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

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

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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);

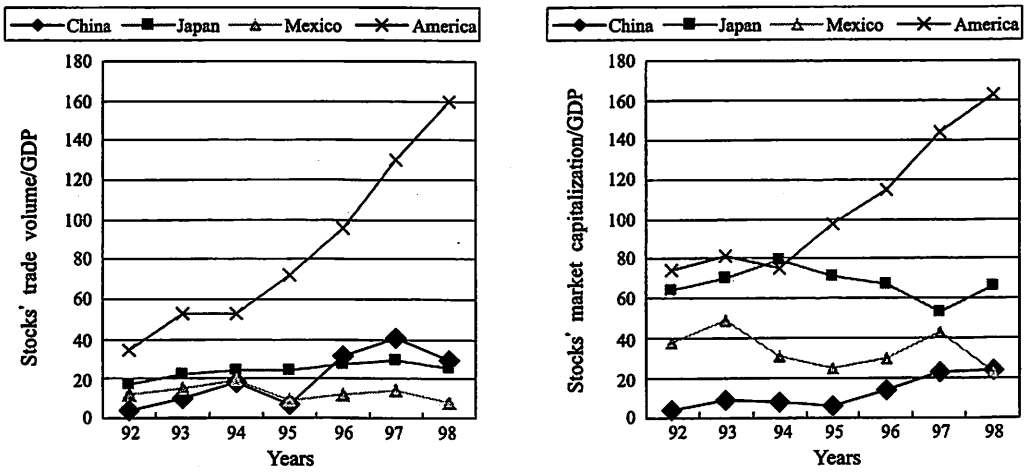
Note: Until Feberaury 2001, A-Shares means the stocks which are sold to the domestic investors and B-Shares means the stocks which are sold to the foreign investors. Listed companies issued two categories stocks, tradable shares and non-tradable shares. Tradable shares are owned by individual investors. 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 millionNational 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.

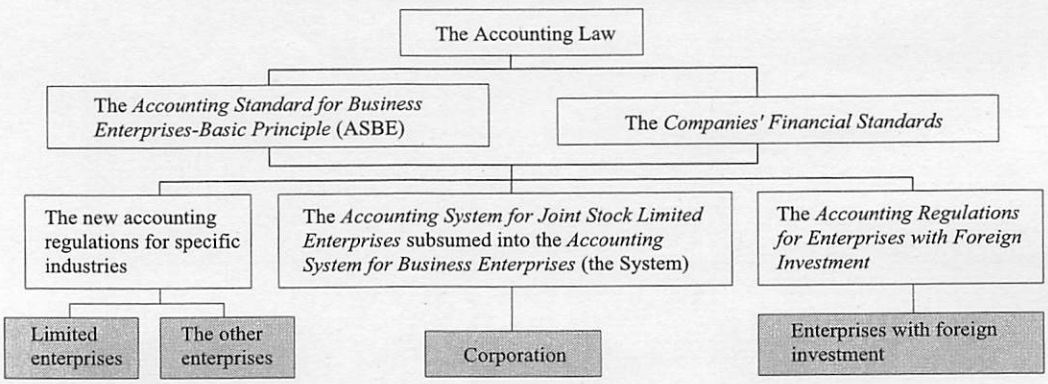
Due in part to globalization, the Chinese emerging market has developed rapidly during the past decade. A high level of speculation exists in the Chinese stock market because of its small size, high levels of trade, and wide fluctuation in the stock prices. It should be noticed that there are risks associated 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 1st. 1997	Listed enterprises
2	Cash Flow Statements (revised 2001)	January 1st. 2001	All enterprises
3	Events Occurring After the Balance Sheet Date	January 1st. 1998	Listed enterprises
4	Debt Restructuring (revised 2001)	January 1st. 2001	All enterprises
5	Revenue	January 1st. 1999	Listed enterprises
6	Investments (revised 2001)	January 1st. 2001	Joint Stock Listed Enterprises (listed enterprises only prior to Jan. 1st. 2001)
7	Construction Contracts	January 1st. 1999	Listed enterprises
8	Changes in Accounting Policies and Estimates and Corrections of Accounting Errors (revised 2001)	January 1st. 1999	All enterprises (prior to Jan. 1st. 2001, it was listed enterprises only)
9	Non-monetary Transactions	January 1st. 2001	All enterprises
10	Contingencies	July 1st. 2001	All enterprises
11	Intangible Assets	January 1st. 2001	Listed enterprises
12	Borrowing Costs	January 1st. 2001	All enterprises
13	Leases	January 1st. 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]

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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 date[7]

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:

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

$$\text{The IAS model: } P_{jt}=\beta_0+\beta_1 E^i_{jt}+\beta_2 BV^i_{jt}+\theta_t \quad (3)$$

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^c_{jt}: earnings per share for firm j for year t based on Chinese-GAAP
E^i_{jt}: earnings per share for firm j for year t based on IAS
BV^c_{jt}: book value per share for firm j at the end of fiscal year t based on Chinese-GAAP
BV^i_{jt}: 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^i_{jt}. Then, use the Price^i_{jt} as a new independent variable to estimate the following model (4). After that, equation (2) can estimate Price^c_{jt}. Then ddd the predicted Price^c_{jt} as an additional regressor to make the model (5):

$$P_{jt}=\alpha_0+\alpha_2 BV^c_{jt}+\alpha_3 \mathrm{Price}^i_{jt}+\varepsilon_t \quad (4)$$

$$P_{jt}=\beta_0+\beta_1 E^i_{jt}+\beta_2 BV^i_{jt}+\beta_3 \mathrm{Price}^c_{jt}+\theta_t \quad (5)$$

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:

$$P_{jt} = \gamma_0 + \gamma_1 E_{jt} + \gamma_2 BV_{jt} + \theta_{jt} \tag{1}$$

$$P_{jt} = \alpha_0 + \alpha_1 E_{jt} + \nu_t \tag{6}$$

$$P_{jt} = \beta_0 + \beta_1 BV_{jt} + \varepsilon_t \tag{7}$$

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×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

	Two-tailed t test			Wilcoxon signed ranks test	
Variables	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: $P_{jt} = \alpha_0 + \alpha_1 E^c_{jt} + \alpha_2 BV^c_{jt} + \varepsilon_t$ (2)

	α_1	α_2	Adjusted R^2
Coefficient	6.503***	−0.012	0.559
t-value	16.312	−0.100	

Panel B: $P_{jt} = \beta_0 + \beta_1 E^i_{jt} + \beta_2 BV^i_{jt} + \theta_t$ (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^c_{jt} : earnings per share for firm j for year t based on Chinese-GAAP.
E^i_{jt} : earnings per share for firm j for year t based on IAS.
BV^c_{jt} : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.
BV^i_{jt} : 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 ($Price^i_{jt}$) 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: $P_{jt} = \alpha_0 + \alpha_1 E^c_{jt} + \alpha_2 BV^c_{jt} + \alpha_3 Price^i_{jt} + \varepsilon_t$ (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: $P_{jt} = \beta_0 + \beta_1 E^i_{jt} + \beta_2 BV^i_{jt} + \beta_3 Price^c_{jt} + \theta_t$ (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.
$Price^i_{jt}$: Estimated share prices forfirm$j$ on the end of April in year $t+1$ from the IAS model shown in Table. 5.
$Price^c_{jt}$: 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^c_{jt} : earnings per share for firm j for year t based on Chinese-GAAP.
E^i_{jt} : earnings per share for firm j for year t based on IAS.
BV^c_{jt} : book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.
BV^i_{jt} : 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%
10	Macao	0.4%	10	Japan	0.4%
	Others	4.4%		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

$$P_{jt} = \alpha_0 + \alpha_1 E_{jt} + \nu_t \quad (6)$$
$$P_{jt} = \beta_0 + \beta_1 BV^i_{jt} + \varepsilon_t \quad (7)$$
$$P_{jt} = \gamma_0 + \gamma_1 E_{jt} + \gamma_2 BV_{jt} + \theta_{jt} \quad (1)$$

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^c_{jt} : earnings per share for firm j for year t based on Chinese-GAAP.
BV^c_{jt} : 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 yealy coss-sectional repressions. 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. Similar observations such as those featured in Fig. 3 (a)

Fig. 3 (a) **(b)**

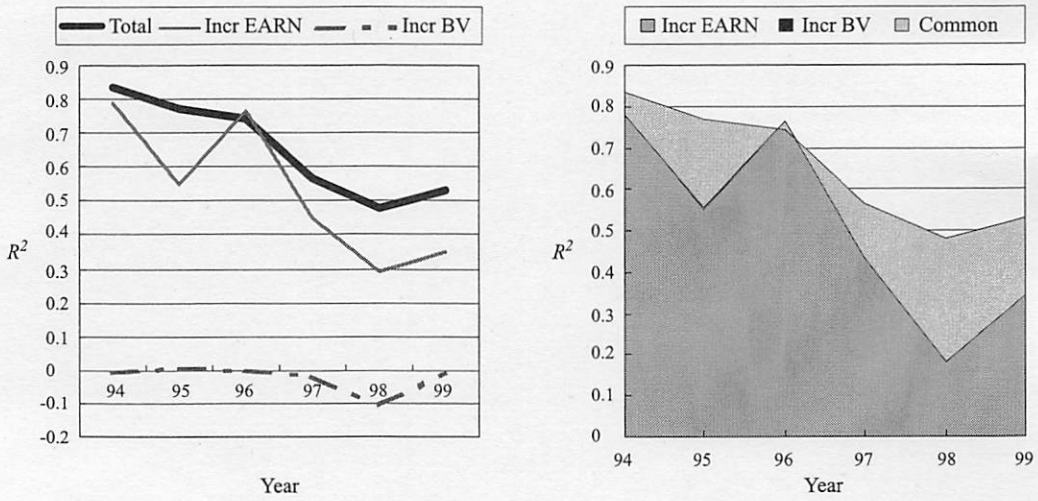


Fig. 3.(a) Yearly cross-sectional regressions representing the common and incremental explanatory power of earnings and book values (stacked). In each year, three cross-sectional regressions are run. Price is regressed on (1) earnings, (2) book values and (3) both earnings and book values. The incremental explanatory power of earnings (Incr EARN) if 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 repression (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)

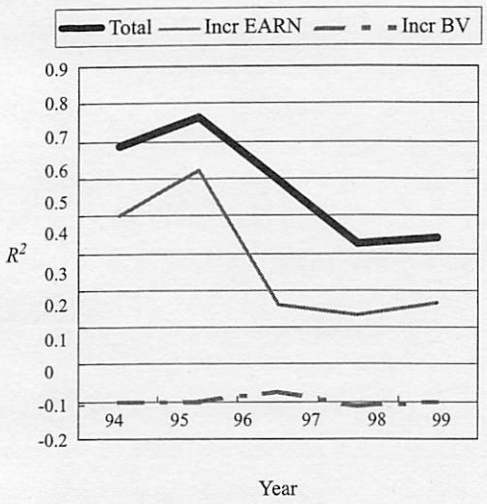
$$P_{jt}/BV^c_{jt-1} = \alpha_0+\alpha_1 E^c_{jt}/BV^c_{jt-1}+\nu_t$$
$$P_{jt}/BV^c_{jt-1} = \beta_0+\beta_1 BV^i_{jt}/BV^c_{jt-1}+\varepsilon_t$$
$$P_{jt}/BV^c_{jt-1} = \gamma_0+\gamma_1 E^c_{jt}/BV^c_{jt-1}+\gamma_2 BV^c_{jt}/BV^c_{jt-1}+\theta_{jt}$$

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^c_{jt}: earnings per share for firm j for year t based on Chinese-GAAP.
BV^c_{jt}: book value per share for firm j at the end of fiscal year t based on Chinese-GAAP.
BV^c_{jt-1}: 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)

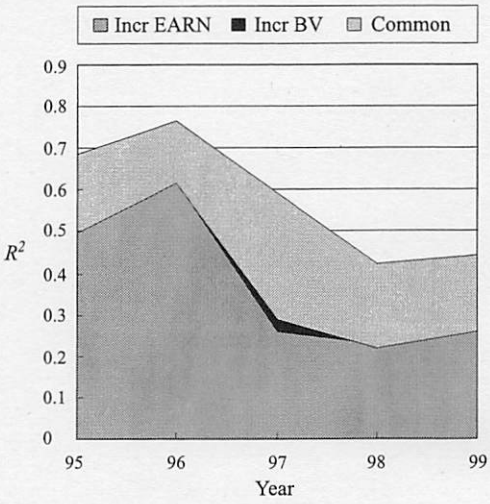
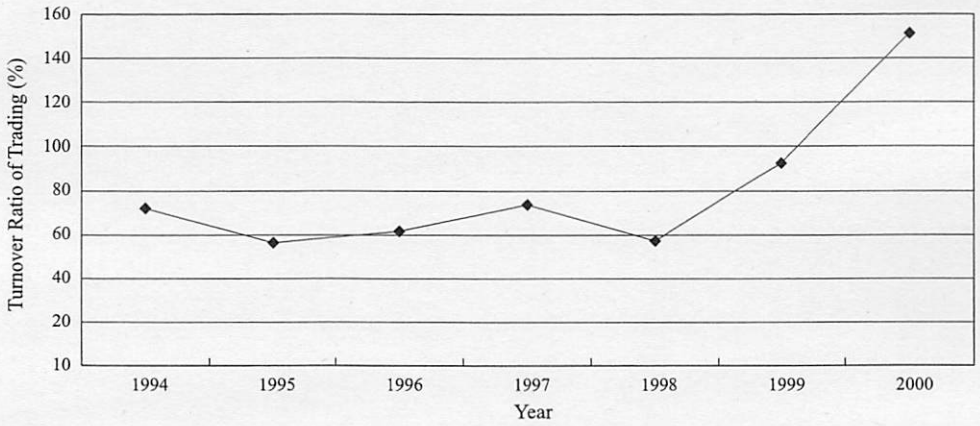


Fig. 4.(a) Yearly cross-sectional regressions representing the common and incremental explanatory power of earnings and book values (stacked). In each year, three cross-sectional regressions are run. Price is regressed on (1) earnings, (2) book values and (3) both earnings and book values. The incremental explanatory power of earnings (Incr EARN) if 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 repression (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.

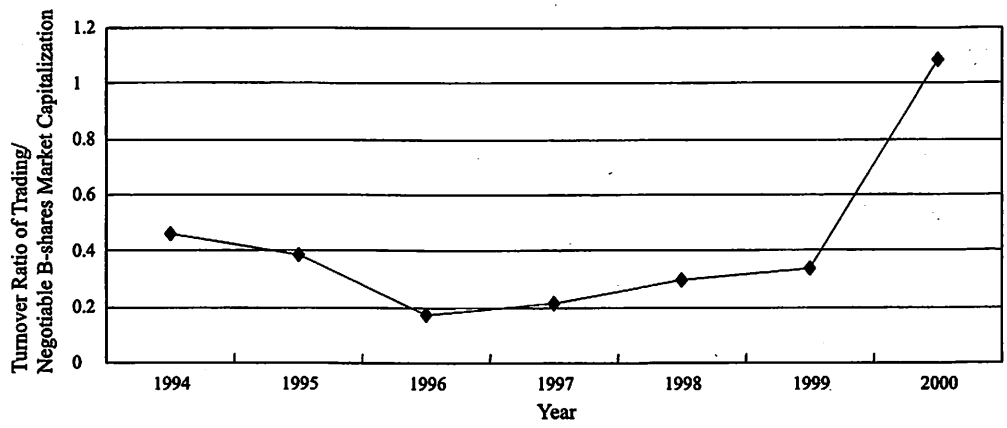
Fig. 5 The Time-Series of the Turnover Ration of Trading in Shanghai Capital Market



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 Ration 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

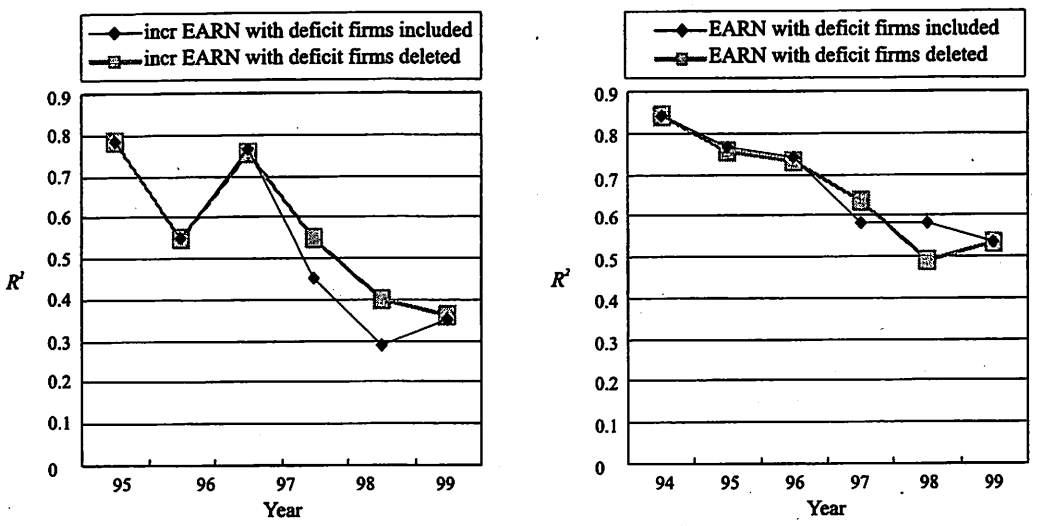
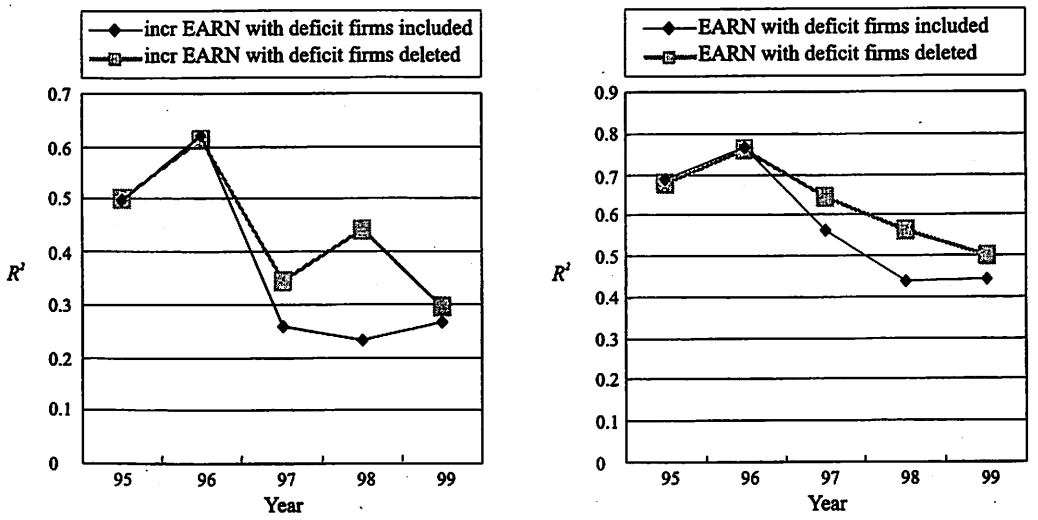


Fig.8 The Explanatory Power of Earnings with Deficit Firms Included and Deleted (Beginning Book Value is used as the Deflator)



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 that 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 necessary 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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