exporting industries and hence has important implications to the national competition policy.

The rest of this paper has three sections. Section 2 introduces a dynamic optimization model formalizing a firm's export adjustment decision. Section 3 examines the firm-level export changes in the case of the historic yen appreciation during the late 1980s. Section 4 concludes.

2. Theory

2.1 Previous results from dynamic models

Mainly motivated by the persistent import penetration into the U.S. market during the dollar devaluation process since 1985, various models of export adjustment have been proposed. Among them, Dixit (1989) reveals the inaction band which breaks the linear relation between short run exchange rate changes and trade flows. Entry costs, however, have very little impact on exit decisions in this type of models because future reentry possibility is too subtle for a firm planning an exit under the changes following Brownian motion which are generally gradual.¹ The simulation by Dixit (1989) actually shows that the export quantity after currency appreciation *decreases* as the entry costs rise in his model within plausible range of exchange rates.²

In the real world, entry into the export business will place a heavy burden on a firm because he has to build up distribution networks and reputations in the foreign market. As long as there is some chance of recovery (currency depreciation, in this case), staying in the export market and waiting for a recovery is a better strategy than exiting shortly after one bad news. In this sense, “entry costs are exit costs,” as Londregan (1990) finds in a different context.³ The effect of expectations will formally be examined in the next section.

2.2 A dynamic model of export adjustment

Suppose that a firm exports to the foreign market in a simple two-country framework. To facilitate discussions, let us call the exporter the Japanese firm, and the foreign market the U.S. Further, suppose that the only source of uncertainty is the exchange rate movements.

A firm’s maximization program can be summarized by, in discrete time,

$$V(q_t) = \max \Pi(x_t) + \delta E[V(q_{t+1}) | \Omega_t] \quad (1)$$

where V is the value function in dynamic optimization and Π is the per-period export profit for a firm. δ is the discount factor ($0 < \delta < 1$, assumed to be constant). Here, I assume that adjusting export quantity is costly. Then, the state variable is the export quantity (q) and the

1 “The effect of adjustment cost on long-run average deviation from the frictionless optimum is one order of magnitude smaller than that on inaction ranges,” as Bertola and Caballero (1990) pointed out (p.251).

2 Bentolila and Bertola (1990) construct a model with firing/hiring costs under shocks following Brownian motion and conclude that higher firing costs bring about higher employment level. They argue that “the firm knows that . . . firing costs will have to be paid, but this possibility is heavily discounted since hiring occurs in good times, and bad times are far into the future.” (p.393).

3 Londregan (1990) examines entry/exit under exogenous industrial life cycles.

control variable is the export adjustment ($x_t = q_t - q_{t-1}$).⁴ Here, $E[. | \Omega_t]$ denotes the expectation operator conditional on all the information available at time t (hereinafter, expressed as $E_t[.]$, for short).

By differentiating both sides of (1) with respect to x ,

$$\Pi'(x_t) = \delta E_t[V'(q_{t+1})] \quad (2)$$

Differentiating (1) with respect to q yields

$$V'(q_t) = \delta E_t[V'(q_{t+1})] \quad (3)$$

by making use of the envelope theorem.

Then, from (2) and (3), we obtain the following Euler equation:

$$\Pi'(x_t) = \delta E_t[\Pi'(x_{t+1})] \quad (4)$$

which states the equalization of marginal profits from export adjustments over time.

Next, let the per-period export profit for a firm be

$$\Pi_t = (p_t - c_t)q_t - b_t x_t 1_x \quad (5)$$

where “ 1_x ” denotes the indicator function which is equal to one if $x_t > 0$ (expanding export) and zero otherwise. Let output price (p), marginal production cost (c), and export adjustment cost (b) be expressed in terms of yen.⁵ By simplifying export reduction costs to be zero, the asymmetric structure is introduced into the export adjustments. This assumption is realistic because expanding sales in foreign markets normally needs much more expenses than just shrinking it.

To concentrate on the dynamics of export decision, I assume the following log-linear standard export demand function (both a_0 and θ are positive and constant):⁶

$$q_t = a_0 \left(\frac{p_t}{e_t} \right)^{-\theta} \quad (6)$$

4 Although the firm-level entry-exit model could be consistent with continuous adjustments at aggregated industry level as in Dixit (1989) and Bertola and Caballero (1990), only four out of 309 Japanese exporters in our sample exited from export business after the drastic yen appreciation, as will be reported in Section 3.

5 The costs of expanding export include sales promotion expenses in foreign markets which may be often denominated in U.S. dollar. However, whether “ b ” is denominated in yen or dollars does not affect our qualitative results.

6 The main results obtained in the following is, however, robust for the linear export demand function, for example.

where the exchange rate (yen/dollar) is denoted by e .⁷

By substituting the inverse demand function into (5), the per-period export profit becomes

$$\Pi = aeq^\mu - cq - bx1_x \quad (7)$$

where a is positive and constant and $\mu = 1 - (1/\theta)$ ($0 < \mu < 1$).

To explicitly formalize the mechanism by which high entry costs retard exits, we have to introduce another assumption. Let me assume that the exchange rate in the long-run follows the two-state Markov process.⁸ Suppose that e in (7) takes either the appreciated value or the depreciated value; \underline{e} or \bar{e} ($\underline{e} < \bar{e}$) and that transition probabilities are given by

$$\lambda = \Pr\{e_{t+1} = \bar{e} \mid e_t = \underline{e}\}$$

$$\rho = \Pr\{e_{t+1} = \underline{e} \mid e_t = \bar{e}\}$$

Then, together with (7), the firm's dynamic program (1) is simplified to

$$V(\bar{q}) = (a\bar{e}\bar{q}^\mu - c\bar{q} - b\bar{x}1_x) + \delta\{(1-\rho)V(\bar{q}) + \rho V(\underline{q})\} \quad (8)$$

$$V(\underline{q}) = (a\underline{e}\underline{q}^\mu - c\underline{q} - b\underline{x}1_x) + \delta\{(1-\lambda)V(\underline{q}) + \lambda V(\bar{q})\} \quad (9)$$

where $\bar{q}(\underline{q})$ denotes the export quantity under the currency depreciation (appreciation, respectively) phase.

Therefore, the firm's export decision is given as follows:⁹

- (a) If the exchange rate is at the depreciated level ($e = \bar{e}$), differentiating (8) with respect to \bar{q} yields

$$0 = a\mu\bar{e}\bar{q}^{\mu-1} - c - b.$$

⁷ Exactly speaking, it is not the exchange rate itself, but the dollar-denominated relative price that consumers care about. Given drastic exchange rate changes and low inflation rate during our sample period, however, we will be allowed to assume constant prices offered by foreign rival firms to concentrate on the dynamics of exporters in this paper.

⁸ Although the random-walk model has been regarded as a good approximation of empirical exchange rate, Engel and Hamilton (1990) report that long swings between two states dominates the random-walk model. While it may sound contradictory to daily observations, any further depreciation/appreciation from the depreciated/appreciated exchange rate is excluded by construction in this two-state framework.

⁹ Techniques used in my theoretical study of Markov process owes much to the macro-labor model by Saint-Paul (1990), though his main interest is in the multiplicity of equilibria caused by the voluntary quit decisions on workers' side.

Then, by rearranging,

$$\bar{q} = \alpha \left(\frac{c+b}{\bar{e}} \right)^{-\theta} \quad (10)$$

where $\alpha = (a\mu)^\theta$. In the currency depreciation state, high export expansion costs naturally make the export expansion slow down, since the higher b , the lower q in (10). Thus, the export quantity choice in a currency depreciation period degenerates to the simple myopic optimization.

- (b) Next, when the exchange rate is at the appreciated level ($e = \underline{e}$), by differentiating (9) with respect to q ,

$$0 = a\mu \underline{e} q^{\mu-1} - c + \delta\lambda b$$

because one unit of export reduction today will raise the cost by “ b ” in the next period (discounted at the rate δ) if the exchange rate reverts to the depreciated level (occurring with the probability λ). Rearranging yields

$$\underline{q} = \alpha \left(\frac{c - \delta\lambda b}{\underline{e}} \right)^{-\theta}. \quad (11)$$

This decision rule means that the export reduction is “delayed” if costs of re-expanding export (b) are high and/or if there is high chance (λ) of yen depreciation. Contrary to (10), and different from the previous sunk entry/exit cost model with the Brownian motion assumption, higher export expansion costs make the export level *higher*. The higher b , the higher q in (11).

As another interesting point to note, a rational firm chooses different export quantity under the same exchange rate level depending on the direction of exchange rate adjustments. Higher entry costs make export quantity smaller when the currency is depreciating as in (10), but make it larger when the currency is appreciating as in (11), compared with the case of no expected adjustment costs ($\delta\lambda b = 0$).¹⁰

2.3. Previous results from industrial organization literature

As this paper will focus on the cross-section variation among firms in the next section, review of industrial organization literature is informative. Exit decision from declining

¹⁰ We assume that the gap between the depreciated level of exchange rate and the appreciated level is large enough to have the export quantity in the currency depreciation state greater than that in the appreciation state.

industries is one of the well-researched topics in industrial organization.¹¹ Among them, Baden-Fuller (1989), by investigating the case of U.K. steel casting during 1977-1982, reports that more diversified firms reduce more production capacity because of their lower labor reallocation costs.¹² The implication of his work is that a firm more heavily dependent on export sticks to export operation longer even after drastic currency appreciation because he has higher “stake” in the export market.¹³

This story, however, sounds contradictory to the conventional wisdom which tells that a firm with lower export dependence has more stable profit and thus can endure the loss from keeping the export level higher during a currency appreciation period. This traditional “deep-pocket/long-purse” idea has theoretically been formalized, for example, by Fudenberg and Tirole (1985), concluding that a firm with higher internal wealth can undertake more projects because of lower interest payment under capital market imperfection.¹⁴ If applied to the pricing context, this idea implies that liquidity-constrained firms raise prices to attain short-run profit levels required for the repayment, as Chevalier and Scharfstein (1994) presented a theoretical model of countercyclical pricing with empirical evidence from regionally disaggregated price data.¹⁵

In comparing these two opposing effects, Lieberman (1990) examines the question whether “shakeout” or “stakeout” characterizes exit decisions in the chemical industries.¹⁶ He concludes that smaller firms are more likely to exit, while the probability of plant closure increases with the firm’s capacity share after controlling for plant size.¹⁷ Based on the extensive study of plant-level panel data of U.S. manufacturing, Dunne, Roberts, and Samuelson (1988) found that diversifying firms that enter an industry through new-plant construction have lower exit rate compared with new firms.

11 Ghemawat and Nalebuff (1985) prove that the larger firm exits earlier in the duopoly game under monotonically declining demand. Ghemawat and Nalebuff (1990) relax the assumption of all-or-nothing exit decision and confirm that larger firms reduce capacity first until they shrink to the same size as smaller firms. Caves and Porter (1976) argued that diversification could deter or prompt exits due to conflicting managerial effects: easier internal employee replacement and higher power to average loss with profits from other lines of firm’s business.

12 In a context of spatial differentiation, Judd (1985) proves earlier exits by multiproduct incumbent because his preemptive threat is incredible due to the conflict from supplying substitutes.

13 This could be consistent with Dixit (1989) if we assume that exit costs depend on a firm’s diversification.

14 More diversified firms also tend to have lower capital costs because their stable intertemporal profits may lower the risk premium required by risk-averting investors.

15 They also show that firms without binding financial constraint also raise prices when they compete with financially constrained firms. This means that the liquidity effect on the whole economy can be strong even if only small numbers of firms are liquidity-constrained.

16 Lieberman (1990) refers to scale economies as the advantage of larger firms. I exploit company financial data of the whole manufacturing industries, while Lieberman (1990) uses engineering cost data of the particular industry.

17 Deily (1991) studies plant-closing decisions of 19 steel firms and finds that both the firm-size effect and the diversification effect are small, compared with the plant-characteristics effect.

2.4 Introduction of the deep-pocket effect into the model

This section introduces the financial constraint into the model developed in Section 2.2. Consider a case where a firm faces a constraint that he has to earn at least some fixed level ($\underline{\Pi}$) per period for interest payments on past debts. On the other hand, the short-term (per-period) export profit during a currency appreciation period ($e = \underline{e}$) is not necessarily maximized if the firm follows the dynamic decision rule (11). Then, it is possible that a firm can attain the minimum level of per-period profit ($\underline{\Pi}$) by giving up the dynamically optimal level of export quantity. Further, a firm is forced to do so especially if external borrowing is very costly due to the capital market imperfection.

An exporting firm with large domestic sales, however, may be able to keep the relatively high dynamically optimal export level by subsidizing profits from the domestic operation which is stable under exchange rate changes.

Let me briefly formalize this deep-pocket effect. By explicitly introducing the constraint to the dynamic optimization program, a firm's behavior is expressed as

$$V_t = \max \{ \Pi_x(e_t) + \Pi_h \} + \delta E_t(V_{t+1}) + \eta_t \{ \Pi_x(e_t) + \Pi_h - \underline{\Pi} \} \quad (12)$$

where η is the Lagrange multiplier for the financing constraint ($\eta > 0$). Suffixes h and x denote home sales and exports. Since the home market profit does not directly depend on the exchange rate by assumption, the financing constraint is less likely to bind under the currency appreciation for firms with lower export dependence.¹⁸

Similar manipulations in Section 2.2. result in the counterpart of (11) as follows:

$$\underline{q} = \alpha \left(\frac{c - \frac{\delta \lambda b}{1 + \eta}}{\underline{e}} \right)^{-\theta} \quad (13)$$

If the constraint is not binding ($\eta = 0$), (13) coincides with the previously obtained dynamic export choice (11). On the other hand, if the constraint is binding, the export quantity (\underline{q}) is smaller than the level determined by (11). Thus, the equality (13) implies that firms who face financing problems caused by falling profitability from export due to currency appreciation have to abandon higher export level which is dynamically optimal by (11). Since η is interpreted as the marginal value of the financial constraint, (13) means that the export reduction gets larger as the financial problem becomes severer.

Then, a firm with lower initial export dependence can keep higher export during a

¹⁸ I assume that the financial constraint can be binding only in the currency appreciation state.

exchange rate appreciation phase, while a firm heavily depending on exports has to reduce exports more because the firm is more likely to face binding financial constraint.

The export dependence of a firm might affect its dynamic export decision not only through the direct liquidity effect mentioned above, but also through the determination of export expansion costs. Although export expansion costs have been so far assumed to be constant for all firms and for all levels of exports, it could be an oversimplification. The main source of the difference in export expansion costs may be found in the home-market sales of a firm. Since some of the production technologies for domestic goods can be used also for export production and since goodwill of a firm will spill over across markets, a firm with substantial home-market sales faces lower export expansion costs than a firm with no experience in the domestic market. In other words, firms with strong home market base benefit from scope economies in expanding exports, while firms with larger initial export may find it more difficult to increase their already saturated exports.¹⁹ Once it enters the foreign market, a firm with no home-market base tends to stick to exports even under drastic currency appreciation because it has nowhere to retreat. Put another way, firms heavily depending on exports have higher “stake” in exports because it is quite difficult for them to resume export operation once they loose their position in the foreign market.

Then, if the export expansion costs of a firm increases with its export dependence, our adjustment cost model predicts higher export level under currency appreciation for firms with higher initial export dependence because of their higher export expansion costs. However, the discussion of deep-pocket effect tells us that the very firms whose financial constraints are binding are likely to be those seriously export-dependent firms.²⁰

3. An empirical analysis of firm-level export adjustments

3.1 Description of the data

Section 3 investigates export adjustment patterns of individual Japanese firms in the late 1980s during the drastic yen appreciation. This sub-section 3.1. describes the data which I use for this paper, while the Appendix will provide additional explanations of them in detail.

The firms investigated in this paper are those firms which operated any export business before the yen appreciation triggered by the G5-Plaza Accord in 1985 in the sixteen export-oriented manufacturing industries, of which the definition will be in the Appendix. By

19 Hamermesh (1989) finds, allowing both fixed and variable costs, that fixed portion is large in labor adjustment in the case of U.S. manufacturing plants. However, the share of fixed costs is likely to be low in adjusting export quantity, compared with labor or capital.

20 If increasing returns in export expansion are significant, firms with higher export dependence will face lower export expansion costs and are less likely to have binding financial constraints. Therefore, to check the relevancy of our model, all that we have to test is the case of increasing marginal export expansion costs.

Table 1 Aggregate Statistics

EXPORT	MEAN	STD. DEV.	MIN.	MAX.
LEVEL (BEFORE)	77,089	253,680	143.26	2,770,600
LEVEL (AFTER)	69,254	225,670	0.00	2,408,900
REDUCTION RATE	0.00207	0.63632	-4.4576	1.00
DEPENDENCE (BEFORE)	25.579	20.585	1.00	100.0
DEPENDENCE (AFTER)	20.644	18.014	0.00	84.00
REDUCTION RATE	0.14564	0.43552	-2.50	1.00

(NOTES)

1. "LEVEL" is the absolute level of export sales, measured in 100 million yen.
2. "DEPENDENCE" is the percentage share of export in total sales.
3. "REDUCTION" is defined as the rate, of which the negative sign means increase. "BEFORE" and "AFTER" denote corresponding values before and after the yen appreciation in 1985-88.

restricting the attention to export-oriented industries, the variation among firms within each industry can be examined.²¹ As a result, 309 firms are collected as our sample.

The available data for us are the total sales value (in million yen) and the export dependence, defined as the share of export sales in the total sales:

$$P_x Q_x / (P_x Q_x + P_h Q_h) \quad (14)$$

To check the robustness, I will report the results both in terms of the export dependence and the absolute level/scale of exports ($P_x Q_x$).²²

Table 1 summarizes the basic statistics for all 309 firms combined.²³ As expected, both the export level and the export dependence decline after the historic yen appreciation during 1985-1988 (from around 250 to 125 yen/dollar). The export dependence declined sharply by 14.6%, though the absolute export sales decreased only by 0.2%. As is suggested by large standard errors, however, the cross-section variation is so substantial that nobody should satisfy with statistics at this aggregate level. Therefore, in the next section, I will analyze this data by dividing these firms into subgroups.

21 Intra-industry variations are reported in Tomiura (1992), but omitted from this paper due to the space constraint.

22 The share of export in total sales may not be a good measure of firm's "burden" of exports in some cases. For example, a high export ratio before currency appreciation could be consistent with high export profitability during appreciation when a firm can charge high export price due to inelastic demand. Since no other data are available at the firm level, however, we use the export ratio as the index for export dependence.

23 I concentrate on the cross-sectional variations rather than constructing panel data because the export ratio of most firms changed only gradually over time.

3.2 Empirical results

3.2.1 Disaggregation by adjustment rates

This section classifies firms by their export reduction rates. Table 2A reports the reduction rate (%) in the absolute export sales with their initial export level.²⁴ Table 2B reports the reduction rate in terms of export dependence (%).²⁵ Export revenue levels (in yen terms) are standardized (mean = 1.0) to make comparison easier. Several noteworthy points emerge as follows.

First, as Tables 2A and 2B show, all the firms that exited from export market are extremely small (only one percent of average export scale) and with quite low initial export dependence (only 2.25% of their total sales, compared with 25.58% (average)). Their low export dependence is consistent with our adjustment cost model. Their small size may imply some kind of increasing returns to scale in export operations, and also confirms the previous finding of the disproportionately higher exit rate of smaller firms by Lieberman (1990) and Dunne et al. (1988). These interpretations, however, cannot be exaggerated because the number of exiting firms is only four out of our sample of 309 firms. The few exits may be a result of high expectations of reversion to yen depreciation, or strong perception that ongoing yen appreciation is temporary. Alternatively, one could argue that the observation of few exits may rather be consistent with the sunk entry/exit cost model.

Second, among the firms reducing their export dependence, Table 2B demonstrates that the reduction rate of export dependence decreases with initial export dependence

Table 2A Export level

REDUCTION (%)	NUMBER OF FIRMS	INITIAL LEVEL
100 (exit)	4	0.010
60–100	34	0.297
40–60	44	1.262
20–40	43	1.180
0–20	49	1.655
increasing export	135	0.826
TOTAL	309	1.000

Table 2B Export dependence

REDUCTION (%)	NUMBER OF FIRMS	INITIAL DEPENDENCE (%)
100 (exit)	4	2.25
50–100	43	22.53
32–50	56	25.68
15–32	69	32.00
greater than 0–15	44	39.45
exactly zero	21	9.76
raising dependence	72	18.60
TOTAL	309	25.58

(NOTE)

“INITIAL LEVEL” is the export sales before the yen appreciation relative to the average.

24 The mean of export reduction rate is 39% for the firms not increasing exports and 0.2% for all firms. Hence, we choose 0% and 40% as threshold levels in classifying firms.

25 The mean of export dependence reduction rate is 32% for the firms reducing export dependence and 15% for all firms. Hence, 15% and 32% are chosen as thresholds.

(22.53<25.68<32.0<39.45%), as is exactly predicted by our dynamic adjustment model. The export dependence actually diverges among these firms, although, at the aggregate level, this trend is partly clouded by a group of firms that started from low export dependence (18.6%) and raise their export dependence amid the yen appreciation.²⁶

Third, as is indicated in Table 2A, those who expand their exports against the drastic yen appreciation are firms considerably smaller than average (17% below the average export level).²⁷ Assuming that all firms reduce their exports is an oversimplification even for such a drastic currency appreciation phase because some firms (typically small) increase export due to particular demand growth for their products, to technological breakthrough, or to catching the market niche in product differentiation space.

Finally, the wide variation or less stability among small firms is observed, as consistent with the previous finding by Dunne et al. (1988) in U.S. manufacturing industries. Firms with initial export level lower than average can be divided into two groups; firms reducing export drastically (more than 60% or even complete exit) and those expanding export against drastic currency appreciation. On the other hand, all the large firms tend to reduce export at relatively modest pace. We can also show this contrast by changes in the variations of export levels among firms before and after the yen appreciation as follows: the cross-firm standard deviation declined by 11.06% among large firms, but increased by 8.25% among small firms.²⁸ Consequently, during the currency appreciation, large firms became more alike while small firms traced divergent paths one another.

3.2.2 Disaggregation by financial affiliations

Following Hoshi, Kashyap and Scharfstein (1991), we can test the constraints by dividing the entire sample into subsets of firms and assuming that the constraint is binding for firms in one subsample but not for those in the others.²⁹ As Hoshi et al. (1991) explored in the study of liquidity effect on corporate investment, Japanese firms provide a good sample in this regard because firms affiliated with “Keiretsu” (industrial group) keep close tie with the member bank of the group and can avoid being exposed to the capital market imperfection.³⁰ We assume that the financing constraint can be binding for “independent” firms but not for

20 Similar observation is found also in export level, as shown in Table 2A.

27 Besides, as has been mentioned in the previous paragraph, Table 4B shows that firms raising export dependence have initial export dependence lower than average.

28 The threshold for “large/small” is the mean of export level before the yen appreciation.

29 Another nice example of this approach includes Chevalier and Scharfstein (1994), dividing the stores into local/regional chains operating only in oil-producing states and national chains during the deep regional recession brought about by the oil price fall in 1986. On the other hand, Kaplan and Zingales (1997) criticize this established approach by showing counterexamples.

30 The detailed definition of our sample separation will be found in the Appendix.

“Keiretsu-affiliated” firms, which in turn implies that the high export dependence means heavy burden during the exchange rate appreciation only for independent firms.³¹

Table 3 classifies all 309 firms in our sample by their affiliation with Keiretsu and compares their export adjustment behaviors.³²

Within “big firms” (firms with higher stock aggregate values), the effect of financial affiliation is evident. While Keiretsu-affiliated firms and independent firms have about the same level of initial export dependence, Keiretsu-affiliated firms reduce their export dependence sizably more than independent firms do. This result holds true even if we include “other big firms” (firms neither classified as Keiretsu-affiliated nor independent) between these two subgroups. This observation is consistent with our model in that Keiretsu-affiliated firms do not have to keep high level of exports during currency appreciation because their strong ties with financial institutions may decrease the costs which will be required for future export expansion.

Next, since the contrast between Keiretsu firms and independent firms is not clear within small firms, we will move from the comparison between subgroups to the comparison of firms within each subgroup.³³ Tables 4A and 4B classify independent small firms and other firms by their export adjustment rates. The independent small firms are ex-ante regarded to be the firms that are most seriously exposed (or vulnerable) to the capital market imperfection. Therefore, we expect the significant deep-pocket effect only for independent small firms.

Table 3 Classification by Keiretsu affiliation

SUBGROUP	NUMBER OF FIRMS	EXPORT LEVEL	EXPORT DEPENDENCE
KEIRETSU/BIG	43	(28.2, 6.83)	(29.9, 17.1)
OTHER/BIG	29	(17.0, -1.66)	(29.4, 10.8)
INDEPENDENT/BIG	59	(8.51, -17.2)	(31.0, 5.84)
KEIRETSU/SMALL	30	(0.98, 26.7)	(17.9, 33.6)
OTHER/SMALL	36	(1.33, -16.6)	(21.0, 0.83)
INDEPENDENT/SML	112	(0.89, 5.66)	(23.6, 18.5)
TOTAL	309	(7.71, 0.21)	(25.6, 14.6)

(NOTE)

The figures in parentheses are (initial value before the yen appreciation, reduction rate in percentage). The initial export level is the export sales in trillion yen and the initial export dependence is in percentage. The negative sign in reduction rate means increases. See the Appendix for classification of firms.

31 When panel data are available, we can estimate directly the Euler equation of dynamic export decision of a firm with/without financing constraint, as in Hubbard, Kashyap, and Whited (1995).

32 Since the financial viability of firms may vary across firms and periods even within Keiretsu-affiliated firms, the inclusion of time-varying firm-level financial data will be required to check the robustness of our results in future work using panel data.

33 Within small firms, “other (quasi-affiliated) firms” are the outlier. In terms of export level, many firms in this category actually expand their export size against the yen appreciation.

Table 4A shows that, within independent small firms, firms with initially larger export sales reduce exports more; the average of initial export levels of firms reducing exports by more than 40% (1.26) is twice as large as that of firms reducing by less than 40% (0.69). This indicates the convergence of firm sizes in the export market among independent small firms. On the other hand, the same table indicates that the opposite is true for other firms: larger firms reduce exports less. This implies that the expectation-stake effect works for all firms but the deep-pocket effect clearly dominates it for independent small firms.

As for the export ratio, Table 4B provides consistent evidence. Within other firms, firms with high initial export dependence tend to reduce export dependence only a little, while, within independent small firms, firms nearly keeping their initial export dependence are likely to be relatively less export-dependent. The initial export dependence of other firms reducing their export dependence by less than 15% (42.9) is about twice as high as that of independent small firms in the same category (21.4), although the overall average and the average of other categories are almost the same between these two groups of firms.

These observations provide evidence supporting the deep-pocket effect. For those firms which are presumably rather free from capital market monitoring because of their affiliation with Keiretsu banks, larger firms or more heavily export-dependent firms keep their exports higher during the yen appreciation. On the other hand, within independent small firms, since the deep-pocket effect dominates or at least partly offsets the expectation-stake effect, larger firms or more seriously export-dependent firms are forced to reduce exports more because of their higher sensitivity to the liquidity constraint.³⁴

Table 4A Keiretsu and export level

% REDUCTION IN EXPORT LEVEL	INDEPENDENT SMALL FIRMS	OTHER FIRMS
100 (exit)	(3, 0.09)	(1, 0.01)
60–100	(18, 1.29)	(16, 0.31)
40–60	(12, 1.22)	(32, 1.12)
20–40	(17, 0.68)	(26, 1.26)
0–20	(15, 0.71)	(34, 1.56)
increasing export	(47, 1.10)	(88, 0.80)
TOTAL	(112, 1.00)	(197, 1.00)

Table 4B Keiretsu and export dependence

% REDUCTION IN EXPORT DEPENDENCE	INDEPENDENT SMALL FIRMS	OTHER FIRMS
100 (exit)	(3, 2.7)	(1, 1.0)
50–100	(22, 23.1)	(21, 21.9)
15–50	(44, 30.2)	(81, 28.6)
greater than 0–15	(7, 21.4)	(37, 42.9)
exactly zero	(8, 8.1)	(13, 10.8)
raising dependence	(28, 20.7)	(44, 17.3)
TOTAL	(112, 23.6)	(197, 26.7)

(NOTE)

Figures in parentheses are (number of firms, initial export sales level relative to the subgroup's average). See the Appendix for the definition of "independent small firms."

34 Within the 309 firms, three out of four exiting firms are independent firms. Out of three firms reducing export sales more than 80%, two firms are Keiretsu-affiliated. This evidence is consistent with the finding on the deep-pocket effect because the financial availability will determine which firm at the edge of the market finally exit.

4. Concluding remarks

A dynamic optimization model of export adjustment has been constructed, and to check the empirical relevancy of the model, the firm-level data of Japanese exports has been examined. Several noteworthy points are as following.

First, the dynamic export adjustment model in this paper has made explicit the expectation effect of entry costs on exits. The model predicts that the exchange rate appreciation leads to the divergence of export dependence among firms.

Second, the case where firms may face the financing constraint under capital market imperfection has been considered. This deep-pocket effect implies the convergence of export dependence levels of firms after a exchange rate appreciation phase. I have found evidence consistent with the deep-pocket effect by splitting Japanese firms depending on the affiliation with Keiretsu groups.

The results obtained from this empirical study, however, should not be exaggerated as they rely on descriptive summary statistics, not on structural tests of formal theoretical hypotheses. Although the extensions such as assuming more realistic stochastic processes or distinguishing idiosyncratic shocks from firm-specific adjustment costs will enrich the theoretical contents of this paper, what will be required most must be more intensive empirical studies. Investigations of more recent episodes of export adjustments, especially with structural estimations based on longitudinal data, should follow to cement the validity of the model.³⁵

Appendix

Japan Company Handbook (Toyo Keizai Inc., Tokyo; published quarterly in English) contains financial and sales information on all Japanese companies listed on the First Section of the Tokyo, Osaka and Nagoya stock exchanges.

1. Industrial coverage

The firms investigated in this paper are the firms which operated any export businesses in the manufacturing industry where the export ratio of at least one firm exceeded 50% before the yen appreciation.

2. Exports

The export dependence (%) and total revenue (sales) of each firm “before” the yen appreciation are taken as the values at the time of the autumn of 1984 and those “after” the

³⁵ At the time of original research for this paper, there existed no directly related paper as far as the author knew, but some recent micro-level studies of exports, such as Bernard and Jensen (2002) and Dekle and Ryoo (2002), suggest promising directions for future research on this topic. Especially, Dekle and Ryoo (2002) examine the effect of financial relations on export adjustment of Japanese firms.

appreciation are the autumn of 1988. Exact timing (month) reported as “autumn” may slightly differ across firms. (Source: *Japan Company Handbook* Spring issues of 1985 and of 1989) The choice of this period is intended to capture the historic yen appreciation swing in 1985-88.

3. Keiretsu/Independence

Following Hoshi, Kashyap, and Scharfstein (1991), I classify all firms into three categories depending on their relations with financial institutions. Main source of information is *Nihon no Kigyo Shudan* (Japanese Enterprise Groups, vol.1-7, Sangyo-Doko Chosa-kai, Tokyo, published in Japanese). Six largest industrial groups which are usually recognized and used here are Mitsubishi, Mitsui, Sumitomo, Fuyo (Fuji), Sanwa, and Daichi-Kangyo.

The definition of “Keiretsu-affiliated” firms is given by the following:

- The member bank of the group should be the biggest lender to the firm.
- or
- The shareholdings within the group must exceed 20%.
- or
- The member bank should be lending more than 40% of the firm’s total debt.
- and
- The firm must experience no merger or separation with other firms.

The firm must not change the affiliation to the group during the sample period.

If the firm satisfies none of the above, and if the firm is not a member of a group’s President’s Council which is rather prestigious, the firm is classified as “independent.” Firms which are not classified as either Keiretsu-affiliated or independent are classified as “other firms.”

The current aggregate value of the firm is also made use of in classifying firms. The threshold level of the stock value is 100 billion yen. (Source: *Japan Company Handbook*)

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ROSCAS AND CREDIT UNIONS: IS MODERN JAPAN MISSING SOMETHING?

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Abstract

This paper discusses two forms of “microfinance”, both of which are common in some other parts of the world but almost entirely lacking in modern Japan. The Rotating Credit and Saving Association (ROSCA) had a long history in Japan in the form of the *kou* or *mujin*, and remained important until after the Second World War, but has almost completely disappeared from Japan in the last fifty years. The community-based credit union, which has in many developed countries become an important source of small-scale unsecured finance for households, with millions of members, in Japan remains almost entirely confined to Roman Catholic parishes, with a total membership now of less than 5,000. This anomalous lack of community-based microfinance in Japan is at least in part a consequence of the privileged status of the postal savings system and of government guarantees of bank deposits.

JEL classification: G20, G28, N20

Keywords: Microfinance, ROSCAs, Credit unions

Introduction: outline of two microfinance institutions

This paper is concerned with two forms of “microfinance”—credit unions and ROSCAs—and the minimal role of these institutions in modern Japan. By “microfinance” I mean the provision of financial services for people who want to save and/or borrow small amounts of money: by “small” I mean not large enough to be able to use mainstream financial institutions—e.g. commercial banks—at any rate on similar terms to people borrowing or depositing large amounts of money. The use of the term “microfinance” rather than “microcredit”

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indicates that facilities for saving are relevant, as well as facilities for borrowing.¹

The need for special arrangements or institutions for microfinance stems essentially from lack of information facing lenders and depositors, and the costs of acquiring information. Conventional lenders find it costly to make small, unsecured loans. Without expensive screening of applicants they are likely to suffer from adverse selection; raising their lending rates to compensate for this may simply make the selection more adverse.² And after the loan has been made, the unsecured borrower, in the absence of a long-term relationship with the lender, will be tempted to take excessive risks with the money or simply not to repay the loan (moral hazard).

In relation to small deposits both the depositor and the deposit-taker face costs. The deposit-taker is likely to find transactions costs on small accounts very high in relation to any profits it can make from using the money deposited with it. But it may well run into adverse publicity if it attempts to impose unfavourable terms on small deposits, even if these accurately reflect the costs it faces. Mainstream deposit-takers may thus not maintain branches in areas lacking affluent customers. The depositor (especially in environments when financial systems are fragile, when fraud is commonplace, and where deposit protection is inadequate) also needs to monitor the deposit-taking institution, but will normally lack the information and financial acumen to do so.

The two types of microfinance I discuss here solve these information problems by using community relationships. Members of a community save by lending money to other members of the same community, without the intermediation of an external financial institution. The knowledge that exists within a community about members of that community reduces adverse selection. The responsibility that members of a community feel towards other members of the same community and fear of ostracism from the community reduce moral hazard.

In the last decade, economists have taken increasing interest in a form of microfinance institution that is found all over the world: the Rotating Saving and Credit Association (ROSCA).³ Essentially, ROSCAs are small clubs, whose members meet according to a regular schedule. At each meeting members pay an amount of money into a pot, and that money is paid over to one member at each meeting. Each member gets the pot of money once in the life of the ROSCA, and each member has to stay in the ROSCA and contribute at every meeting. If someone were to leave after receiving the pot and before the group was wound up that would obviously constitute a form of default.

There are different ways of determining who gets the money on each occasion. One way

1 One relevant quantitative definition is that "microcredit is a consumer loan that is usually less than \$200 in developing countries or \$2,000 to \$3,5000 in the United States" Talen, Weiss and Sarkar (2002) p.333.

2 Stiglitz and Weiss (1981).

3 Some economists use the form "Rosca" or "rosca". Here I will use "ROSCA" throughout, changing the form other authors have used where necessary.

is by drawing lots. Another is by bidding. Another is according to a list drawn up in advance. In some ROSCAs the money may go to the person agreed to have the most pressing need for it at a particular meeting. The bidding method allows an implicit interest rate to emerge: people may pay more to get the pot early in the life of the ROSCA; it also helps to allocate the pot to the person most in need of it. Japan has had a particularly rich history of ROSCAs, though they are now largely — though not quite entirely — extinct in Japan.

The term “credit union” covers a wide range of size of institution. The essence of a credit union is that it is owned by the people that deposit with it or borrow from it, that there should be something in common between the members — the “common bond” that is the qualification for membership of a particular credit union — and, normally, that the right to borrow from the institution is established by first saving with it. The common bond may be based on place of residence, on place of employment, or on place of worship. The credit union arrangement is much more flexible than the ROSCA: members can save as and when they have spare money available, and can normally withdraw savings and borrow money when they need it (subject to limits set in the union’s rules and to the union’s credit approval procedures).

Whereas ROSCAs have sprung up at the grass roots worldwide, the credit union was originally developed in Germany in the middle of the nineteenth century by philanthropists concerned with the plight of the poor. Credit unions spread to other countries in continental Europe and also to parts of Asia in the second half of the nineteenth century, and to North America at the beginning of twentieth century. After the second world war there was a new wave of credit union propagation, to a substantial extent by Roman Catholic priests and missionaries, in the Caribbean and South America, in Australia, in England (where the movement was introduced in the mid 1960s among Roman Catholic immigrants from the Caribbean) and in East Asia (including Japan).

Credit unions have been highly successful in many countries, but they risk losing their main virtue as they grow. Originally run entirely by volunteers, as they expand they find they need to employ paid staff, they move from back rooms into main street locations, they become more like banks both in terms of their customer profile and the services they provide (typically moving into housing loans, whereas their original comparative advantage was in providing loans for those without collateral). This is certainly what has happened in the United States to the original credit union movement; in the last two decades, however, there has been a new wave of “community development credit unions” and “faith-based credit unions” in the US.

Credit unions are not the only mutual finance institutions that risk losing their way as they develop. America’s earlier generation of mutuals, the Savings and Loan institutions, were extensively looted by their managers in the 1980s.⁴ Most of the larger equivalent UK

4 Akerlof and Romer (1993).

institutions, the building societies, converted into banks in the 1990s, although this development has apparently led to a greater emphasis on the virtues of mutuality among those that have not converted.

ROSCAs

The main feature of a ROSCA is that a defined group of members hold regular meetings at which everyone contributes a sum of money to a communal pot, and one member in turn gets the whole pot. Within ROSCAs, we can distinguish between two main types: random ROSCAs and bidding ROSCAs. In the former, lots are drawn at each meeting to determine who gets the pot of money, and normally everyone pays in the same amount of money each time. In the latter people vary the amount they pay in to, in effect, bid for the pot. The bidding form allows an implicit rate of interest to emerge: what people are prepared to bid to get early access to the pot of money.

ROSCAs are certainly important enough institutions to merit the attention of economists. Anderson and Baland⁵ note that ROSCAs “are often the sole saving and credit institution in many rural areas. The annual sums mobilised in these associations have been estimated to equal 8 to 10 percent of GDP in Ethiopia, one-half of national savings in Cameroon, and to be twice as high as the credit of the organised banking sector in Kerala, India”.

Japan has a rich tradition from at latest the Kamakura period (13th century) of *kou/mujin*, which were a form of ROSCA. Both ballot and bidding types existed, with the latter form becoming more common over time. The range of type of *kou* was very wide. Some were established to finance pilgrimages; the annual winner was able to visit Ise shrine, for example. Samurai *kou* provided finance for those samurai who were allotted the expensive task of accompanying the local daimyo on his regular trip to Tokyo.⁶ Embree, in his mid-1930s study of a Kyushu village, records that some *kou* were based on rice contributions rather than yen: indeed the rice-based *kou* were the more common variety in the countryside, with yen *kou* predominant in towns. A large *kou* of forty or fifty members might last over twenty years.⁷

A Ministry of Finance Survey of Household Indebtedness of 1912 showed over 1 million (out of just under 8 million) households borrowing from *kou*, and finance from *kou* amounted to over 8 percent of farm household debt. A later survey (with incomplete coverage), conducted by the Ministry of Agriculture in 1934, recorded a total of 299 thousand *kou*, with an average of 40 *kou* for each town or village in rural areas. Based on this Survey the Ministry estimated there were about 350 thousand *kou* in Japan, involving 5 million people.

⁵ Anderson and Baland (2002).

⁶ Mori (1972) p.33.

⁷ Embree (1939) pp.139-140.

Surveys of farm household indebtedness showed the share of *kou* in farm debt had increased to 17 and 18 percent in 1935 and 1942 respectively. However they largely died out in the high growth period after the war; they had become so unimportant by 1963 that Japanese Farm Household Economy Surveys ceased to collect data on them.⁸

The UK also has a history of ROSCAs, albeit much less rich than the Japanese experience. British building societies, whose origins date from around 1775, were originally a form of ROSCA; they were “terminating societies”, not permanent, set up to provide each member with house built by the society.⁹ Members made regular contributions and the order in which they got new houses was determined by ballot (later on bidding became more common than lottery).¹⁰ A society closed when houses had been built for all its members. Even now some building societies have “permanent” in their name, to distinguish them from the original form of terminating society. US saving and loan associations (initially called building and loan associations) — also known as “thrifts” — originated in the early 1830s and like British building societies were originally terminating societies which were wound up once houses had been built for all the members.

In the building society case the ROSCA arrangement has important attractions in smoothing production: there is a regular single order for a new house, rather than a “boom and bust”. Likewise, if ROSCAs are being used to finance building improvements (in the typical developing country pattern of gradual extension of a house)¹¹ then again the arrangement helps to smooth demand for construction materials and skills.

In recent years ROSCAs have been reintroduced into the UK by some immigrant communities. More generally, Shirley Ardener¹² argues that up to the early 1990s ROSCAs have “burgeoned more vigorously than ever”.... “Where incomes are very low, where there is no formal social security network, where ill health stalks and a variety of calamities hover, a system of low-cost ROSCAs...helps to meet the challenges for all but the very impoverished or destitute. ROSCAs are also sometimes initiated in rapid response to the sudden need for liquidity to take advantage of unpredictable flows of desired durables (such as bicycles).

That the purely social element is highly valued by many who join ROSCAs is, of course, undeniable. This may...be particularly important in urban situations where kin-networks are attenuated...and among immigrants...where they act as substitutes for family ties.... Socialising may have a cost-effective benefit. Members may receive

8 Information from Izumida (1992).

9 Price (1958).

10 Price (1958) p.104 notes that bidding “opened the door to many undesirable practices” through which those close to a society’s inner circle could exploit members who were relative outsiders.

11 Ferguson and Hadler (2002).

12 Ardener (1995).

considerable economic returns apart from ROSCA cash. From other members they may get valuable information on a wide range of topics, advice on many issues, or unpaid labour, and so forth.

Regular participation in a ROSCA can enable those with few material assets to build a reputation [for reliability and trustworthiness].”

Examples of ROSCAs in developed countries given in the book edited by Ardener and Burman included South Asians (mainly women) in Oxford; Eritrean women in Oxford; North Somali women in London and elsewhere in the UK, and Koreans (predominantly women) in Los Angeles.

Collard, Kempson and Whyley describe a ROSCA formed by Somali women in a poor area of Bristol.¹³ “Each member saved at least 10 pounds a week. The club met twice a month to collect and distribute the pooled money. The money was usually distributed according to a pre-agreed order, although a member could receive money out of turn if they needed it urgently. Most people...used the money to buy clothes for their children or to pay household bills.” (Note that the Somali women, as Muslims, would not feel able to use a bank account that involved receiving or paying interest.)

The economics literature of the last decade has debated the relative importance of ROSCAs as a means of insurance and as a means of saving. Besley et al.¹⁴ argue that ROSCAs are used primarily to save for indivisible durable goods (e.g. bicycles, tin roofs) “Random ROSCAs are not particularly effective institutions for buffering against risk, since the probability of obtaining the pot need not be related to one’s immediate circumstances. Even bidding ROSCAs, which may allow a member to obtain the pot immediately, only permit individuals to deal with situations that cannot recur, since the pot may be obtained no more than once.... Furthermore, since many kinds of risks in LDCs are covariant, individuals will have high valuations at the same instant. ROSCAs do play a greater role in transferring resources to meet life-cycle needs, such as financing a wedding. However, even in this context they seem more appropriate for dealing with significant, idiosyncratic events, rather than the hump saving required for old age.”

Against this Calomiris and Rajaraman¹⁵ and Stefan Klonner¹⁶ argue that ROSCAs can have an important insurance role; Calomiris and Rajaraman argue that the insurance role explains the dominance of bidding-type ROSCAs: “For recurring risks, insurance against multiple events over time is possible through simultaneous membership in more than one ROSCA, or multiple shares in a single ROSCA. Furthermore, the timing of even anticipated non-recurring events like a funeral or dowry payment can be sufficiently uncertain that there

13 Collard, Kempson and Whyley (2001), p.23.

14 Besley, Coate, and Lorry, (1993), pp.792-810.

15 Calomiris and Rajaraman, (1998), pp207-216.

16 Klonner (2000).

is a need for insurance through concurrent bidding. Such events can be mainly independent across participants. Of course, even if the needs for cash are positively correlated among a group of individuals, there will still be beneficial risk sharing as long as the correlation is not perfect.”

The structure of Japanese *kou* suggests one further important point. According to the 1934 survey mentioned earlier, around two-thirds of *kou* had a “parent (*oya*)”. That means they were set up by someone who needed money and who took the pot of money at the first meeting. Obviously the facility to obtain finance by setting up a ROSCA when one needs money allows the ROSCA to play an insurance role. Moreover, in some countries the group in a ROSCA can decide to allocate the pot on the basis of need: someone facing an evident financial emergency would be awarded the pot.

In Japan the *kou* was traditionally male dominated, with women exceptionally becoming members if they inherited a husband’s interest. But elsewhere the ROSCA may give women some financial independence. Anderson and Baland¹⁷ argue that “if men have a greater preference, relative to women, for present consumption than saving for an indivisible good, then women are better off if they save in a ROSCA than at home. Essentially, ROSCAs provide a forced savings mechanism that the woman can impose on her household and thus help to increase the household’s saving rate. The household may be willing to purchase the indivisible good *ex post*, when the wife returns home with the pot, even in those cases where, *ex ante*, it was not willing to save at all. This notion that women use ROSCAs to prevent men from “misusing” household resources has been noted by others. Mayoux and Anand, in their study of women in ROSCAs in South India,¹⁸ argue that ROSCAs “play an important role in increasing women’s control over resources which they can use to increase assets in the family. This has been important in cases where men were spending much of their income on alcohol and gambling.””

Quite apart from any conflict between husband and wife over resources, ROSCAs may solve an individual’s self-control problem: by imposing high penalties for not attending and making required contributions to group meetings, joining a ROSCA helps people to resist temptations to spend money. Thaler and Shefrin present the problem of self-control in terms of a “two-self economic man”: a planner, concerned with lifetime utility, and a doer who is completely myopic.¹⁹ The traditional example of this dichotomy is that of Odysseus/Ulysses binding himself to the mast of his boat to prevent himself steering towards the sirens, who were singing seductive songs from rocks that would destroy his boat. In advance, as a planner, he wishes to avoid the rocks from where the sirens sing, but he knows that as a doer he will not be able to resist their singing.

17 Anderson and Baland (2002).

18 Mayoux and Anand (1995).

19 Thaler and Shefrin (1994).

By joining a ROSCA, the planner changes the constraints facing the doer. Participation in the ROSCA changes the short-term consequence of not saving from an apparently trivial personal matter into one that involves a breach of promise to other members of one's community.

An example of an alternative, financially much less advantageous, way of financial self-control is provided by Rutherford's description of an Indian "deposit collector".²⁰ This lady contracts with her clients to visit them every day for a set period and collect from them on each visit a fixed small amount. At the end of period the deposit-collector hands over to the clients the amount they have saved, less a commission that is equivalent to an annual interest rate of -30% on their deposits. The users of the service were quite aware of the negative interest rate. But they were content with the service, as the only way they could save was to put small sums of money somewhere they could not spend them. Clearly, however, membership of a ROSCA would have been a much cheaper technique of self-control.

ROSCAs may become less sustainable (more subject to default) as economies develop. Fear of ostracism in a particular community weakens when people can easily move to other communities. And threat of exclusion from future ROSCAs becomes a less powerful incentive against default as other sources of credit become available. Thus the virtual disappearance of the *kou* in Japan in the last fifty years might be seen as a natural consequence of other social changes.

Against that, the survival of ROSCAs in Taiwan suggests that the virtual extinction of the *kou* was not inevitable. Levenson and Besley, using data drawn from 1977-1991 Taiwanese Personal Income Distribution Surveys (which provide information on amounts paid into and withdrawn from ROSCAs in a survey year) report that 20.5% of Taiwanese households participate in ROSCAs, and provide reasons to think this figure greatly underestimates actual participation.²¹ There is no sign over this period of ROSCAs declining: younger population cohorts actually participate more than older ones, while there was little change over time in overall ROSCA participation (though it dipped temporarily in the mid 1980s following a collapse in the ROSCA market and the failure of a big credit union). They also found that ROSCA participation increases with income.

Credit unions

The credit union — credit cooperative — movement had its origins²² in Germany, and was more or less contemporaneous with the Rochdale consumer cooperative which started in 1844; although it took more than a century for the credit union movement to reach Britain, the

20 Rutherford (1999).

21 Levenson and Besley (1996).

22 Moody and Fite (1971).

home of consumer cooperatives. The two names mainly associated with the movement are Schulze-Delitzsch and Raiffeisen: the type of credit union developed by the former focused on short term lending to members of the urban population who were able to put up a little capital, the Raiffeisen variety focused on longer term lending to the rural poor.

Hermann Schulze was born in 1808; he changed his name to Schulze-Delitzsch on becoming a member of the parliament in Berlin in 1848. He first organised a cooperative credit society in 1850 with initial capital contributed by group of friends; would-be borrowers had to join the association and make a small monthly contribution to its capital. This society soon failed as a consequence of bad loans, unlike a society subsequently started by two of his friends in which all the capital was provided by the local members and which borrowed additional funds, for which the members had unlimited liability, to meet members' loan demands.²³ (The latter structure effectively reduced moral hazard as compared with the case of capital put up by outsiders.)

Schulze-Delitzsch reorganised his society on these lines, and from 1853 he travelled round encouraging the opening of more such schemes, which totalled 183 with 18,000 members in Posen and Saxony by 1859.

Friedrich Wilhelm Raiffeisen was born in 1818. He started his first society for advancing credit to farmers in 1849, and his second, third and fourth in 1854, 1862, and 1868.²⁴ Initially they were not cooperatives — finance was provided by better off members of community — but they were later reorganised on cooperative lines, following the example of Schulze-Delitzsch. In 1864 Raiffeisen reorganised his second scheme as the Heddesdorf Credit Union. Raiffeisen's movement, unlike the Schulze-Delitzsch movement, was explicitly Christian in motivation.

This movement saw a rapid expansion after 1880: it totalled 425 societies in 1888. Raiffeisen societies eventually grew much the faster. By 1910, there were 15,517 rural credit cooperatives, with over 2.5 million members; at the same time there were 2,103 urban credit cooperatives, with a little over 1 million members. Around this time, credit cooperatives accounted for over 6 percent of financial institutions assets' in Germany.²⁵

The credit cooperative movement swiftly spread elsewhere in Roman Catholic areas of Europe. In 1866, having studied Schulze-Delitzsch's ideas, Luigi Luzzatti opened the first cooperative bank in Milan. The movement also spread early on to Austria and France, as well as to parts of Eastern Europe including Russia.

Next the movement developed in parts of Asia. As well as reaching Japan in the 1890s — as discussed further below — credit cooperatives based on the Raiffeisen model were introduced by British officials into India. By 1917, 25,036 cooperative societies — mainly

²³ *ibid.*

²⁴ Wolff (1919) p.116.

²⁵ Guinnane (2001) p.19 and p.11.

rural credit cooperatives — were registered in India, with 1,045,542 members. Interest rates of between 6.5 and 10 percent (in a few cases up to 12.5 percent) were charged on loans.²⁶ (For comparison, the widely admired Grameen Bank in Bangladesh currently charges 20 percent on its general loan product and, according to Morduch,²⁷ would need to charge 32 percent to break even without access to grants from donors and soft loans.)

North America came next. Canadian journalist Alphonse Desjardins introduced what he called “*caisses populaires*” into the francophone (and Roman Catholic) area of Canada, on the basis of what he had learned of the Italian cooperative banks: the first *caisse populaire* was opened at Levis in Quebec in 1900.

The introduction of credit unions in to Massachusetts and elsewhere in the United States from around 1910 followed both the Canadian example and what the successful reforming department store owner Edward Filene had witnessed on a visit to India. The leadership of Filene, who approached the credit union basically as a way of improving his employees’ conditions, meant that the US movement — soon by far the largest in the world — developed mainly in the form of workplace credit unions. Currently in the US, credit unions account for around 17 percent of non-revolving consumer loans (about half the banks’ share) with housing related loans accounting for around half of lending, automobile related lending for almost 40 percent and unsecured lending accounting for around 12 percent. Clearly US credit unions have come a long way from the initial inspiration as lenders to those with no “collateral” other than their abilities and reputations.

Attempts were made in the 1960s to increase the penetration of US credit unions amongst poorer groups, but these attempts were relatively unsuccessful: at the end of the 1960s the movement decided its efforts at expansion should concentrate on those higher up the income scale. There was “an amazing growth of credit unions at American defence installations”. An example of the latter is the credit union at Tinker Air Force Base near Oklahoma City. “Organised in 1936 by seven civilians who each subscribed to one five-dollar share, it had become the tenth largest credit union in the world by 1970, with assets of over \$43 million, and a full time staff of 100, serving 40,000 members.”²⁸

More recently, the US has seen a new generation of credit unions in poorer neighbourhoods. The National Association of Community Development Credit Unions was founded in 1974, and had membership in November 2002 of 215 CDCUs, with average membership per credit union of around 1,000. Within this is a sub-group of “Faith-based credit unions” set up in early 1990s (mainly credit unions organised in church parishes). CUNA (Credit Union National Association, Inc) recently organised a survey of its success in serving members of “modest means” (defined as belonging to a household with annual income

26 Wolff (1919) pp.374-5.

27 Morduch (1999).

28 Moody and Fite (1971).

of less than 40 thousand dollars) and concluded that many credit unions were responsive to the needs of such members.²⁹

The US credit union movement had made its most substantial progress during the depression of 1930s. Some credit unions failed, but proportionately far fewer than banks; and new credit unions were opening even as banks were failing in droves. CUNA was launched formally in 1935. The US credit union movement also did very well in the 1970s — credit unions were the fastest growing financial intermediaries in the early to mid 1970s — helped by Regulation Q, which restricted banks' deposit interest payments but not the dividends on credit union shares.³⁰ In between these two periods of rapid advance the movement was most threatened when commercial banks took advantage of the era of McCarthyism to brand credit unions as “socialistic” and “un-American”.³¹

CUNA succeeded, however, in re-inventing its role to suit the environment of the cold war. In alliance with the Roman Catholic Church, which had its own conflicts with Marxism, it became, in effect, one of the instruments of competition between the USA and USSR for the allegiance of what was to become known as the “third world”. CUNA's “World Extension Division” was formed in October 1954. Already by 1953 the credit union movement had spread to the Caribbean. Puerto Rico, Jamaica and Dominican Republic were all represented on board of directors of CUNA by 1953. Jesuit priest Father Marion Ganey founded the first credit union in British Honduras in 1943. By 1953 he had organised 22 credit unions and a league, with support of the governor of Honduras. Then he moved to Fiji to start organising credit unions there.

In Mexico, two Catholic priests had by 1955 organised *cajas populares*, though they obtained no legal recognition for them. Development of credit unions in the Caribbean and central and south America continued under the influence of the World Extension Division. Westley and Shaffer note that between 1950 and 1980 many credit unions in Latin America were organised by “Catholic priests and Peace Corps volunteers”.³²

Elsewhere in the developed world, Australia — which had much earlier imported the building society from the UK — saw the introduction of credit unions after the Second World War as a result of wartime contact between Australian soldiers and members of the Canadian credit union movement. The first Australian credit union movement opened in 1946, but growth really took off in the 1960s following visits to Australia from Father Ganey (mentioned above). As an example, the Warwick and District Community Credit Union in Queensland was founded in 1970 as a result of a local Labour Party activist hearing a broadcast by Father Ganey. This credit union by 1995 had almost 8000 members and almost

29 CUNA and Affiliates (2003).

30 Black and Dugger (1981) p.529.

31 Moody and Fite (1971) pp.316-7. The following two paragraphs draw on *ibid* pp.317-321.

32 Westley and Shaffer (1997) p.2.

32 million A\$ of loans on its balance sheet.³³

The credit union's history reflects the familiar transition over time to increasingly bank-like behaviour. In a period when banks would not lend to women without a guarantor, one of the early distinguishing features of the credit union was its willingness to do so. Moreover, "in the early days, no mortgage or other security was required. The aim of the credit union in Warwick was to offer a service to the wage earner, small business man, small farmer or grazier who did not have the assets to borrow from a bank, even though they paid their bills on time." Often the interviews to discuss loan applications "became counselling sessions".³⁴ By the tenth anniversary dinner, however, a speaker is noting a "tendency to move into commercial and housing lending".³⁵ More generally, by the mid 1990s, housing loans accounted for over a third of a sample of Queensland and New South Wales credit union assets.³⁶

Ireland now has an exceptionally high penetration of credit unions, although the first credit union was established there as recently as 1958. Despite the rural poverty at the time and the power of the Roman Catholic Church, the Irish movement was actually led initially not by priests in the countryside but by white-collar workers in central Dublin. The movement spread within two years to Catholic parishes in Northern Ireland, where more recently there has been strong growth of Unionist/ protestant credit unions. The Catholic credit unions in Northern Ireland are affiliated with Irish credit unions; protestant credit unions affiliated with British credit unions. Over half the population of the island of Ireland (i.e. including Northern Ireland) now belong to a credit union, and savings with Irish credit unions total some 8 billion euros.

Credit Unions in Great Britain

Catholic immigrants from the Caribbean started Great Britain's first credit union in 1965. (Thus it took more than a century, and an extremely indirect route crossing the Atlantic twice, for the credit union movement to get from Germany to Great Britain.) It then took more than two decades after their introduction for the number of credit unions in Great Britain to reach one hundred, but their numbers increased rapidly during the 1990s. A recent official definition of British credit unions is as follows:

"Credit unions are mutually owned financial co-operatives established under the Credit Unions Act 1979. The objects of a credit union are stated in the 1979 Act to be:

- the promotion of thrift among members

³³ Pennycuik (1995) p.95.

³⁴ *ibid.* p.23.

³⁵ *ibid.* p.61.

³⁶ Ralston p.15.

- the creation of sources of credit for members at a fair and reasonable rate of interest
- the use and control of members' savings for their mutual benefit
- the training and education of members in the wise use of money and in the management of their financial affairs.

Members save by subscribing for non-transferable shares deposited with a credit union. Members may take out loans, at a maximum rate of interest of 1% per month and, for the majority, up to £5,000 in excess of their shareholding.

Membership is restricted to those who meet the qualification ("the common bond") for a particular credit union. The common bond may be one of four main types: residence in a particular locality; being a member of, or have an association with, an organisation; working for a common employer or in a particular locality; and following a particular occupation."³⁷

Credit unions can pay up to 8 percent a year on savings. Normally borrowing is limited to three times what a member has saved.³⁸

In 1997 the incoming Labour government made addressing the problems of "social exclusion" and "financial exclusion" one of its priorities, and saw credit unions as an important instrument in dealing with financial exclusion. (About one and a half million households in the UK are completely "financially excluded" in the sense that they use no financial services.)³⁹ The following quotation illustrates what a credit union was able to achieve in reducing financial exclusion in one of the most deprived areas of England, even before they benefited from enthusiastic government support:

"In the mid-eighties, a group of people came together in Toxteth.... This group of about 25 volunteers, most of whom were women, trained together and worked to mobilise the support of a network of local community organisations. In February 1989, the group opened their own financial co-operative and the Park Road Community Credit Union was born. In 1999, this credit union has 1,700 adult and 500 junior members. It has assets of £304,000, members' savings of £254,000 and, in the financial year 1997-98, made loans to its members of £270,000. The credit union is still run by a team of 60 local volunteers. It operates from a tiny two-bedroomed terraced house in a typical Liverpoolian street. Yet it has gone some way to achieve what many of the banks in the area could not do. It has enabled its members, all local residents, 68% of which live on welfare benefits, to access an affordable financial service able to respond to their own needs and circumstances."⁴⁰

There are now about 700 credit unions in the Great Britain, with over 300,000 members and 200 million pounds in assets. While the majority of these credit unions have remained relatively small — as of 2000, half had less than 200 members and a quarter less than 100

37 FSA press release 2 July 2002.

38 FSA factsheet, August 2002.

39 UK Government (2000).

40 Jones (1999).

members — the process of transition to larger more bank-like credit unions now seems to be underway, and will almost certainly be accelerated by recent legislation that has brought credit unions under the aegis of the UK's single financial regulator, the Financial Services Authority (FSA). There is a risk that regulators will find it more comfortable to deal with large organisations whose leaders have similar qualifications and social status to their own rather than with lots of small organisations. That risk may be greater now that credit unions are regulated by people whose careers will mainly be spent dealing with larger profit-making institutions rather than, as in the earlier regime, by a regulator specialising in smaller mutual institutions (the Registrar of Friendly Societies).

A move away from small-scale unions is, in, fact seen as desirable by both government and academic enthusiasts. Howard Davies, then head of the FSA, and someone very conscious of the social implications of the regulators' actions, acknowledged the likely change in the nature of British credit unions in a speech to their annual conference in March 2000. Discussing research on "why credit unions had not developed more rapidly and extensively in the UK" he noted the conclusion that "in other countries credit unions were seen primarily as cooperative financial institutions that operated effectively as businesses, whereas in the UK they were typically seen as small community projects that focused on social rather than economic goals". He continued: "credit unions will only grow effectively if they can persuade some of the better off members of society to entrust them with their money." (Hence the need for FSA regulation!)⁴¹

The main UK academic experts on financial exclusion also advocate the case for credit union growth: "In order for the credit union to meet the saving and borrowing needs of the wider community, it needs to undergo considerable expansion.... Put simply, credit unions need to move towards a 'virtuous circle' of development — they have to attract more savings, which will lead to higher income, bigger reserves, more members, more savings and so on".⁴²

The structure of the new system of regulation introduced in July 2002 is based closely on the FSA's regulation of banks.

- Credit unions will have to meet a basic test of solvency. Additional capital requirements will be set for larger credit unions, reflecting their potentially greater impact on consumers should they fail;
- Credit unions will be required to maintain a minimum liquidity ratio;
- Key personnel running credit unions will have to meet the standards set out in the FSA's rules for Approved Persons;
- Credit unions will be required to operate an effective complaints scheme with members

41 Speech available at <http://www.fsa.gov.uk/pubs/speeches/sp41.html>.

42 Collard, Kempson and Whyley (2001) p.27.

having access to the new Financial Ombudsman Service where they are not satisfied with the way their complaint has been handled;

- Credit unions will participate in the Financial Services Compensation Scheme providing members with deposit protection for the first time.⁴³

Clearly some of these rules will be easier for large than for small credit unions to deal with. In particular, the thought of having to meet the “Approved Persons” rules is likely to be intimidating for many volunteers running small credit unions.

Credit Unions in Japan

Many countries in East Asia have seen fast growth in credit unions since the 1960s. For example, in Korea the first credit union — the Holy Family Credit Union — was set up by Sister Mary Gabriella in 1960; a national association was founded in the mid 1960s, and the membership of Korean credit unions has grown from a little over 100 thousand in the early 1970s to over 5 million now.⁴⁴ Japan, however, has not shared in this credit union expansion.

As noted earlier, Japan has many centuries of history of ROSCAs (*kou*). The rural poverty of the late Tokugawa period also saw the emergence of philanthropic movements to help the poor; in particular from mid 19th century *houtoku* organisations (originating with Ninomiya Sontoku) which encouraged self-education, industriousness and thrift.

The obvious translation of “credit union” into Japanese is “*shinyou kumiai*”; and indeed organisations of this name exist. Moreover, they derive originally from the German credit unions. However they are not now recognised internationally as part of the credit union movement, because of their exclusive focus on business lending.

In the middle of the Meiji period, two Interior Ministry officials, Shinagawa and Hirota, who had studied German cooperatives, advocated the introduction of *shinyou kumiai*. After the failure of initial attempts to get a credit cooperative law through the parliament, they started discussions with members of the *houtoku* movement in Shizuoka. As a result, the first *shinyou kumiai* was set up in Kakegawa machi in July, Meiji 25 (1893), and a second scheme in Shizuoka followed in the same year. A survey by the Agriculture and Industry Ministry in 1898 recorded 26 *shinyou kumiai*: all *houtoku* movement bodies with a change of name.

The legal position of credit and other cooperatives was formalised under an Industrial Cooperatives Law of 1900, which established the role of *shinyou kumiai* as lending to and facilitating the saving of small businesses. Most cooperatives’ members were farmers, and there were also fishermen, small merchants, craftsmen and manufacturers. These institutions

43 FSA press release 2 July 2002. (Note that while the FSA introduced official deposit protection, credit union deposits had in fact previously been privately insured.).

44 Association of Asian Confederation of Credit Unions (2001) pp.77-88.

expanded over time and in the financial reforms after the Second World War many of the *shinyou kumiai* converted into larger scale *shinyou kinkou*. Like their original German models, these credit cooperatives have never provided consumer finance; they lend money to small and medium enterprises (SMEs), with the *shinyou kumiai* focused more on the “S” and the *shinyou kinkou* focused more on the “M” part of the range of businesses.

Shinyou kumiai continued only to accept deposits only from members. *Shinyou kinkou* were more bank-like but, as well as their mutual status, have retained the following substantive differences from banks:

1. They are active just in a specific locality
2. In principle, they only lend to members
3. Only SMEs can be members, not large companies.

They do however accept deposits from non-members, from outside their locality and from large companies. (As of March 2001, about 40 percent of the deposits of *shinyou kinkou* were from non-members.)

According to the definitive history of the *shinyou kinkou* movement,⁴⁵ written in the early 1980s, on both the institutions’ side and on the members’ side the consciousness of mutuality had by then been lost. They had become “more financial institutions and less cooperative organisations”. Many of the credit cooperatives participated in the excesses of the Bubble period, with significant failures since the bursting of the Bubble. As of March 2003, about 15 percent of *shinyou kumiai* lending and around 10 percent of *shinyou kinkou* lending was either being restructured, in danger, or under watch, compared with around 7 to 8 percent of city and regional banks’ lending and less than 2 percent of labour banks’ lending.⁴⁶

Japan has many other mutual credit and savings institutions — agricultural and fishing cooperatives, and labour banks. However, none of these organisations now can be regarded as filling the role of credit unions. Membership of agricultural and fishing cooperatives was compulsory for relevant populations during the Second World War. Membership after the war transferred automatically to new cooperative organisations, meaning membership was not a conscious voluntary decision. The passive nature of membership of these organisations meant they lost momentum as social movements.⁴⁷ The financial activities of agricultural cooperatives came into unwelcome prominence when the Jusen (housing specialist loan companies) in which they had invested heavily incurred debts on golf course developments and other property speculations, leading to a 685 billion yen government bail-out at the end of 1995 (the agricultural cooperatives themselves incurring losses of 530 billion yen).

While the labour banks originally had close connections with the consumer cooperative movements and do offer some consumer loans, they are now oriented more towards house

45 Mori and Atarashi (1982).

46 Statistics from the *roukin* (Labour Banks) central website <http://all.rokin.or.jp/>

47 According to Fujisawa, p. 6 of Japan Credit Union League (1981).

purchase finance. They have also recently been reorganised into large area banks, following the example set by the prefecture-based banks in the Kinki area, which formed the Kinki Labour Bank in the late 1990s.

The Japanese Labour Banks have their roots in the period of labour union activism that was (very briefly) encouraged by the occupying administration after the Second World War. One of the two original banks, the Hyogo Labour Bank had, when it opened at the end of 1951, 88 participating labour unions, and thus 150,000 members by virtue of their labour union membership. In its first ten days of operation it lent almost 6 million yen to 12,000 unionists (of which money, over a third was to cover for late payment of wages).⁴⁸ It should be clear that from the beginning the Labour Banks were not on a scale on which community knowledge and relationships could be used to reduce adverse selection and moral hazard.

It was against this background of many mutual credit organisations but no real community based micro-finance that Roman Catholic priests and missionaries introduced a new wave of credit unions into Japan in the early 1960s. In contrast with other parts of the world, however, the movement has remained largely confined to Roman Catholic parishes; its membership peaked at around 10,000 in the 1980s and has now fallen to below 5,000.

The World Extension Department of CUNA held a weeklong conference at Jesuit-run Sophia University in Tokyo in March 1960. A plan was formed to establish a Credit Union Information Centre at Sophia University following the conference, though this plan was not realised until 1966. Independently, a Catholic priest at Sasebo set up credit union in 1960. The same year, a credit union was set up in Nagasaki by a Catholic priest (who was in touch with CUNA and Sophia University). A Catholic welfare centre in Kyoto set up quasi-credit union in 1961. Missionary Father Macdonald set up a credit union in Ichinomiya, near Nagoya, in 1965. Canadian missionaries set up credit unions in Aomori during the same period.⁴⁹

In 1967, representatives of existing credit unions met to form the Japan Credit Union League.⁵⁰ Subsequently, to minimize regulatory charges the movement has been re-organised as a single credit union with branches rather than as a league of individual credit unions. The movement in Japan remains mainly but not totally tied to the Catholic church. In Osaka there is a protestant church credit union at Minami Sumiyoshi; and there used to be one based on the Korean community in Osaka though that has now closed.

The numbers of branches and members of the Japan Credit Union peaked in 1985 (64 and 9345, respectively). By 2000, this had fallen to 32 branches and 4,796 members. Shares

⁴⁸ Hyogo Labour Bank (1991), p.41.

⁴⁹ My information about these developments is taken from Japan Credit Union League (1981) and Mori (1994) pp.79-114. I also had the benefit of meetings at JCU headquarters and with the directors of the Ichinomiya branch. I am very grateful to Mr. Jun Mera of the JCU for arranging these meetings.

⁵⁰ The JCU's web site is at <http://member.nifty.ne.jp/jcu/>

and deposits totalled the equivalent of about \$10.5 million

The league caps interest charged on loans at 7.3 percent a year in order that the credit union is recognised as a mutual aid service under the consumer finance law and avoids taxation. Dividends vary from branch to branch, recently mainly in the range 0.5 to 1.2 percent a year. (Thus the lending rate is well below what a bank would charge for unsecured lending to consumers, while the dividend on shares is normally above the (close to zero) rate paid by banks on deposits.) Annual returns are filed to the Ministry of Finance. Branches can lend up to 10 percent of the capital of branch to any one lender. (Some branches may have a lower limit.) With just one 1,000-yen share a member can apply for this maximum loan amount. The biggest credit union branches may lend up to 2 million yen.

One of these large branches is in the parish of Ichinomiya, a textile manufacturing area near Nagoya, with 314 members as of May 2003. Over its life it has lent a total of around 600 million yen. Members typically borrow for car loans, education and health expenses. It has recorded only four cases in 39 years of borrowers entirely failing to repay debt. This branch now has difficulty finding sufficient lending opportunities — currently only about half of its assets are loans — partly reflecting an ageing membership, which has more savings and less need to borrow, although the branch does lend to members' children as well as to members. Its lending rate (for unsecured loans) is 3.6 percent. It had not paid a dividend paid in the current year, but had paid 0.3 percent in the previous year. Its aim was to keep dividend just above the banks' long-term deposit rate.

Why have community-based credit unions not prospered in Japan? Why are there less than 5,000 members in Japan and over 5 million members in Korea? The answer is most definitely not that, with its traditionally high household saving ratio, Japan has no need for low interest rate unsecured consumer lending. Nor is the answer that banks have met the need of would-be borrowers: in fact, the system of "window guidance" operated by the Bank of Japan for much of the post-war period required banks to direct their lending to industry rather than to consumers.⁵¹

Further evidence is provided by the prominence of the consumer finance industry — licensed moneylenders in UK parlance — in Japan. Loans by consumer finance companies — generally known as "sarakin" — totalled 7,858.6 billion yen in 1999. (The name "sarakin" is in its origins is just an abbreviation for "salaryman's finance"; but the organisations have acquired a reputation such that the name is normally translated as "loan shark".) It is estimated that almost a tenth of the Japanese population use "sarakin".⁵² At the end of March 2001, the balance of their outstanding lending had grown by 13.4 per cent over the previous year.

The average interest rate charged by consumer finance companies in the year ending

⁵¹ Werner (2003) p.60.

⁵² according to Utsunomiya (2002).

March 2001 was 27 percent. 86.6 percent of companies charged an interest rate in the range 29-29.2% (now the legal maximum interest rate), 8.5 percent of companies charged 28-29 percent, 3.2 percent charged 27-28 percent, and the remainder charged 25-26 percent. A year earlier — before the current legal maximum was set — the small-scale companies (with outstanding lending less than 1 billion yen) had been charging over 36 percent; and the medium scale companies up to 37.2 percent. And all but the very largest companies (balances in excess of 500 billion yen) had been charging over 32.5 percent.

For all companies (unweighted) average income was 28.2 percent of assets in the year ending March 2001. Expenses were 25 percent, leaving net profit at 3.2 percent. For the small-scale companies, income was 28.8 percent of assets, but expenses were 29.8 percent (of which personnel expenses were 12.5 of assets). Bad debt costs at 4.8 percent of assets for all companies did not vary greatly by company size (4.8 percent also for small-scale companies).⁵³ Clearly the smaller consumer finance companies have exceptionally high costs; but even the largest companies have very high costs compared with credit unions.

Rather than reflecting the lack of a need for the services that credit unions may supply, the failure of credit unions to expand seems more likely to be one of the many consequences of the dominance of the postal savings system. The postal savings system in Japan, in the words of Cargill and Yoshino, “is special. It is the largest [in the world] in absolute terms and close to the largest in relative terms”.⁵⁴ Undoubtedly it has helped to minimise “financial exclusion” on the deposit and saving side: it has provided a very widely accessible and simple way of depositing money on terms that do not discriminate against the small depositor. But by making it more difficult for other financial institutions to attract deposits, it has diverted finance away from the small-scale consumer borrowing. It has helped to wipe out the traditional *kou* and make it more difficult for credit unions to thrive.

“Most of the funds collected by the postal savings system are used in FILP [Fiscal Investment and Loan Program] which provides repayable funds through various government intermediaries and private users”. The use of postal savings to finance the FILP has thus diverted money from unsecured consumer lending to housing loans, infrastructure finance and state backed lending to large and small businesses.

Unlimited deposit insurance for banks has also made it more difficult for credit unions to attract deposits. Thus, perversely, the banking crisis of the 1990s has not allowed financially healthy community-based credit unions to gain business at the expense of the ailing banks — in sharp contrast with the experience of American credit unions during the 1930s. By highlighting the value of the unlimited guarantee on bank deposits (not now

53 Data from the “Consumer Finance White Paper 2001” published by the consumer finance trade associations JCFA and NIC (March 2002).

54 Cargill and Yoshino (2000) p.201. (The quotation in the next paragraph comes from the same source and same page.)

unlimited in the case of time deposits) at a time of financial fragility, the banking crisis may have even made life more difficult for the Japanese credit union movement.

Concluding remark

With the virtual extinction of Japan's indigenous variety of ROSCA, and the failure of community-based credit unions to take root, Japan's almost complete lack of community-based uncollateralised lending is anomalous, but seems to attract little notice. Maybe the Japanese credit union movement should do more to draw attention to its role in providing a sort of "local money" and in helping to circulate savings within local communities. The movement might then benefit from the current high level of interest in Japan in local currencies and community finance.

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