PRIVATIZATION AND INSIDER INCENTIVES: AN INTERNATIONAL

TEST OF EARNINGS MANAGEMENT IN PUBLIC OFFERINGS OF

STATE-OWNED ENTERPRISES

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ABSTRACT

Massive privatization programs over the last two decades have created an unprecedented surge in share issues on stock markets worldwide. Privatization is applauded for enhancing efficiency of state-owned firms, as evidenced by financial and operational improvements of these firms after being sold to the private sector. The current study looks into the possibility that such improvements are confounded by managerial opportunistic behaviors during the privatization process. Discretionary accruals over a three year period around share issue of 63 privatized public offerings during the 1990s and 2000s have been examined against those of non-privatized firms and in relation to offering prices as well as post-privatization performance. Results show that discretionary accruals of privatized firms are negative during the year prior to privatization. Offering prices are influenced by pre-issue earnings management, upholding the suspicion of possible managerial manipulation to opportunistically lower prices. Interestingly, pre-privatization discretionary accruals are found to be negatively related to post-privatization performance, suggesting that the reversal impact of pre-privatization accounting choices contribute to recorded financial improvements after state assets are sold. In addition, pre-issue accounting choices introduce noise to earnings and impair the value relevance of reported incomes on stock return in the aftermarket. In conclusion, the study provides evidence of management's opportunistic behavior during state ownership transfer and that the documented success of privatization is inflated by such behavior.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION AND SYMBOLS

CEO	Chief Executive Officer
DACC	Discretionary accruals
EM	Earnings management
EU	European Union
GDP	Gross domestic product
HLM	Hierarchical linear model
IPO(s)	Initial public offering(s)
OLS	Ordinary least square
ROA	Return on assets
ROE	Return on equity
ROS	Return on sales
SEO(s)	Seasoned equity offering(s)
SIP(s)	Share issue privatization(s)
SOE(s)	State-owned enterprise(s)
TA	Total assets
TACC	Total accruals
UK	United Kingdom
US	United States
USD, US$	United States dollar
WLS	Weighted least square

CHAPTER 1. INTRODUCTION

Over the last two and a half decades since the successful privatization of British Telecom in 1984, denationalization or privatization of state-owned firms has spread rapidly around the world. The selling of state-owned firms to the private sector purports not only to promote operating efficiency of these firms but also to generate revenue for the sovereign states. As documented by the World Bank and the Privatization Barometer[1], the selling of state assets to the private sector during the 1988-2008 period brought about US$1,200 billion to 142 governments. Among different methods of selling assets, share-issue privatization (SIP) has been the most important method due to its ability to reach out to a broader investor community and to raise a large amount of capital. In addition, privatization through public offerings of shares promotes the development of the national capital market. Over this same period, even though accounting for only 11% of the total number of transaction, SIP deals raised more than 50% of the total privatization revenue. SIPs are mainly large offerings, with average proceeds of around US$500 million per deal. As shown in Table 1, as of 2000, 23 out of the 25 largest offerings in the world are SIPs. Outside the United States, SIPs have caused the largest surge in equity issuance (Bortolotti and Milella 2006).

At firm level, positive change in financial and operating performance has been documented after privatization. Megginson et al. (1994), Boubakri and Cosset (1998), D'Souza and Megginson (1999), Megginson and Netter (2001) and Dewenter and Malatesta (2001) consistently find accounting profitability as well as operating efficiency significantly improve while leverage ratio is reduced. However, evidence of concurrent positive post-issue long-run returns is somewhat ambiguous and mixed[2] (Megginson and Netter 1997; Megginson et al. 2000; Megginson and Netter 2001; Dewenter and Malatesta 2001; Choi et al. 2010). SIPs are reported to outperform the market in some studies (Levis 1993; Jelic and Briston 1999) while underperform in others (Choi et al. 2010). Another notable observation is the fact that SIPs are normally found to be deeply underpriced, meaning the first market price well exceeds the offering price for a SIP

Table 1. World largest public offerings as of 2000

	Date	Company	Country	Amount (US$ mil.)	Note
1	11/87	Nippon Telegraph & Telephone	Japan	$40,260	SIP
2	10/88	Nippon Telegraph & Telephone	Japan	22,400	SIP
3	11/99	ENEL	Italy	18,900	SIP
4	10/98	NTT DoCoMo	Japan	18,000	SIP
5	10/97	Telecom Italia	Italy	15,500	SIP
6	02/87	Nippon Telegraph & Telephone	Japan	15,097	SIP
7	11/99	Nippon Telegraph & Telephone	Japan	15,000	SIP
8	06/00	Deutche Telekom	Germany	14,760	SIP
9	11/96	Deutche Telekom	Germany	13,300	SIP
10	10/87	British Petroleum	United Kingdom	12,430	SIP
11	04/00	ATT Wireless	USA	10,600	private IPO
12	11/98	France Telecom	France	10,500	SIP
13	11/97	Telstra	Australia	10,530	SIP
14	10/99	Telstra	Australia	10,400	SIP
15	06/99	Deutche Telekom	Germany	10,200	SIP
16	12/90	Regional Electricity Companies	United Kingdom	9,995	SIP
17	12/91	British Telecom	United Kingdom	9,927	SIP
18	12/89	U.K. Water Authorities	United Kingdom	8,679	SIP
19	12/86	British Gas	United Kingdom	8,012	SIP
20	06/98	Endesa	Spain	8,000	SIP
21	07/97	ENI	Italy	7,800	SIP
22	04/00	Oracle Japan	Japan	7,500	private IPO
23	07/93	British Telecom	U.K.	7,360	SIP
24	10/93	Japan Railroad East	Japan	7,312	SIP
25	12/98	Nippon Telegraph & Telephone	Japan	7,300	SIP

Source: Boutchkova and Megginson (2000)

(Lam et al. 2007; Huang and Levich 2003; Megginson and Netter 2001). Megginson and Netter (2001) report an average unadjusted first day positive return of 30% in large sample studies of SIPs while Lam et al. (2007) find the market adjusted first day returns for SIPs to be positive 13.9%. Ljungqvist et al. (2003) document that privatization initial public offerings are significantly more underpriced than private offerings by about thirteen percentage points. By far, explanations for such heavy underpricing of SIPs are suggested to be (i) reputation building (Megginson and Netter 2001; Huang and Levich 2003) and (ii) political and economic policies and policy risk (Lam et al. 2007; Jones et al. 1999).

Interestingly, even though the evaluation of financial improvement as well as the pricing of SIPs is dependent upon financial information, few studies have explicitly questioned and examined the quality of accounting numbers provided during the privatization process. In non-privatization ownership transfer settings, there has been voluminous evidence of manipulative accounting choices to opportunistically benefit from stock related transactions. To name a few, Teoh et al. (1998b, 1998) found evidence of accounting manipulation to induce overpricing in initial public offerings (IPOs) as well as seasoned equity offerings (SEOs). Perry and Williams (1994) and Wu (1997) documented undervaluation-induced behavior in management buyouts while Gong et al. (2008) observed such behavior during firms' open market repurchases. Ownership transfer through selling state-owned firms to the private sector, similarly, creates an opportunistic incentive to management. Cornelli and Li (2005) suggest that the opportunity to buy into a privatized state-owned firms induce management to delay restructuring to underperform during the pre-privatization period. Arguably, when postponing restructuring is costly, cosmetically underperforming through accounting choices becomes appealing.

Unlike the case of private share offerings, accounting manipulation around SIPs may influence the offering price favorably for the managers who want to buy into the privatized firms while saving the firms from suffering any financial performance disadvantage after they go public. More specifically, if management decides to use income decreasing accounting choices before the SIP, the offer price, which is usually

3

based on accounting numbers (Welch and Fremond 1998; Parker 2009), will become more affordable. Furthermore, when such accounting choices reverse their effects later on, the firm will show an improvement in its profitability after being privatized. Consequently, we will observe an improvement in the financial performance of privatized firms after divestment as well as a gap between the offer price and the perceived true firm value. That is exactly what has been witnessed in share-issue privatizations around the globe.

In light of the above theoretical and empirical guidance, this research investigates possible accounting manipulative activities during SIPs across various countries. Specifically, it examines whether management of SIP firms employ income decreasing accounting choices to underperform before the share issues as well as the relation of such choices to post-privatization firm performance (see Figure 1 for a summary of research questions addressed in this study). The selection of share issuance rather than other privatization methods has a practical reason due to data availability concern. The election to examine multiple countries instead of a single one is due to the fact that the incentive is universal, and not limited to any type of country. Furthermore, a multiple country study can provide insights into how different institutional backgrounds and environments may influence such manipulation incentive.

This study examines annual discretionary accruals as estimated by the performance adjusted as well as performance matched modified Jones' models (Kothari et al. 2005) for a sample of 63 SIPs in 24 countries around public offerings. The sample is selected for the period from 1990 to 2006, when privatization activities spread most rapidly around the world. Discretionary accruals for SIP firms are found to be significantly negative in the year prior to privatization, even after controlling for environmental confounding factors. The result persists across estimation models and analysis methodologies. The impact of pre-issue discretionary accruals is significantly positive on offering prices, suggesting that management can influence offering prices through earnings management. Interestingly, the negative discretionary accruals are related to the improvement in financial performance after privatization, confirming the prediction that the financial performance improvement documented in prior literature may partly be the

result of accounting artifacts. Finally, the study documents a significantly lower value relevance of earnings number in predicting stock price for the sample firms in the year after privatization, which is consistent with the observed mismatch between consistent financial improvements and inconsistent positive stock returns after the SIPs.

This research contributes to the literature in several ways. First, it is the first multiple-country study of accounting discretion during the ownership transfer from the government to private investors. Given the economic scale of SIP transactions and the sizable wealth transfer such misbehaviors may create, an investigation into possible management opportunistic behaviors during privatization is necessary. Second, this study complements the current literature on sources of differential financial performance between pre and post privatization periods and provides an additional possible explanation for the heavy underpricing phenomenon observed in SIPs. It, therefore, connects the accounting, finance and economic literatures to draw a more comprehensive picture of the success of privatization. Finally, the research adds to the existing earnings management literature by providing a test of the discretionary accruals using hierachical linear models to control for both country level and firm levelfactors influencing earnings management.

The next section, Chapter 2, discusses prior literature on the financial and market performance of former state-owned enterprises (SOEs) after being privatized, the insider's incentive to manage earnings during the privatization process and empirical evidence of earnings management during ownership transfer transactions. Chapter 3 develops hypotheses based on the analytical model derived from Cornelli and Li (2005) and current evidence of managerial self-interest behaviors and consequences. Chapter 4 details data sources, sampling procedures, methodologies and testing models. Chapter 5 summarizes test results and sensitivity analyses. Finally, Chapter 6 concludes and discusses limitations of the study.

PRE SHARE ISSUE MOTIVATION AND BEHAVIOR

POST SHARE ISSUE OBSERVATION

DOCUMENTED EMPIRICAL EVIDENCE

Private public offerings (IPO, SEO)
ISSUER: Private investors
INCENTIVE: Maximizing issue proceeds

Income increasing accounting choices

Accrual reversal

Over optimism

Positive short-term stock return UNDER-PRICING

- Information asymmetry
- Reputation building

Unfavorable financial performance

Negative long-term stock return

RESEARCH QUESTIONS IN THIS STUDY

Privatization: Selling of government assets

Asset sales

Mass privatization

SIP
ISSUER: Government INCENTIVE: **Government:** Multiple competing goals **Management:** Lower firm value

Income decreasing accounting choices

Undervaluation

Accrual reversal

Noisy financial improvement

Positive short-term stock return UNDER-PRICING
Improved financial performance
Long-term stock return: Mixed evidence

- Information asymmetry
- Reputation building
- Policy risk
- Government policy

- Positive impact of ownership and policy change

⟶ Empirically tested assertions
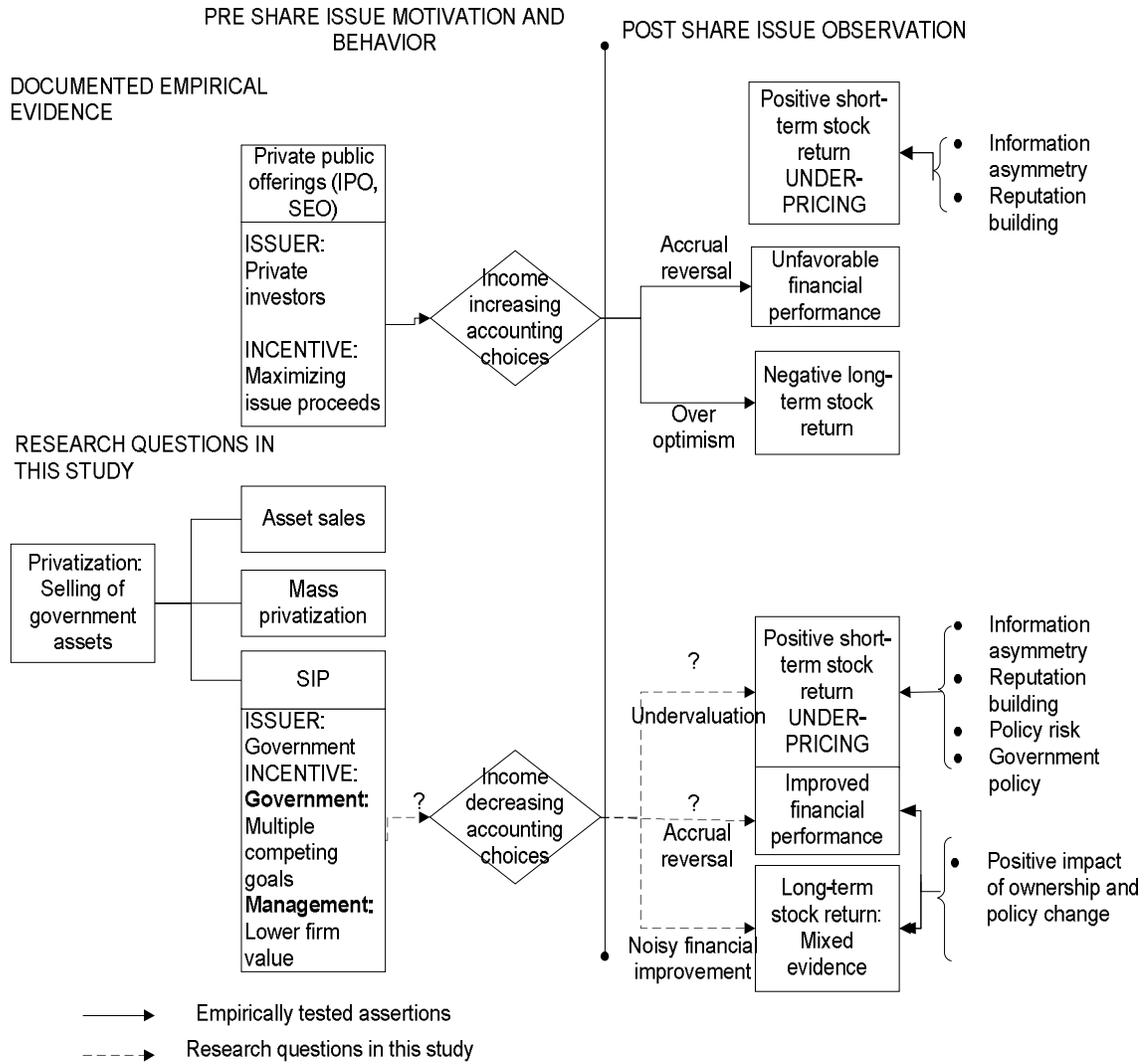
- - - ▸ Research questions in this study

Figure 1. Summary of research questions

6

CHAPTER 2. LITERATURE REVIEW

2.1. Economic rationale and methods of privatization

The twenty year period from 1988 to 2008 has witnessed a significant level of state ownership privatization activities across the globe, creating total revenue of about US$1,200 billion[3]. Since the privatization program initiated by the Thatcher government in the UK in early 1980s, privatization activities have spread rapidly around the world, in both industrialized and developing countries. The most important rationale for divestment of state ownership is the recognized inefficiency of state-owned enterprises due to political considerations, lack of appropriate incentives and monitoring. Divestment of state-owned enterprises helps governments raise additional revenues from selling state assets as well as removing economic burdens of supporting ailing enterprises. In addition, privatization programs open up opportunities for competition and development of national capital markets through promoting wider share ownership and creating more products for the stock market (Megginson and Netter 1997; Megginson 2005).

There are three common methods through which governments divest their assets: (i) private sale; (ii) share issue and (iii) mass or voucher privatization. Private sale (also referred to as trade sale or asset sale) is the selling of government ownership in whole or in part to existing corporations or individuals. Typically, a private sale is conducted through an auction but the government may also sell its stake directly to private investors. A share issue privatization or SIP is the selling of government ownership through public offerings, similar to an IPO in the private sector. Mass privatization is the method used only in transition economies in Central and Eastern Europe to quickly transfer government assets to private hands at a relatively cheap price. Among the three methods, SIP is the most single important method due to its ability to reach out to a broad investment community, its superior transparency over other methods and its ability to help governments develop domestic capital markets. Results in Megginson et al. (2004) shows that there is a negative relation between the level of market development and the probability of using SIPs vs. private sale. Their result, together with Boutchkova and Megginson (2000)'s evidence of a positive relation between market liquidity and

privatization , suggest that privatization improves stock market development (Megginson 2005, p.253). Yet, SIPs are considered costly and time consuming (Megginson 2005; Bortolotti and Milella 2006). Figure 2 summarizes worldwide privatization activities from 1988 to 2008. As shown in Panel A, private sales and other transactions (which includes mass privatization, management and employee buyouts, and firm leasing) account for most of the deals over these two decades. The large number of deals classified as 'other type' in Panel A during the 1990s is due to the implementation of mass privatization programs in the former communist countries. However, in terms of average as well as total sale proceeds over the years, public share offerings or SIPs outweigh all other methods, particularly during the 1990s (Panel B and C, Figure 2). Total proceeds from SIPs account for more than half the privatization revenues. The average size of transaction is US$475 million for a SIP while only US$92 million for a private sale and US$23 million for other types[4].
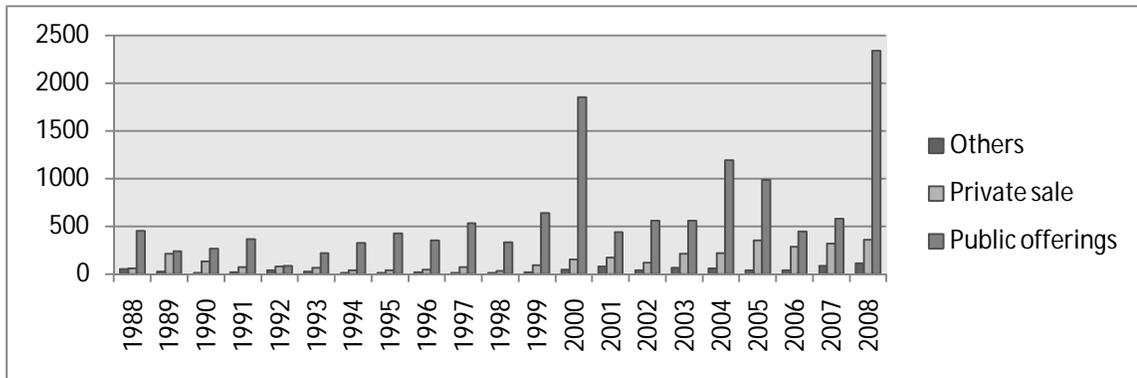
Panel A: Number of transactions
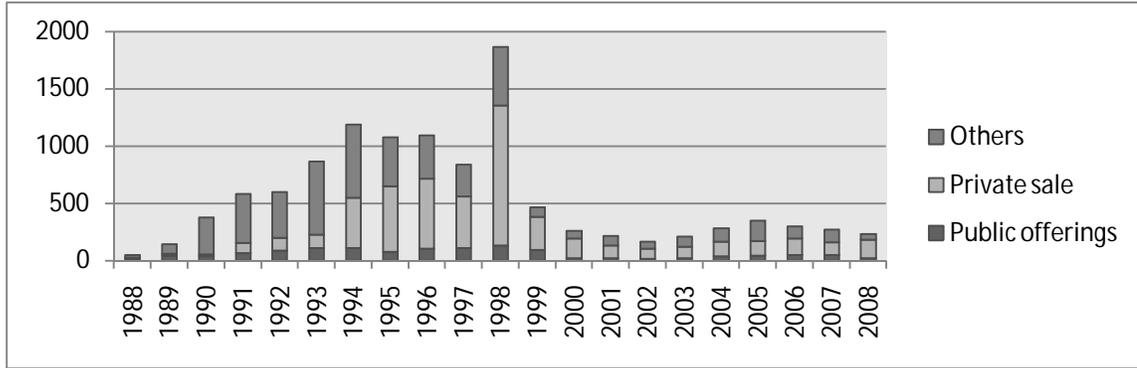
Panel B: Total proceeds (in US$ million)
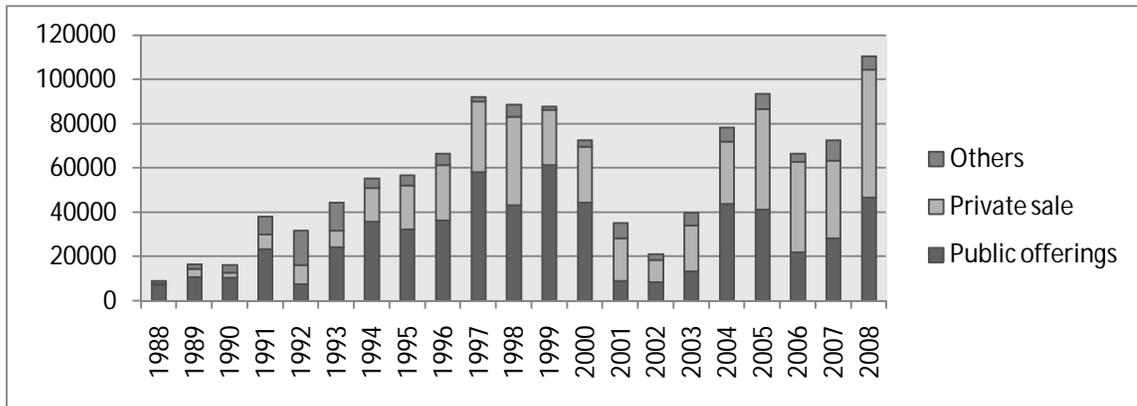
Panel C: Average proceeds (in million USD) by privatization deal type

Others include mass or voucher privatization, management and employee buyouts and leasing.
Source: The World Bank and the Privatization Barometer databases.

Figure 2. World privatization during 1988-2008

2.2. Overview of the operating and financial performance of SIP firms

2.2.1. *Operating and financial performance*

An early effort to examine firm-level effects of privatization is Megginson et al. (1994) who document significant increases in profitability, productivity and employment of former SOEs after being privatized in the 1980s. Comparing both accounting profitability and efficiency measures between pre- and post-privatization periods, the authors find that SIP firms significantly improve after divestiture. Using the same approach, Boubakri and Cosset (1998) and Boubakri et al. (2004) find similar results after examining firms in developing countries. Further adding to the credibility of previous evidence, D'Souza and Megginson (1999) replicate the above studies in examining privatizations during the 1990s period. Statistical analysis continues to uphold the position that privatization yields significant performance improvements in divested firms, regardless of institutional and economic conditions. Taking into account firm specific factors that may alter the documented improvement, Frydman et al. (1999) and Pivovarsky (2001) confirm that firms experience overall performance improvement after being converted to private ownership. The effect, however, depends upon preconditions such as firm size, pre-privatization efficiency, as well as post-privatization ownership structure.

Limiting the examination to specific industries, Bortolotti et al. (2002) and Verbrugge et al. (1999) choose to evaluate financial and operating performance as well as sources of performance improvements of privatized firms in telecommunication and banking industries. Using the pre-post design and accounting measures for a sample of 31 national telecommunication companies privatized through public share offering worldwide, Bortolotti et al. also find a significant improvement in accounting as well as efficiency measures after the offering. Yet, the observed improvement is attributable to both regulation changes and ownership transfer through privatization.

Despite differences in the evaluated magnitude of privatization impact on the operating and financial performance of privatized firms, research findings so far seem to confirm the argument that, by throwing SOEs into market competition and removing

noneconomic objectives, these firms will employ their resources more efficiently and operate more profitably. However, as cautioned by Megginson and Netter (2001) and Dewenter and Malatesta (2001), the conclusion of improved operating and financial performance should be cautioned due to possible data manipulation. Accounting data manipulation has been documented in various occasions in the US and probably, such manipulation problem could be more severe for international firms.

2.2.2. Stock performance in the aftermarket

Along with evaluating the financial and operating performance of privatized firms, a large portion of the privatization literature has been devoted to studying the stock price behavior of former SOEs after the SIPs, both during the immediate period after share issues and over longer horizons.

Research on the initial returns or underpricing of new equity offerings by privatized firms frequently record heavy underpricing of privatized share issues (Dewenter and Malatesta 1997; Jones et al. 1999; Huang and Levich 2003; Lam et al. 2007). Underpricing refers to the phenomenon that the market price at the end of the first day of open market trading is well above the share offering price. Unlike private share offerings, SIPs are subject to greater political and economic risks because the issuer, being the government, is capable of modifying policies to affect firm value and investors' rights (Perotti 1995; Perotti and van Oijen 2001;Lam et al. 2007). Consequently, besides the two common reasons for underpricing of a general public offering (information asymmetry and reputation building) (Grinblatt and Hwang 1989; Huang and Levich 2003), policy risk and political and economic objectives are cited as additional causes. The literature on policy risk and underpricing of SIPs documents that even though SIPs are older, larger and better-known firms than private IPO firms, SIPs are frequently more underpriced. This phenomenon suggests that there exist other reasons for the heavy underpricing level of SIPs beyond information asymmetry and reputation building. In order to signal its commitment to a credible privatization program, its intention not to redistribute the firm value after privatization, a government may choose to underprice SIPs (Perotti 1995; Jones et al. 1999; Lam et al. 2007). In addition, Parker (2009) points

out that investors should be compensated through underpricing, due to a lockup period between the day investors put up their money to buy shares and the first trading day of the share. Interestingly, while underpricing of SIPs is examined in numerous studies, undervaluation is hardly investigated. Among the determinants of SIP underpricing, research so far has never questioned whether underpricing is partly the consequence of initial undervaluation of state-owned firms being subject to privatization in the first place.

Another strand of research examining stock performance of SIPs is studies on the long-run returns to investors, usually over a period of 3 to 5 years after the first day of open market trading. Since Ritter 's (1991) examination of long run stock performance of IPOs, most studies on private share offerings document significantly negative long-run returns to investors (Megginson and Netter 2001). This phenomenon is attributable to investors' over-optimism (Ritter 1991) and accounting number manipulations (DuCharme et al. 2001;Teoh et al. 1998a). With respect to SIPs, however, given the strong evidence of financial and operating performance improvement after privatization, one may expect to observe positive long-run stock returns. Early studies of long-run stock performance in developed markets document that privatization initial public offerings outperform the market (Levis 1993; Menyah and Paudyal 1995; Jelic and Briston 1999). These positive returns, however, seem not to hold in developing countries (Aggarwal and Leal 1993; Jelic et al. 2003). In more recent studies that cover a wide range of countries, the evidence is unclear. For example, Megginson et al. (2000), Dewenter and Malatesta (2001) and Choi et al. (2010) find significant positive market adjusted long-run returns for the overall sample of international firms. Yet, the significance of the results varies across countries (Dewenter and Malatesta 2001) and is sensitive to alternative benchmarks (Choi et al. 2010).

Overall, the literature offers mixed evidence of a long-run stock price improvement comparable to the improvement in financial and operating efficiency. While positive returns are logically explained as the result of the micro-economic success of privatization and the gradual resolution of uncertainty relating to government policy and intervention (Perotti and van Oijen 2001; Megginson and Netter 2001), negative or zero long-run abnormal returns documented in some of the studies are puzzling. This raises

the question whether the recorded financial success is a reliable evidence of improvement or a result of an accounting artifact.

2.3. Relevant studies of opportunistic accounting choices in corporate events

Ownership change often creates an agency problem due to the separation of ownership and control. If an agent is opportunistic, classic agency theory predicts that he/she will act for his/her own benefit, at the expense of the principal's interest. For example, under Jensen and Meckling 's(1976) theoretical framework, during a public offering, the issuer is predicted to overvalue the firm to obtain greater proceeds from the share issue, of course, at the expense of future investors/owners. Since the offering prospectus, which features accounting performance measures, is the primary source of public information, the entrepreneur/owner of the issuing firm believes that he/she can induce an overvaluation of the public offering through inflating income (Aharony et al. 1993). An inflated price results in higher issuance proceeds to the firm, which will improve the financial structure, increase the net worth and bring about personal benefit to the entrepreneur/owner (Aharony et al. 1993). Consistent with this conjecture, research has found that the issuer selects income increasing accounting choices to inflate earnings before the share offering (Rangan 1998; Teoh et al. 1998; Teoh et al. 1998a; Teoh et al. 1998b). When management proposes to buy out the public firm, however, the interest lies in the low price management has to pay current investors. Accordingly, the conflict of interest raises a concern that management's self-dealing is a non-arm's length transaction and management will pay a cheaper price to obtain the shares. Taking into account the fact that accounting data provides an anchor to justify the buyout price, Perry and Williams (1994) and Wu (1997) report that management employ income decreasing accounting choices before the management buyouts. Similarly, Gong et al. (2008) document negative discretionary accruals when firms propose to repurchase their shares on the market.

In the case of privatization, even though there is a strong theoretical support for a prediction of misbehavior, only suggestive evidence of possible management

misbehavior has been documented so far. In a non-SIP study, Li and Rozelle (2004) find a negative relation between the buyout price and the level of information asymmetry between the insider manager and the government seller. Inspecting Chinese IPOs, Kimbro (2005) finds that, unlike private IPOs, earnings in the pre-IPO period for her sample were managed downward. Moreover, pre-IPO negative accruals have informative value in explaining first day returns. What is intriguing is that the sample is heavily represented by state-owned firms. The author, however, does not offer any empirical test to distinguish between the incentive to use accounting choices to affect initial IPO returns and the incentive to use conservative accounting choices during IPO periods to bank income for future uses.

Given the incentive to interfere with firm valuation in SIPs, how does accounting play a role in helping managers achieve their goal? The answer possibly lies in the heavy reliance on financial statements in valuation decision (Titman and Trueman 1986; Moonchul and Ritter 1999), including valuation of state-owned assets (Gonzalo et al. 2003). Due to information asymmetry between issuers and other market players, fixating on issuers' accounting information is considered the most efficient and cost-effective in valuing public offerings and making investment decision (Friedlan 1994). Fully adjusting for accounting choices is prohibitively costly and difficult as it requires (i) knowledge about all accounting choices of the issuing firm as compared to other firms, (ii) being able to distinguish between opportunistic motivated and information communication motivated choices and (iii) being able to know what accounting information is valued by the market. Consequently, if managers opportunistically behave, they will manipulate accounting data in a way that is favorable for their interests. In private IPOs, research has documented evidence consistent with this prediction. Earnings are managed upward in the pre IPO period (Friedlan 1994; Teoh et al. 1998a). More specifically, Teoh et al. (1998) observe that IPO issuers tend to use more income increasing depreciation policies and create smaller provisions for doubtful accounts in the year before IPOs, as compared to matched firms of non-issuers. Using a more defined estimation method, DuCharme et al. (2001) also find a significantly positive abnormal accruals before IPOs. In addition, DuCharme et al. confirm the prediction that such phenomenon is tied to opportunistic

behavior, as opposed to informativeness, as the abnormal accruals are found to be positively related to initial firm value but negatively related to subsequent firm performance. Notwithstanding IPOs, investors seem to naively extrapolate reported financial performance and evidence of accounting manipulation to inflate stock price are documented even in seasonal offerings, where information asymmetry and the reliance on accounting numbers are less severe problems (Teoh et al. 1998b; Rangan 1998).

In a public offering by a private sector investor, the issuer faces substantial costs if he/she manipulates earnings to personally benefit from misleading the market about the firm's future prospect. Major costs cited so far are litigation costs, personal and corporate reputation costs and loss of accounting flexibility (DuCharme et al. 2001). In a SIP, the costs resulting from manipulation may differ due to the different nature of the original owner. Since a SOE is owned by 'the state' or in other words, by all citizens, no single observer has the appropriate incentive to monitor the SOE manager (Megginson 2005, 39). The specialization of ownership in a private firm, on the other hand, creates an incentive for the entrepreneur/owner to scrutinize the manager's activities as the owner can grasp all the benefits from monitoring. Consequently, the SOE manager may have a greater opportunity to act in his/her personal interest even when it is against the owner's interest. As the manager has a chance to buy into the SOE firm and his/her interest lies in lowering purchasing price, undervaluation rather than overvaluation is expected. If a SIP manager manipulates accounting choices to deflate offer prices, initial investors will benefit from such activities. Managerial suspicious behavior is, of course, subject to government scrutiny and public protest. However, the risk of litigation from disappointed investors is reduced. Furthermore, if undervaluation is induced through the use of accounting choices, the firm may experience better rather than worse financial performance as in the case of a private sector public offering, which enhances its corporate reputation.

The following section provides a model of management's incentive during privatization and examines SOEs' corporate environment to enable their managers to opportunistically behave during ownership transfer from the government to the private sector.

15

2.4.   Privatization and managerial incentives

2.4.1. Analytical model of incentive

The transition from state-owned to privately-owned offers an opportunity for a firm to change its ownership structure to provide appropriate corporate governance. In order to provide managers with appropriate incentives to run the company effectively once privatized, it may be optimal to let them acquire part of or the entire firm (Cornelli and Li 2005; Grossman and Hart 1986). However, as Cornelli and Li (2005) point out, even though the ex-post point of view considers insider ownership as desirable in order to align management's interest with that of the firm, such ownership will provide the wrong incentives to managers ex ante. Based on the theory of ownership and integration presented by Grossman and Hart (1986), Cornelli and Li (2005) analytically show that managers of a to-be-privatized firm have an incentive to underperform before privatization to grasp a larger stake in the firm and enjoy greater payoffs after privatization if they are allowed to participate in the IPO or buy shares in the aftermarket. Managers' misbehavior lies in the postponement of restructuring and investments in order to make ownership less expensive. This leads to an interesting paradoxical phenomenon: a state-owned firm will do worse when its privatization is announced than when privatization is not announced or expected since an announced or expected privatization creates an incentive for managers to behave opportunistically. Delaying restructuring activities to downplay firm performance is predicted to be more severe in emerging markets due to greater need for restructuring and investment prior to privatization, the lack of transparency with regards to the value of the firm before privatization and the lack of alternative corporate governance mechanisms in these markets. Adopting the same model, it could be argued that the attempt to lower the cost of ownership can be made through manipulating outsiders' expectation and prediction, in addition to or instead of putting off restructuring/investments as suggested by Cornelli and Li (2005). Such option is particularly appealing when delayed restructuring/investment may result in lost opportunities. In reality, the decision to restructure before privatization is not solely at the discretion of a SOE management. In

OECD countries, for example, most small and medium sized SOEs are privatized with minimal restructuring as it is considered not efficient to the government. The costs of restructuring are not recovered in the sale price. However, when it comes to privatization of larger SOEs or privatization through public offerings, a significant amount of restructuring is considered a pre-requisite (Mahoobi 2003, 71). Appropriate restructuring adds credit to the government as it ensures that the asset transferred can viably function in the private sector (Mahoobi 2003, 77). In addition, privatization may subject former SOEs to a more vulnerable position due to reduced protection and therefore, restructuring is necessary to cope with the new environment. In such cases, it is difficult for management to resist or delay restructuring.

To explain the insider's incentive to influence historical accounting numbers before privatization Cornelli and Li (2005)'s model is reproduced and further expanded to show that instead of restructuring manipulation, expectation manipulation can be employed.[5]

Consider a firm with two operating periods. Period 0 is the period before privatization. At the beginning of period 1, privatization is implemented. Two economic players, the insider and the outsider, are interested in buying into the privatized firm given an appropriate share price. Before privatization, the insider manager decides to put forward restructuring efforts represented by the choice of capital $K>0$.

The payoff function[6] of the insider in period 0 is:

$$U_0(m,K) = m - cK^2$$

where m is a fixed pay to the manager before privatization and c is a scalar.

In the period after privatization, the firm's profit is a function of K and the manager's effort, as expressed below:

$$\pi = K\theta_1 + e$$

where θ_1 reflects the value of the physical assets of the firm or the "potential" of the firm and e represents the manager's effort. The insider knows the value of θ_1 while the outsider will observe neither θ_1 nor e. The outsider, however, can observe K before privatization.

During the privatization, the insiders acquire α percent of the firm[7], which is endogenously determined[8]. The manager, however, is constrained by a fixed wealth w. The payoff of the insiders in period 1, after privatization will be:

$$U_1 = \alpha\pi - ce^2.$$

$$U_1 = \alpha(K\theta_1 + e) - ce^2.$$

In order to maximize U_1, the insiders will choose an appropriate level of effort e such that $e = \text{argmax}[\alpha(K\theta_1 + e) - ce^2]$. The value of the firm at privatization is the discounted profit (discount rate being δ) in the next period, which is expressed as:

$$V^* = \frac{1}{1-\delta}(K\theta_1 + e)$$

As the outsider cannot observes θ_1 nor e before he/she makes the decision to buy into the firm, he/she will form his or her expectation of θ_1 and e, based on available information, $E(\theta_1 \mid K) = \hat{\theta}_1$ where $\hat{\theta}_1$ is the estimated value of θ_1 based on the information at the time of privatization. The level of effort e is the function of the outsider's forecasted α. The price the outsider is willing to pay is such that:

$$P^* = \frac{1}{1-\delta}[K\hat{\theta}_1 + E(e \mid K)]$$

The insider chooses how many shares to buy based on his/her knowledge of the true θ_1 and analysis of the maximum payoff in period 1, given his/her wealth constraint as follows:

$$W(\alpha) = \frac{1}{1-\delta}[\alpha(K\theta_1 + e) - ce^2] - \alpha P^* = \frac{1}{1-\delta}\{\alpha[(K\theta_1 + e) - K\hat{\theta}_1 - E(e \mid K)] - ce^2\}$$

The goal of the insider is to maximize his/her potential benefit $W(\alpha)$ given his/her fixed personal wealth w before privatization or in other words, subject to $\alpha P^* \leq w$

Denote $\theta^* = \theta_1 - \hat{\theta}_1$ then the payoff can be expressed as:

$$W(\alpha) = \frac{1}{1-\delta}\{\alpha[K\theta^* + e - E(e \mid K)] - ce^2\}$$

$\frac{\partial W}{\partial \alpha} = \frac{1}{1-\delta}[K\theta^* + e - E(e \mid K)]$, which is an increasing function of θ^* given that $E(e \mid K)$ is fixed from the point of view of the insider.

18

The optimal α is w/P*. At this optimum level:

$$\frac{d\alpha}{d\theta *} = \frac{(1-\delta)wK}{[K(\theta_1 - \theta *) + E(e\,|\,K)]^2} > 0$$

Since $d\alpha/d\theta* > 0$, α is an increasing functions of $\theta*$. In addition, $\partial W / \partial \alpha$ is increasing function of $\theta*$. The economic implications of the above derivatives are simple: the higher the difference between the true and estimated 'potential' of the firm, the greater the stake the insider is willing to buy as well as the greater the benefit extracted from an increase in share ownership of the insider after privatization. Such effects provide an incentive for the insider to widen the gap between the true value θ_1 and its estimation $\hat{\theta}_1$. Given a particular choice of K, the true potential θ_1 is fixed. When the estimated $\hat{\theta}_1$ is based on the observation of prior period performance, the insider may try to depress the disclosed value of the firm's performance in the period prior to privatization to achieve this goal. This incentive is present whether or not the insider remains in control of the firm after privatization. In such case, the subsequent period payoffs will not include the cost of efforts element while keeping others unchanged.

In addition to his/her incentive, the insider's behavior is also influenced by his/her ability to act according to the incentive. The following section examines SOEs' special corporate environment, which gives the insider manager of an SOE a greater opportunity to act in his/her own interest, as compared to his/her counterparts in privately owned firms.

2.4.2. Corporate governance in SOEs

The special ownership characteristics of a SOE potentially create a significant agency cost problem. Unlike owners of a private firm, owners of a SOE do not have direct ownership rights. The ultimate shareholders of a SOE, being the country's citizens, have virtually no direct power over the business of the SOE and receive no proceeds from the firm, either. Consequently, the monitoring incentive from the ultimate shareholders over SOE management is limited as the cost of monitoring well exceeds the benefit generated to this class of owners. The government assumes the role as a representative of

the people to act as the principal on behalf of the public and assigns its controlling authorities to its agencies such as line ministries and local governments. These agencies, while exercising de facto ownership rights, do not bear any residual risks over the SOEs under their control. The existence of multiple responsible bodies creates an even greater principal–agent problem in a SOE as compared to a private firm. A SOE may have a subprincipal-agent problem due to the overly complex chain of command. Different government bodies may have competing and non-commercial goals over the operation of a SOE, creating an intra-government conflict of goals (e.g. social stability goals vs. financial goals are exerted through different state line ministries and bodies) (Siqueira et al. 2009; Sokol 2009). Also, while representing the 'ultimate shareholders' in monitoring, bureaucrats who oversee the firm are likely pursuing social objectives or seeking political benefits at the firm's expense[9] (Shleifer and Vishny 1994). They have only an indirect concern about profits as profits flow into the government budget rather than directly to the officials (Shleifer and Vishny 1997).

Non-transferability of state-owned assets creates another incentive problem for government officials in monitoring a SOE's operation. There is a disconnection between the current monitoring effort and future benefits as the principal cannot capture higher value through sale of ownership. Moreover, even when the overall goal is to enhance state-owned firm value (in other words, value of state assets), the value of state assets is not easily determined because no market value is available. As such, it is difficult to verify whether a management's decision is value increasing or not. The principal's overseeing motivation may, therefore, be reduced.

The special ownership and operational characteristics of a SOE render limited success to external and internal control attempts. Market forces do not pose much pressure on a SOE's efficiency as it is difficult for a SOE to be taken over. A SOE manager is less likely to be fired since, in many cases, the choice of managers may be made on a political basis rather than merit (Sokol 2009). Furthermore, the standards against which to judge a manager's performance are quite ambiguous as the firm is not profit maximizing nor a social entity. The existence of a soft budget provides a weaker punishment to the credibility and sustainability of a SOE when debt is not honored as it

may be bailed out by the government. Internal control mechanisms such as management compensation may not work as well. As SOE goals may not be profit based, it is difficult to use performance based compensation to align owner and management's interest. In fact, SOE managers have less incentive to improve efficiency to increase their pays but have motivation to maximize their budget to increase powers (Sokol 2009). Transparency is another problem among SOEs. Incomplete and inaccurate financial and non-financial reporting does not allow for an independent audit nor provide an adequate basis for decision making, misleading government owners, legislatures and the public (Sokol 2009).

Given a relatively weak corporate governance of SOEs as compared to that of privately owned firms, do SOE managers have a greater ability to opportunistically behave for their personal benefits? After major financial scandals at the beginning of this century, such as Xerox, Enron and Worldcom, there is a belief that strengthened corporate governance will reduce management's opportunistic behaviors. As a result, there has been a tendency towards developing and implementing governance mechanisms to restore the credibility of financial information in the investment world (Garcia-Meca and Sanchez-Ballesta 2009). In line with this trend, research has paid close attention on studying the association between corporate governance and earnings informativeness and particularly with earning management activities. The overall result suggests that there is a close and frequently positive connection between corporate governance and earnings management. Nonetheless, some alignment mechanisms may have unintended consequences. For example, Cornett et al. (2009), Cornett et al. (2008) and Chung et al. (2002) collectively find that incentive-based compensation triggers opportunistic earnings management. The higher the pay-for-performance sensitivity is, the greater the discretionary accruals. Management ownership on the other hand, has a nonlinear relationship with discretionary accruals, suggesting an entrenchment effect in addition to an alignment effect (Yeo et al. 2002; Cheng and Warfield 2005; Teshima and Shuto 2008). The incurrence of additional debt also provides incentive to manipulate earnings and lenders only exert control over a limited number of cases (Rodriguez-Perez and van Hemmen 2010). However, other governance mechanisms such as institutional investor

monitoring, unrelated blockholdings and board oversight have a deterrent effect on earnings manipulation (Chung et al. 2002; Yeo et al. 2002; Koh 2003; Lo et al. 2009). This evidence that a strong corporate governance environment has a positive impact on management's opportunistic earnings management consistently exists across jurisdictions and despite possible confounding research limitations (Garcia-Meca and Sanchez-Ballesta 2009). Given documented evidence that management will manage earnings to induce greater personal benefits and a good monitoring system will deter management from doing so, the existence of insiders' incentive illustrated in Section 2.4.1 and weak corporate governance of SOEs, it is expected that SOE managers will be more likely to opportunistically behave, even at the expense of their principals, the government issuers.

CHAPTER 3. HYPOTHESIS DEVELOPMENT

3.1. Earnings management in the pre-privatization period

There are multiple methods to value a public offering. The most widely recommended method for a general public offering, is, however, the use of accounting information in conjunction with comparable firm multiples (Moonchul and Ritter 1999; Welch and Fremond 1998). The preference for the use of comparable firms/transactions is further warranted by empirical evidence showing this method works as well as other conceivably more accurate methods (Kaplan and Ruback 1995; Berkman et al. 2000) and multiples of accounting data are indeed priced (Moonchul and Ritter 1999). The use of this multiple valuation method is popular for SIPs as well. For example, when observing UK privatizations, Parker (2009) notices that "*Where there is a public flotation, the share price was typically set on a price-earnings basis and to a lesser degree the prospective dividend yield, with cognizance taken of the price-earnings ratios or dividend yields in comparable organizations quoted on the London stock market or stock market overseas*" (Parker 2009, 414).

Consistent with the theoretical implication of the model presented in Section 2.4.1 and empirical evidence from non-privatization settings, manipulation of accounting numbers to influence the valuation of privatized firms are predicted. As earnings numbers are frequently used in comparable firms' multiple valuation methods (P/E ratios are common multiples) but are highly sensitive to manipulation, this study directly tests the existence of earnings management activity before privatization offerings. As asserted by the model, management has an incentive to depress expected potentials. Consequently, they have an incentive to suppress historical earnings, which serve as an anchor to develop expectations about the firm. It should be noted that even though the incentive to manipulate earnings prior to a public offering is present in both a SIP or a private public offering, the effects of manipulative activities are opposite in the two cases due to differences in corporate governance environments prior to the offering. The concentration of ownership in a private firm results in an incentive to inflate earnings to benefit the

23

owner while the dispersed ownership in a SOE gives the firm manager a better chance to act in his/her own interest. The prediction of the first hypothesis is, therefore, as follows:

Hypothesis 1: SIP firms engage in income-decreasing management in the pre-privatization period.

3.2. Post-period financial performance predictability

Literature on earnings management distinguishes two types of earnings management: efficient and opportunistic earnings management. Earnings management is efficient when it improve earning informativeness in communicating private information. In such case, earnings management is found to be positively related with future profitability (Subramanyam 1996; Krishnan 2003). Opportunistic earnings management, on the other hand, has a negative impact on future profitability because of income shifting from/to the future for personal benefits (Balsam et al. 2002; Gong et al. 2008). Earlier studies on privatization documented improved financial performance after privatization. The improvement is currently attributable to changes in ownership and restructuring (D'Souza et al. 2007, Bortolotti et al. 2002) and changes in regulatory regimes administered along with privatization programs (Bortolotti et al. 2002). If managers of SIP firms do, indeed, opportunistically depress earnings prior to the SIPs (as predicted in Hypothesis 1), the improved performance could also be attributable to the reversal impact of pre-privatization accounting manipulation. In other words, the more earnings is managed downward, the higher the financial improvement. Therefore, a negative relation between financial performance improvement and pre-privatization discretionary accruals is predicted under the opportunistic hypothesis, as follows:

Hypothesis 2: Earnings management in the pre-privatization period is negatively correlated with post-period superior financial performance.

3.3. Earnings management and SIP valuation

The typical entrepreneur's objective in a private IPO is to raise as much money as possible while selling a small enough fraction of the company so as not to threaten his/her voting control. This implies that most private IPOs will be primary, carried out

through some type of auction (to secure highest price possible). SIP offerings, on the other hand, pursue different objectives, both economic and political. Privatizing governments typically use fixed price offerings with the (deliberately low) offering price set weeks in advance of taking orders from investors and then allocating these shares as widely as possible to citizens. The popular use of the fixed pricing method in SIPs is due to the fact that this method has a smaller probability to fail at the offer price, as compared to the book-building method, which can extract highest price for the issuers. A failed SIP could endanger the whole privatization program and therefore, selecting fixed pricing would be a safer choice for the risk-averse government issuers (Megginson 2005, p.213). The use of fixed pricing method causes a greater reliance on accounting numbers to justify the price. Due to intra-government conflict of interests and agency problem, government sellers may know less about the companies as well as potential buyers than a typical private seller would. In addition, many governments, such as European governments, are under the pressure to quickly lower budget deficit (as demanded by international treaties), resulting in a hurried push of state assets sale (Gonzalo et al. 2003). The greater information asymmetry problem and the hurried selling condition, therefore, may create a monitoring problem for the governments in the valuation and pricing of privatization deals. Consequently, SOEs' pricing practice offers a greater opportunity for management to influence offering prices through accounting choices. It is, therefore, expected that SOE managers will be successful in manipulating offering prices through earnings management.

Hypothesis 3a: Earnings management in pre-privatization period is positively related to the offer price.

Underpricing, which is the return to primary investors when the stock is first traded, has been found to be significantly large in SIPs. When earnings are used as the reference to determine the offer price and management depresses earnings, one may expect the offer price to be set low. If the market is efficient, investors may see through management's opportunistic behavior (Shivakumar 2000) and reveal the true value of the firm on the stock market. In such a case, a deep underpricing is a result of a low valuation of the firm. Consequently, it is expected that a greater underpricing is associated with a

lower earnings, assuming the market is efficient and after controlling for other factors influencing underpricing.

Hypothesis 3b: The level of earnings management in pre-privatization period partly explains privatization underpricing.

3.4. Earnings management and accounting value relevance

When a firm is new to the market, the information conveyed in its financial statements receive a relatively higher weight as compared to firms with a longer presence on the market due to limited alternative information sources. Consequently, one may expect to see a closer association between stock price and financial information for privatized firms during the first years following the privatization. However, if management engages in income decreasing activities before privatization, the reversal of pre-privatization accounting choice will create more noise in earnings. The change in future earnings in such case may solely be the result of the reversal of previous accounting choice. Therefore, such change is not permanent and should not be priced. Within the US market, Christensen et al. (1999), Marquardt and Wiedman (2004) find that ex ante earnings management incentives and ex post earning management reduce the informativeness of earnings. As a result, one may expect a low association between earnings and price, as well as between the financial improvement and stock return. This is the essentials of the fourth hypothesis.

Hypothesis 4: The value relevance of earnings during the immediate post privatization period is lower than other firms on the market.

CHAPTER 4. DATA AND METHODOLOGY

4.1. Sample selection

The original list of privatized firms during 1988-2006 is taken from the World Bank privatization database[10]. Due to data availability, the sample is only restricted to privatization through public offerings. The World Bank list is then cross-checked with several other privatization databases such as Privatization Barometer[11], the Megginson's list of IPO privatization during 1961-2003[12] and LexisNexis Academic for accuracy regarding the year and month of privatization public offerings, proceeds and other details of the offerings. In order to be included in the final sample, SIP firms need to satisfy the following criteria:

- State-owned firms privatized through initial public offerings during the period from 1982 to 2006. The reason for selecting this particular time period is because Datastream only provides financial data starting from 1980 to 2007. To avoid the impact of major changes in accounting standards, European firms privatized after 2003[13] are excluded since the adoption of IFRS in European countries may significantly affect the comparability of financial accounting information across years.

- Privatized firms should not have any other significant capital change within five years (-2 to +2, including year 0 being the year of privatization) around its public offerings to control for any confounding incentives.

- Financial data as well as market data are available in Datastream. Sample firms are required to have at least 4 years (-2 to +1, including year 0) of financial data available. In addition, transaction data should be available for the 2 years following the offering. The fiscal year in which privatization takes place is coded as Year 0.

- Sample firms should have at least 10 control firms with available accounting data in the same country, same calendar year and same industry (beginning from 2 digit SIC and then move to 1 digit SIC whenever there was not enough firms in the higher level of SIC group) to enable the estimation of discretionary accruals.

The above sample selection criteria yields a final sample of 63 SIPs from an original list of 614 firms. Most of the dropouts are due to lack of financial data prior to SIPs or insufficient number of control firms to enable earnings management estimation. Table 2 shows details of the sample selection process.

Table 2. Sample selection

	Deleted firms	Remaining firms	
Sample SIPs collected from World Bank privatization list, Megginson 1995 Appendix, Privatization Barometer database		614	
Less:			
Unknown privatization month	16	598	
SIPs with major capital change within 2 years before and 2 years after issue	185	413	
SIPs with insufficient accounting data for 4 years from 2 years prior to privatization to one year after privatization	283	130	*
Not sufficient data to calculate discretionary accruals	63	67	**
Winzorize outliers	4	63	***

* Dropped out mostly because of missing total assets data for year -2

** Dropped out mostly because of lacking PPE data.

*** Winsorizing extremely large absolute value of DACC above 95 percentile

The sample consists of firms from twenty four countries and spans sixteen years. Due to data availability, it is not surprising to see that the sample is heavily represented by European countries. In addition, utilities, telecommunication and transportation companies account for two thirds of the sample, reflecting the fact that SIP is normally the method of choice to privatize large companies. Possible industry bias is later on controlled for by including a dummy for utilities, telecommunication and transportation firms.

Table 3. Sample Distribution

Panel A. Distribution by year

year	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1990	1	1.59	1	1.59
1991	3	4.76	4	6.35
1992	3	4.76	7	11.11
1993	1	1.59	8	12.7
1994	3	4.76	11	17.46
1995	2	3.17	13	20.63
1996	6	9.52	19	30.16
1997	5	7.94	24	38.1
1998	7	11.11	31	49.21
1999	8	12.7	39	61.9
2000	5	7.94	44	69.84
2001	4	6.35	48	76.19
2002	3	4.76	51	80.95
2003	9	14.29	60	95.24
2004	1	1.59	61	96.83
2005	1	1.59	62	98.41
2006	1	1.59	63	100

Panel B. Distribution by Industry

Industry	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Food processing (2 digit SIC 20)	1	1.59	1	1.59
Machinery and Equipment (2 digit SIC 35-38)	6	9.52	7	11.11
Materials (2 digit SIC 26-34)	8	12.7	15	23.81
Services (2 digit SIC 70, 80)	4	6.35	19	30.16
Telecommunications (2 digit SIC 48)	16	25.4	35	55.56
Transportation (2 digit SIC 40-47)	11	17.46	46	73.02
Utilities (2 digit SIC 49)	17	26.98	63	100

Table 3. (Continued) Sample Distribution

Panel C. Distribution by Country

Country	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Australia	2	3.17	2	3.17
Germany	6	9.52	8	12.7
Brazil	1	1.59	9	14.29
China	1	1.59	10	15.87
Spain	6	9.52	16	25.4
Finland	1	1.59	17	26.98
France	4	6.35	21	33.33
Greece	1	1.59	22	34.92
Indonesia	2	3.17	24	38.1
India	2	3.17	26	41.27
Italy	11	17.46	37	58.73
Malaysia	2	3.17	39	61.9
Netherland	1	1.59	40	63.49
New Zealand	1	1.59	41	65.08
Austria	2	3.17	43	68.25
Peru	1	1.59	44	69.84
Poland	3	4.76	47	74.6
Portugal	2	3.17	49	77.78
Sweden	1	1.59	50	79.37
Singapore	1	1.59	51	80.95
Switzerland	1	1.59	52	82.54
Denmark	1	1.59	53	84.13
Korea	1	1.59	54	85.71
United Kingdom	9	14.29	63	100

Control firms in pooled regression consist of all non-SIP firms operating in the same country, same industry with sample firms and have available financial and market data in the years of interest. In order to maximize firm observations, when selecting control firms, industry classification is based on one digit SIC code.

4.2. Data sources

Financial and stock market data are retrieved from Datastream and supplemented by Compustat through WRDS. Offer prices and percentage of shares offered are sourced from the World Bank privatization lists, offering prospectuses, Lexis Nexis Academic and Megginson (2005)'s Appendix 1. National economic data is downloaded from the International Financial statistics and the World Bank's World Development Indicators databases. Domestic legal environment and national cultural scores are collected from La Porta et al. (1998) and Hofstede (2001). Economic freedom data is gathered from the Index of Economic Freedom published annually by the Heritage Foundation and the Wall Street Journal. Country corruption and government effectiveness scores are retrieved from the Worldwide Governance Indicators[14]. Description of data sources is provided in Appendix 1.

In order to mitigate the impact of outliers, the upper and lower one percentile of all observations for explanatory as well as dependent variables are Winsorized. For accounting items that must be a non-negative number (total assets, sales, gross PPE), observations that show them as negative are deleted.

4.3. Earnings management proxy

Consistent with prior literature, discretionary accruals are used as the primary measure of earnings management. Discretionary accruals are estimated using either the performance matched approach (Kothari et al. 2005) or the cross sectional adaptation of the performance controlled accruals model (Tucker and Zarowin 2006; Kothari et al. 2005). The control for performance in either approach is adopted following Kothari et al. (2005) and Dechow and Sloan (1995) that the modified Jones' model is mispecified for abnormally performing firms. The performance matched approach matches each SIP firm

31

observation with the non SIP firm observation in the same country, same industry and same year with the closest return on assets. The discretionary accruals of a SIP firm is then measured as the 'abnormal discretionary accruals' with discretionary accruals being estimated using the modified Jones's model. The performance controlled accruals model, on the other hand, adds contemporary ROA as an additional regressor to the popular modified Jones' model.

a. *Estimating using performance matched approach*

Estimation model:

$$\frac{TACC_{j,t}}{TA_{j,t-1}} = \alpha \frac{1}{TA_{j,t-1}} + \beta_1 \frac{\Delta REV_{j,t}}{TA_{j,t-1}} + \beta_2 \frac{GPPE_{j,t}}{TA_{j,t-1}} + e$$

$$NACC_{i,t} = \hat{\alpha} \frac{1}{TA_{i,t-1}} + \hat{\beta}_1 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \hat{\beta}_2 \frac{GPPE_{i,t}}{TA_{i,t-1}}$$

$$DACC_{i,t} = TACC_{i,t} - NACC_{i,t} \qquad\qquad (4.1)$$

$$NACC_{j,t} = \hat{\alpha} \frac{1}{TA_{j,t-1}} + \hat{\beta}_1 \frac{\Delta REV_{j,t} - \Delta REC_{i,t}}{TA_{j,t-1}} + \hat{\beta}_2 \frac{GPPE_{j,t}}{TA_{j,t-1}}$$

$$DACC_{j,t} = TACC_{j,t} - NACC_{j,t} \qquad\qquad (4.2)$$

Performance matched DACC = $DACC_{i,t} - DACC_{j,t}$

b. *Performance controlled accruals model*

Estimation model:

$$\frac{TACC_{j,t}}{TA_{j,t-1}} = \alpha \frac{1}{TA_{j,t-1}} + \beta_1 \frac{\Delta REV_{j,t}}{TA_{j,t-1}} + \beta_2 \frac{GPPE_{j,t}}{TA_{j,t-1}} + \beta_3 ROA_{j,t} + e$$

$$NACC_{i,t} = \hat{\alpha} \frac{1}{TA_{i,t-1}} + \hat{\beta}_1 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \hat{\beta}_2 \frac{GPPE_{i,t}}{TA_{i,t-1}} + \hat{\beta}_3 ROA_{i,t}$$

$$NACC_{j,t} = \hat{\alpha} \frac{1}{TA_{j,t-1}} + \hat{\beta}_1 \frac{\Delta REV_{j,t} - \Delta REC_{j,t}}{TA_{j,t-1}} + \hat{\beta}_2 \frac{GPPE_{j,t}}{TA_{j,t-1}} + \hat{\beta}_3 ROA_{j,t}$$

$$DACC_{k,t} = TACC_{k,t} - NACC_{k,t} \qquad\qquad (4.3)$$

where:

i denotes SIP firms, *j* denote non SIP control firms and *k* denotes either sample or control firms.

$TACC_{k,t}$ is total accruals for firm *k* in year t measured by the difference between earnings before extraordinary items and operating cash flows. This measure is adopted to avoid effects of non-operating events on the articulation between changes in working capital and accrual components of revenues and expenses as suggested in Hribar and Collins (2002). To mitigate the rounding effect, total accrual and discretionary accrual are calculated as percentages.

$TA_{k,t-1}$ is total assets for sample firm *k* at the end of year t-1. This scaling variable is used to mitigate heteroskedasticity in the unscaled model, consistent with prior literature[15].

$\Delta REV_{k,t}$ is the change in net sales for sample firm *k* over year t.

$GPPE_{k,t}$ is gross property, plant and equipment for sample firm *k* at the end of year t.

$ROA_{k,t}$ is the return on asset of firm *k* in year t, measured as earnings before extraordinary items divided by total assets.

$\Delta REC_{k,t}$ is change in trade accounts receivable of firm *k* during year t. The adjustment for changes in accounts receivable is made to account for the possibility of credit sales manipulation (Dechow and Sloan 1995; Teoh et al. 1998; Teoh et al. 1998a).

The control sample includes all non-SIP firms operating in the same industry in the same country as the privatized firms. The model parameters $\hat{\alpha}, \hat{\beta}_1, \hat{\beta}_2, \hat{\beta}_3$ are estimated using a contemporaneous (same calendar year) sample of all non-privatized firms in the same industry (using two digit SIC code) in the same country as the sample firms. In order to reduce estimation error, it is required that there were at least 10 control firms in each regression. Thus, in order to maximize the sample size, whenever there were less than 10 control firms in the same two digit SIC code group, industry group based on one digit SIC code were used.

4.4. Hypothesis testing models

Hypothesis 1:

Model:

$$absDACC = \alpha + \beta_1 Year\_1 + \beta_2 Year0 + \beta_3 Year1 + \beta_4 Positive\,DACC$$
$$+ \beta_5 Positive\,DACC*Year\_1 + \beta_6 Positive\,DACC*Year0 + \beta_7 Positive\,DACC*Year1 \quad (4.4)$$
$$+ \sum_{i=8}^{m+7} \beta_i Firm\_specific\_variables + \sum_{j=m+8}^{m+n+7} \beta_j Country\_specific\_variables$$

where:

m is the number of firm specific variables, n is the number of country specific variables

absDACC: absolute value of Discretionary accruals as determined in (4.3)

Year -1, Year 0, Year 1 are dummy variables indicating the year to privatizations (Year 0 is the year of privatization). For control firms, these variables take the value of 0.

Positive DACC is a dummy variable indicating whether the discretionary accrual for that firm year is positive or not. β_1 and $(\beta_1 + \beta_5)$ represents the value of DACC in the year prior to SIP when DACC is negative or positive, respectively. As SIP firms are expected to manage earnings downwards prior to the public offerings, β_1 is expected to be positive while $(\beta_1 + \beta_5)$ is expected to be negative.

a. *Firm specific variables*

✓ Size:

Prior literature documented a negative and significant correlation between firm size and the company's discretionary accrual magnitude (Haw et al. 2004). The interpretation of such evidence is that the discretionary accruals of larger firms are more concentrated around 0 than those of smaller ones or the discretionary accruals of smaller firms are more likely to be in the far ends of the DACC distribution. To account for this correlation, the size variable is included. Log of current year total assets in billion US$ is used as a proxy for size. In a supplementary test, the relative rank of current year total assets within the country of domicile is also used. Unlike the log of total assets, the

relative rank of total assets within a country mitigates the potential problems arising from differences in economic development across countries.

✓ Percentage of government shares for sale:

A specific relation between the percentage of government ownership in a state-owned firm that is put to sale and discretionary accruals during the event is not clear. While a larger percentage to be sold may provide management with an opportunity to buy a greater percentage of ownership and consequently, a greater incentive to underperform to grasp big benefits, a major sale may also be put under closer scrutiny of the government agency in charge of privatization to consequently lower the ability to manage earnings downwards or increase the risk of being discovered. Furthermore, privatized firms are usually large, making it necessary to break the divestment into multiple sales of share. In such case, the incentive to manage earnings before each public offering may be lower.

✓ International offerings:

A dummy for international offerings is included because the ability to buy into the SIP firm in an international offer is limited for managers. As such, the motivation to manage discretionary accruals may be different in these SIPs.

✓ Regulated firms:

A dummy for firms having two-digit SIC codes equal to 48 (Telecommunications) and 49 (Utilities) is included since the ability to manage accruals may differ between firms in the regulated /utility industries and in other industries.

b. *Country specific variables*

✓ Legal environment:

Leuz et al. (2003) document strong evidence that the legal environment of a country affects the magnitude of earnings management. Countries where legal enforcement is strong generally have less earnings management. Thus, in order to control for the

differences in legal environment across countries, La Porta et al. 's(1998) legal environment indicators are used:

- Legal Enforcement score, which subsumes the effectiveness of the judicial system, an assessment of the rule of law and a corruption index.
- Outsiders' Right, which indicates the level of anti-director rights as provided by law.

Hung (2000) constructs an index that purports to capture the differences in accrual rules across countries. This study, however, does not include that accrual index in the primary analysis for two reasons: (i) accounting rules are endogenously determined (Leuz et al. 2003) whereas legal variables are more likely to be exogenous and (ii) as Hung 's index is only available for a limited number of countries, the inclusion of this variable will significantly reduce the sample size.

Leuz et al. (2003) posit that countries differ in earnings management level. A stronger investors' legal protection limits the ability and reduces the incentives of insider to mask firm performance. Similarly, higher disclosure requirements are also predicted to have similar effects as it will increase the cost of misreporting. Consequently, discretionary accruals for firms in countries with higher legal protection/disclosure score will be more likely to concentrate around zero. Thus, β_j is expected to be negative when it is associated with legal environment scores.

✓ National culture:

Gray (1988) presents a model predicting how national culture may affect the accounting system and accounting values. Motivated by this model, various studies have been conducted to examine the relation between culture and earnings management. These studies document a significant relation between certain cultural dimensions and earnings management behavior. Doupnik (2008), Han et al. (2008) and Nabar and Boonlert-U-Thai (2007) find that Hofstede 's (2001) cultural dimensions are significantly correlated with earnings management. The significance and direction of the relation, however, is not consistent in these studies. Doupnik (2008) and Nabar and Boonlert-U-Thai (2007) use Leuz et al. 's(2003) country earnings management scores and find that earnings

managment is positively correlated with Uncertainty Avoidance. Nabar and Boonlert-U-Thai (2007) also find that higher Masculinity scores cause higher earnings managment and Doupnik (2008) documents higher Individualism scores are associated with lower earnings management. Han et al. (2008), on the other hand, use firm level discretionary accrual estimation as a proxy for earnings management and find that Uncertainty Avoidance is negatively related with earnings management while Masculinity and Individualism are positively related. The impact of Power Distance is unclear as opposing results are obtained for OLS and WLS regression models.

In light of previous research, four cultural dimensions, Uncertainty Avoidance, Individualism, Power Distance and Masculinity, are included in the model. The direction of cultural impacts, however, cannot be established.

Model (4.4) is analyzed using the multi-level analysis method. An advantage of this method over the commonly used ordinary least square method (OLS) is its ability to examine the impact on DACC as coming from differences at the firm level as well as differences in the country of domicile. Random intercept multi-level models mitigate the possibility of omitted country differences interfering with the results. In the sensitivity analysis, OLS regressions are performed to check the reliability of multi-level regression results. In addition, as the number of firms in each country group is different from one another, weighted least square models (WLS) using the inverse of the number of firms in each country group as the weight are also used to ensure that the result is not biased due to uneven country representation in the sample (see similar control in Han et al. 2008).

Hypothesis 2:

Model:

$$Profit_{post-pre} = \alpha + \beta_1 DACC + \sum_{j=2}^{n+1} \beta_j Control\_variables$$

where

n is the number of control variables.

Profit$_{post-pre}$ is the change in profitability over a one-year or two-year horizon after the SIP (year +1 and year +2) as compared to the year prior to the SIP (year -1). The test using *Profit*$_{post-pre}$ as the dependent variable directly investigate the sources of improved

financial performance documented in prior research. Following Megginson et al. (1994), D'Souza and Megginson (1999), the year of privatization is excluded in the analysis of financial performance. The coexistence of both downward earnings management incentives for the part of the year prior to public offerings and the possibility of accrual reversals for the second part in year 0 have offsetting effects, which may obscure the financial performance improvement. Profitability is measured by return on sales (ROS), return on assets (ROA) and return on earnings (ROE) alternatively. ROS is measured as earnings before extraordinary items over total sales, ROA as earnings before extraordinary items over total assets and ROE as earnings before extraordinary items over total stockholders' equity. Control variables include variables that may affect the financial performance of a privatized firm, as follows:

- ✓ Firm characteristics: Size as proxied by the log of total assets in billion US dollars is included as size may affect financial performance (Gong et al. 2008).

- ✓ Change of ownership: Dewenter and Malatesta (2001) documented that private firms are more profitable and efficient than state-owned firms. When a firm is 100% state-owned, the profit maximization motivation is low. The existence of private ownership, even in partially privatized firms may change the business motivation and provide higher pressure for firms to operate more efficiently and profitably (Ehrlich et al. 1994). Accordingly, a dummy is included for firms which convert from 100% state-owned to partially or fully publicly held after the SIP. Alternatively, a dummy indicating changes from substantially government controlled (government owns more than 50 percent) to not substantially government controlled (government owns less than 50 percent) after the SIP is also used.

- ✓ Domestic economic conditions: Following Boubakria et al. (2005), GDP growth is included to control for changes in economy-wide conditions that may affect firm performance. The development of the stock market may also play a role in enhancing financial performance upon ownership transfer. In order to control for

this possibility, a variable proxying for stock market development and activeness is included. This variable is measured by the annual total trading volume of the stock market over the national GDP.

✓ Country's business environment: One of the criticisms over the inefficiency of state-owned firms is the lack of competition. When placed in a more competitive environment, firms are believed to have a higher motivation to operate more efficiently. Willner (2003) even suggests that there is no robust relation between efficiency and type of ownership due to the existence of principal-agent problem in both types, public and private. The entrepreneur has a stronger incentive to operate efficiently if he/she is exposed to competition. As such, the financial improvement upon ownership transfer is considered to be influenced by how much competition can be created within the domestic economic environment. In order to control for this factor, a variable measuring economic freedom[16] in various aspects, including trade freedom, investment freedom, business freedom, financial freedom etc., is included in the model.

Hypothesis 3:

Hypothesis 3a.

Model:

$$Offer\ price = \alpha + \beta_1 * EM + \beta_2 * UMA + \beta_3 * CFO + \sum_{j=4}^{n+3} \beta_j * Control\ variables$$

where

n is the number of control variables.

Offer price: The price offered to the public in the SIP. In order to control for differences in currency and size, this variable is modified to become the value of the firm at the offering price (offering price * total outstanding share), scaled by total assets in the year prior to the SIP.

EM : Earnings management value scaled by total assets in the year prior to the SIP

UMA: The unmanaged portion of total accruals, scaled by total assets in the year prior to the SIP

CFO : Operating cash flows, scaled by total assets in the year prior to the SIP.

The use of total assets as a scaling factor for both the dependent and independent variables attempts to achieve two goals. First, it eliminates the currency unit differences when studying international firms. Second, it provides a control for size, which may affect the offering price (Soffer 2001)

Control variables :

✓ Growth: In addition to earnings and book value, growth opportunities may also influence the valuation of the offering. A common proxy for growth opportunities is the book to market ratio. However, sample firms are mostly not yet listed before the SIPs. Therefore, this ratio is not available. Following DuCharme et al. (2001), sales growth in the year preceding the offering is used to control for growth prospects.

✓ Size of the offer could influence the offer price since it represents the supply side. The percentage of shares the Government offer for sale is used as the proxy for offer size (DuCharme et al. 2001).

Results consistent with the prediction of Hypothesis 3 would show a significantly positive β_1, meaning that managers, through the use of discretionary accruals, may deflate the offer price by depressing earnings.

Hypothesis 3b

Model :

$$Underpricing = \alpha + \beta_1 * DACC + \sum_{j=2}^{n+1} \beta_j * Control\ variables$$

where

n is the number of control variables.

Underpricing measures the initial returns of privatized shares on the market. Following prior literature (Dewenter and Malatesta 1997; Lam et al. 2007), the initial return is calucated as the total return from the offer date to the first day of trade. Specifically, initial return is the closing price on the first day of trade divided by the offer price. In order to mitigate the effect of non-normality of initial returns, a log

transformation of the initial returns is used. Furthermore, to single out market-wide effect, the returns are calculated both as unadjusted and adjusted for market returns. *Unadjusted return = ln(stock closing price on the first day of trade) – ln(offer price). Market-adjusted return=unadjusted return – ln(market index on first trading day)- ln(market index on offer date).*

   Control variables:

- ✓ Information asymmetry: The information asymmetry literature explains the underpricing of public offerings as a signal to the market of the quality of the firm because underpricing is costly and therefore, only high quality firm can afford to lose initially to rebound in the future. In order to control for this effect, firm size and a dummy variable indicating the order of the offering are used as proxies for information asymmetry since larger firms and subsequent offerings are expected to be less affected by information asymmetry than smaller firm and first offering.

- ✓ Policy risk: According to Perotti (1995), in order to build up its reputation during the privatization process, a committed government needs to signal its type to be distinguished from a populist government. A credible way to do that is to retain a large stake in the privatized firm. When the retention of a large stake conflicts with the transfer of control, underpicing is another alternative to provide signals to the market. Based on this reasoning, Perotti (1995) put forward a model predicting that policy sensitive firms are more likely to be sold gradually over a longer time and with heavy underpricing. Accordingly, the percentage of government shares for sale is included in the regression model (Perotti 1995; Jones et al. 1999). To control for policy risk factors, a dummy variable indicating protected firms, those subsidized and regulated, is added. In addition, following Lam et al. (2007), the quality of a country's bureaucratic administration, measured by corruption and government effectiveness, is also included to control for policy risk. The higher the government effectiveness, the lower the risk is. Conversely, the higher the corruption is, the higher the risk.

41

Hypothesis 4:

Value relevance is defined as the association between earnings number and stock price and returns. Due to the international nature of this study, stock returns are used as the dependent variable to avoid differences in domestic currency units as well as the level of par value across countries. A result consistent with the prediction of Hypothesis 4 would show a negative coefficient for the interaction between earnings change and sample firms (negative β_3). The negative sign of the coefficient indicates a lower relevance of earnings numbers for sample firms as compared to control firms due to a greater noise in sample firms' earnings numbers.

Model:

$$R_t = \alpha + \beta_1 NI_t + \beta_2 \Delta NI_t + \beta_3 \Delta NI_t * sample + \sum_{j=4}^{n+3} \beta_j Control\_variables$$

R_t: Return over 12 months, ending at the fiscal year end of the year following the SIP. Both raw returns and market adjusted returns, which control for overall market condition, are used. In the sensitivity analysis, returns over 15 months, ending on the 90th day after the first year's fiscal year end are also used to grasp the full effect of financial information (Francis and Schipper 1999).

NI_t: Earnings for the current year.

ΔNI_t: Change in earnings over the first year following the SIP

sample : Dummy variable indicating sample firms.

Control variables include:

✓ Loss : A dummy for loss making firms as well as its interaction with earnings are included as prior evidence shows differential relevance of earnings between loss making and profit making firms (Hayn 1995; Barth et al. 1998; Collins et al. 1999).

✓ Financial health: Barth et al. 1998 posit that the balance sheet and the income statement play distinctive roles in valuation. While the income statement provides information primarily for equity valuation, the balance sheet includes information for liquidation valuation. Consequently, when the firm's financial health

42

deteriorates, liquidation value is considered more relevant information, changing the relative value relevance of earnings and book value. Thus, the association between stock price and book value and earnings is expected to be dependent upon the firm's financial health. In order to control for financial health, dummies are included to control for high leverage firms (firms above the median leverage), for high book value firms (firms above the median book value growth) as well as for high growth firms (firms above the median sales growth). The interest, however, lies on the sign of the interactions between earnings and high leverage, earnings and high growth and earnings and high book value.

✓ Market development level: At the country level, the development and activeness of the stock market may influence the relevance of published accounting data in determining stock price. In order to control for this impact, a dummy indicating a developed market (countries with above median annual trading volume as a percentage of GDP) as well as its interaction with earnings change are added to the model. The interaction is expected to be positive, indicating a higher relevance of earnings data in more developed markets.

CHAPTER 5. ANALYSIS RESULTS

5.1. Descriptive statistics

Table 4 shows the descriptive statistics of the sample firms over three years from one year prior to the SIP to one year after the event. As we can see, SIP firms are mostly big firms with average total assets above ten billion US dollars and mean (median) total assets proportion rank within their country of domicile in a particular year being around 0.85 (0.91). Sample firms are also more capital intensive firms with net fixed tangible assets accounting for more than half of total assets. This is due to the fact that many of the SIP firms operate in heavy or technology intensive industries such as transportation and utilities. In terms of profitability, SIP firms are typically more profitable than the average control firm. This phenomenon is, however, not representative of all privatized firms as a SIP is more likely to be the method of choice to privatize a profitable firm, as compared to less profitable or loss making firms. Such bias is considered to reduce the significance and magnitude of performance improvement after privatization and works against finding any supporting evidence for the hypotheses identified in this paper.

In order to check the comparability of the sample in this study against the sample in previous research on the operational and financial performance of SIP firms, profitability and efficiency variables widely used in multinational and multi-industry study of post privatization performance are examined. These performance indicators are first examined in Megginson et al. (1994) and then replicated in Boubakri and Cosset (1998) and D'Souza and Megginson (1999). Results are presented inTable 5[17].

Table 4. Descriptive statistics of sample and control firms[18]

Variables	N	year -1 Mean	year -1 Median	N	year 0 Mean	year 0 Median	N	year 1 Mean	year 1 Median	N	control Mean	control Median
Total Assets in billion US$	63	10.47	2.4	63	12.05	2.81	63	12.38	3.28	5668	1.82	0.18
Rank Total Assets	63	0.85	0.9	63	0.86	0.91	63	0.86	0.91	5945	0.56	0.57
Total Accruals (%)	63	-6.37	-6.19	63	-5.23	-5.27	63	-6.62	-6.76	6011	-5.8	-4.96
Leverage	62	0.18	0.16	61	0.16	0.13	61	0.14	0.12	5676	0.14	0.09
Net PPE/Total assets	63	54.34	60.08	63	51.62	58.07	63	51.61	58.97	6011	34.05	29.18
Total Sales/Total Assets	63	73.64	62.41	63	70.65	62.08	63	71.14	56.12	6011	98.59	91.66
Return on Assets (%)	63	5.27	4.46	63	5.74	5.26	63	5.35	5.07	6011	0.75	3.31

Table 5. Financial and operating performance change after privatization

Performance Indicator	Expect-ed	No.	Mean (Post-Pre)	Median (Post-Pre)	p value	Wilcoxon signed rank p	% Positive	Binomial test p value
Change in ROA (%)	+	63	0.27	0.53	0.627	0.131	60.32	0.051
Change in ROE (%)	+	63	0.5	1.09	0.833	0.65	52.38	0.353
Change in ROS (%)	+	63	1.54	1.39	0.062	0.05	65.08	0.008
Change in Capital expenditure/Total Sales (%)		62	-0.68	-1.28	0.667	0.034	42.86	0.128
Change in Capital expenditure/Total assets (%)		62	-1.13	-0.44	0.072	0.026	42.86	0.128
Change in income efficiency (% base year)	+	59	0.39	0.45	0.038	0.001	73.02	0
Change in sales efficiency (% base year)	+	59	0.22	0.2	0	0	82.54	0
Change in employment	-	59	-2488.74	-61.67	0.267	0.502	42.86	0.128
Change in leverage (%)	-	57	-3.27	-2.85	0.135	0.101	39.68	0.051

As Table 5 shows, post privatization performance changes in the sample examined in this study are comparable with those in prior studies. The profitability of SIP firms positively changes with the most significant improvement shows in Return on Sales (ROS) and to a lesser extent, in Return on Assets. Operational efficiency measured by inflation-adjusted sales and earnings per employee increases substantially. Financial condition is healthier after privatization as shown in a decreased financial leverage. A slightly weaker significance and smaller magnitude of the pre and post privatization changes, however, is documented for the sample examined here. Such difference is probably due to differences in sample size and examination period between studies. Megginson et al. (1994) examines 57 firms privatized during 1960-1990, which includes mostly firms in developed countries. Boubakri and Cosset (1998) specifically studies 79 companies from developing countries during 1980s to 1990s while Boubakri et al. (2004) examines 50 companies in developing countries in Asia. D'Souza and Megginson (1999) replicates prior research for a sample of 85 firms[19] privatized during the last decade of the century from all over the world. The sample in this study consists of 63 firms privatized through public offerings during 1990-2006 and from both developing and developed countries. A summary of empirical evidence on financial and operational improvements in selected studies is provided in Appendix 3.

5.2. Test of Hypothesis 1

5.2.1. Univariate test

Following Kothari et al. 's (2005) comparison of different discretionary accrual estimation models, the performance matching and performance-adjusted models to measure earnings management are used. In performance matching, for any particular year, each SIP firm is matched with a control firm operating in the same industry and same country having the closest Return on Assets. As previous studies show a relation between firm size and the magnitude of discretionary accruals (Haw et al. 2004; Han et al. 2008) and given that sample firms are generally large firms, firm size is also considered in the matching process. For each SIP firm observation, potential control firms are split into two groups: small size difference and big size difference based on the

median rank of total assets difference. The matching control firm is then the one with closest ROA within the small size difference group. As shown in Table 6, the matching procedure yields a group of control firms having similar financial and performance condition except for firm size. Even with the control for firm size, sample firms are still significantly larger than control firms. Given prior evidence that discretionary accruals for bigger firms are more likely to concentrate around zero (negative relation between firm size and the magnitude of discretionary accruals) (Haw et al. 2004; Han et al. 2008), the difference in firm size between sample and control firms is considered to bias the study against finding supporting results.

Table 7 shows performance matched discretionary accruals for sample firms over a three year period beginning one year prior to privatization to one year after privatization. Discretionary accruals are significantly negative in the year prior to privatization while insignificantly positive in the privatization year and insignificantly negative in the year after privatization. Given the concern that discretionary accruals of SIP firms are not drawn from the same distribution due to differences in national accounting GAAPs, in addition to the popular t-test, the Wilcoxon signed rank test and the binomial test, which assume no particular distribution, are also employed. The results in all three tests support the first hypothesis that SIP firms manage earnings downward prior to privatization offerings.

Discretionary accruals estimated using the performance adjusted model (model 4.3) shows consistent results, as detailed in Table 8. Discretionary accruals are significantly negative in the year prior to privatization while not significant in the year of privatization. The discretionary accruals in the year after privatization, however, are significantly negative as well. Contrary to the performance matched approach, the univariate test of discretionary accruals based on the performance adjusted model does not control for firm and country level differences that may affect the level of earnings management (Leuz et al. 2003; Nabar and Boonlert-U-Thai 2007; Han et al. 2008). The test result, therefore, is only of suggestive manner.

Table 6. Descriptive comparison of sample and control firms in calculating performance matched discretionary accruals

variables	groups	year -1			year 0			year 1		
		N	Mean (Median)	p	N	Mean (Median)	p	N	Mean (Median)	p
ROA	sample	63	0.05 (0.04)		63	0.06 (0.05)		63	0.05 (0.05)	
	control	63	0.05 (0.03)		63	0.05 (0.05)		63	0.05 (0.04)	
	Difference	63	0.00 (0.00)	0.7	63	0.00 (0.00)	0.3	63	0.01 (0.00)	0.4
TAUSD*	sample	63	10.47 (2.40)		63	12.05 (2.81)		63	12.38 (3.28)	
	control	60	1.94 (0.76)		60	2.80 (0.91)		57	2.14 (0.86)	
	Difference	60	8.90 (1.37)	0	60	9.66 (1.03)	0	57	11.11 (1.19)	0
Assetturnove**r	sample	63	0.74 (0.62)		63	0.71 (0.62)		63	0.71 (0.56)	
	control	63	0.77 (0.64)		63	0.83 (0.70)		63	0.81 (0.64)	
	Difference	63	-0.03 (0.01)	0.65	63	-0.12 (-0.09)	0.14	63	-0.10 (-0.11)	0.12
Leverage***	sample	62	0.18 (0.16)		61	0.16 (0.13)		61	0.14 (0.12)	
	control	59	0.20 (0.14)		58	0.19 (0.14)		59	0.19 (0.15)	
	Difference	58	-0.01 (-0.00)	0.63	57	-0.03 (-0.03)	0.26	58	-0.04 (-0.01)	0.1

*TAUSD is total assets in billion US$.
**Assetturnover = Sales/Total Assets
***Leverage = Long term debts/Total assets

Table 7. Performance matched Discretionary Accruals across years

Year	obs	mean_med	p	Wilcoxon signed rank test	% Negative DA	Z statistics	p value for Proportion test
-1	63	-1.98 (-2.17)	0.06	0.073	60.32	1.64	0.051
0	63	0.94 (-0.53)	0.37	0.529	53.97	0.63	0.264
1	63	-1.43 (-1.30)	0.23	0.286	55.56	0.88	0.189

Table 8. Discretionary accruals estimated using performance adjusted Modified Jones' model

Year	obs	Mean	Median	p	Wilcoxon signed rank test
-1	63	-1.81	-1.87	0.049	0.038
0	63	-0.22	0.14	0.828	0.792
1	63	-2.11	-1.76	0.02	0.012

5.2.2. Multiple regression analysis

Before performing regression analysis, Pearson correlations between dependent and independent variables are calculated to check for multicollinearity. As shown in Table 9, there is high correlation between the variables of interest, Year -1, Year0, Year1 and their interaction with Positive DACC. In order to check whether the multicollinearity problem seriously affect regression results, tests of variance inflation factor (VIF) for each independent variable is conducted. Results show that, the VIF for all variables of interest are less than 5, indicating that the multicollinearity problem does not unduly interfere with the results[20].

The hierachical linear model (HLM) is employed to perform regression of model (4.4). An advantage of the HLM analysis over the ordinary least square model is that the former distinguishes different levels of impact on the dependent variable. In this study, there are two levels of influencing factors, country level and firm level. Random intercept HLM model allows unrecognized country differences to be captured in the intercept. Therefore, the analysis can control for cross country differences other than legal environment and cultural values, reducing the omitted variable bias problem. Table 10 summarizes result of HLM analysis.

Consistent with prior literature, the magnitude of discretionary accruals is negatively related to firm size. The coefficient of Outsiders' Right is significantly negative, which is consistent with Leuz et al. (2003). The insignificantly positive coefficient of Legal Enforcement right in Model 5 is inconsistent with the evidence in Leuz et al. (2003) but could possibly be due to the endogeneity of this variable in the model, as demonstrated in Nabar and Boonlert-U-Thai (2007) and the multicollinearity problem when cultural variables are included. The significantly positive coefficient of Power Distance is

Table 9. Pearson correlation among independent variables in earnings management models

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	absDACC	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	p value	_	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	Positive DACC	-0	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	p value	0.35	_	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	Year -1	0.01	0	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	p value	0.39	1	_	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	Year 0	0	0.01	-0	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	p value	0.93	0.29	0.4	_	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	Year 1	0	-0	-0	-0	1	.	.	.	.	.	.	.	.	.	.	.	.	.
	p value	0.78	0.03	0.4	0.4	_	.	.	.	.	.	.	.	.	.	.	.	.	.
6	Positive DACC*Year-1	-0	0.08	0.66	-0	-0	1	.	.	.	.	.	.	.	.	.	.	.	.
	p value	0.53	0	0	0.58	0.58	_	.	.	.	.	.	.	.	.	.	.	.	.
7	Positive DACC*Year 0	-0	0.09	-0	0.71	-0	-0	1	.	.	.	.	.	.	.	.	.	.	.
	p value	0.65	0	0.55	0	0.55	0.69	_	.	.	.	.	.	.	.	.	.	.	.
8	Positive DACC*Year 1	0	0.07	-0	-0	0.55	0	0	1	.	.	.	.	.	.	.	.	.	.
	p value	0.88	0	0.65	0.65	0	0.76	0.74	_	.	.	.	.	.	.	.	.	.	.
9	lnTA	-0.2	-0	0.14	0.15	0.15	0.08	0.1	0.08	1	.	.	.	.	.	.	.	.	.
	p value	0	0.01	0	0	0	0	0	0	_	.	.	.	.	.	.	.	.	.
10	Utilities firms	-0	0.04	0.09	0.09	0.09	0.05	0.06	0.04	0.22	1	.	.	.	.	.	.	.	.
	p value	0.13	0.01	0	0	0	0	0	0	0	_	.	.	.	.	.	.	.	.
11	% Government share for sale	0.01	-0	0.45	0.45	0.45	0.29	0.32	0.2	0.18	0.15	1	.	.	.	.	.	.	.
	p value	0.31	0.29	0	0	0	0	0	0	0	0	_	.	.	.	.	.	.	.
12	International offer	0.01	0.02	0.16	0.16	0.16	0.15	0.19	0.12	0.07	0.08	0.22	1	.	.	.	.	.	.
	p value	0.33	0.21	0	0	0	0	0	0	0	0	0	_	.	.	.	.	.	.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
13	Legal Enforcement	-0	-0	-0	-0	-0	-0	-0	-0	0.05	0.01	-0	-0.1	1	.
	p value	*0.01*	*0.01*	*0.07*	*0.07*	*0.07*	*0.12*	*0.48*	*0.39*	*0*	*0.44*	*0.6*	*0*	*_*	*.*
14	Outsiders' right	-0	-0	-0	-0	-0	-0	-0	0.01	-0.2	0.06	0.02	0.02	0.27	1
	p value	*0.54*	*0.66*	*0.49*	*0.49*	*0.49*	*0.17*	*0.51*	*0.6*	*0*	*0*	*0.22*	*0.28*	*0*	*_*
14	Power Distance	0.02	-0	-0	-0	-0	-0	-0	0	-0.1	-0.2	-0	0.04	-0.6	-0.1
	p value	*0.1*	*0.65*	*0.65*	*0.65*	*0.65*	*0.56*	*0.67*	*0.92*	*0*	*0*	*0*	*0*	*0*	*0*
16	Uncertainty Avoidance	-0	0	0	0	0	0.02	0.01	0.01	0.1	-0.1	-0	-0	-0.2	-0.6
	p value	*0.11*	*0.8*	*0.8*	*0.8*	*0.8*	*0.24*	*0.4*	*0.41*	*0*	*0*	*0.05*	*0.68*	*0*	*0*
17	Individualism	-0	-0	-0	-0	-0	-0	-0	-0	0.03	0.05	0.01	-0.1	0.87	0.31
	p value	*0.03*	*0.14*	*0.06*	*0.06*	*0.06*	*0.29*	*0.66*	*0.23*	*0.06*	*0*	*0.44*	*0*	*0*	*0*
18	Masculinity	0.05	0	0	0	0	0.02	-0	-0	-0	0.21	0.02	0	-0.1	0.05
	p value	*0*	*0.84*	*0.86*	*0.86*	*0.86*	*0.18*	*0.7*	*0.48*	*0.31*	*0*	*0.19*	*0.75*	*0*	*0*

51

Table 10. Discretionary accruals around privatization – Multilevel analysis results

Model:

$absDACC = \alpha + \beta_1 * Year\text{-}1 + \beta_2 * Year0 + \beta_3 * Year\text{-}1 + \beta_4 * PositiveDACC + \beta_5 * PositiveDACC * Year\text{-}1 + \beta_6 * PositiveDACC*$
$PositiveDACC * Year1 + \beta_8 * lnTA + \beta_9 * Utilities\ firms + \beta_{10} * \%Government\ share\ for\ sales + \beta_{11} * International\ o$
specific variables)

absDACC is the absolute value of discretionary accruals. *Positive DACC* is a dummy indicating positive discretionary accr
Year 1 are dummies indicating the year before privatization, of privatization and after privatization, respectively. For contr
these variables is 0. *Utilities firms* is a dummy indicating firms operating in the utilities and telecommunication industries. *
sale is the percentage of government ownership offered to the public. *International offer* is a dummy indicating the offerin
Country specific variables include *Legal Enforcement, Outsiders' Right, Power Distance, Uncertainty Avoidance, Individu
Legal Enforcement and *Outsiders' Right* are the log of Legal Enforcement score and Outsiders' Right score in La Porta et a
Distance, Uncertainty Avoidance, Individualism and *Masculinity* are the log of respective culture scores in Hofstede (2001
β_1 to be positive while $(\beta_1 + \beta_5)$ to be negative.

variables		Model1 Coefficient	t value	Model2 Coefficient	t value	Model3 Coefficient	t value	Model4 Coefficient	t value
Intercept		4.45***	21.5	4.45***	21.44	6.09***	7.91	3.91	1.12
Log TA in billion USD	-	-0.47***	-13.85	-0.47***	-13.85	-0.48***	-13.9	-0.48***	-13.72
Positive DACC		-0.18	-1.44	-0.18	-1.44	-0.15	-1.14	-0.14	-1.08
Year -1	+	2.61***	2.79	2.45***	2.59	2.71***	2.77	2.74***	2.77
Positive DACC*Year -1	-	-2.04*	-1.73	-2.08*	-1.76	-2.28*	-1.86	-2.10*	-1.71
Year 0		2.00**	2.04	1.87*	1.89	1.58	1.55	1.62	1.57
Positive DACC * Year 0		-0.71	-0.61	-0.8	-0.68	-0.77	-0.63	-0.65	-0.53
Year 1	-	1.55*	1.72	1.38	1.51	1.34	1.43	1.45	1.53
Positive DACC * Year 1	+	-0.15	-0.12	-0.14	-0.11	0.21	0.16	0.2	0.15
Utitlities firms		0.15	0.92	0.14	0.86	0.17	0.94	0.13	0.71
% Government share for sale		0.01	0.39	0.01	0.46	0.01	0.68	0.01	0.6
International offer				1.41	1.23	0.98	0.76	0.73	0.57

52

Table 10. (Continued) Discretionary accruals around privatization – Multilevel analysis res

variables		Model1 Coefficient	t value	Model2 Coefficient	t value	Model3 Coefficient	t value	Model4 Coefficient	t value
Legal Enforcement	-					-0.15*	-1.73		
Outsiders right	-					-0.16	-1.25		
Power Distance	+							0.87	1.53
Uncertainty Avoidance								-0.56	-1.43
Individualism								-0.36	-0.83
Masculinity	+							0.21	0.7
β1	+	2.61***	2.79	2.45***	2.59	2.71***	2.77	2.74***	2.77
β2		2.00**	2.04	1.87*	1.89	1.58	1.55	1.62	1.57
β3	-	1.55*	1.72	1.38	1.51	1.34	1.43	1.45	1.53
β1+β5	-	0.57	0.56	0.37	1.04	0.43	1.06	0.64	1.07
β2+β6		1.28	1.32	1.07	0.99	0.81	1.02	0.97	1.03
β3+β7	+	1.4	1.24	1.23	1.14	1.55	1.19	1.64	1.12

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

53

consistent with Gray 's (1988) prediction while the significantly negative coefficient of Uncertainty Avoidance is inconsistent with Gray 's (1988) model but congrues with Han et al. 's (2008) analysis results of cultural impacts on earnings management using firm level data.

As predicted, Year -1 is significantly positive. This means, when discretionary accruals are negative, sample firms' discretionary accruals in the year prior to privatization are more negative than those of control firms. The sum of coefficients of Year -1 and the interaction of Year -1 with Positive DACC ($\beta_1+\beta_5$) is, however, insignificantly positive rather than significantly negative as predicted. This means, when discretionary accruals are positive, sample firms do not manage upward or downward, as compared to control firms. To a lesser extent and in certain models, the same phenomenon is observed for Year 0. Year 1 coefficient is not significant in all but one model with the significant level as well as the effect size being relatively low. Taken together, there is evidence that sample firms, in the year prior to privatization, manage earnings downward.

In conclusion, results from multiple regression analysis agree with univariate test results that the discretionary accruals for sample firms in the year prior to privatization is lower than that of control firms. Limited similar evidence is observed for the year of privatization but not for the year after privatization. The univariate and multiple regression results, therefore, support Hypothesis 1 that SIP firms manage earnings downward prior to privatization public offerings.

5.3. Test of Hypothesis 2

Hypothesis 2 predict a possibility that the accounting choices employed to manage earnings before SIPs reverse their effect and influence the documented financial improvement of SIP firms after privatization. Table 11 (Panel B) and Table 12 (Panel B) show the relation between financial performance improvement in years 1 and 2 after privatization, as compared to the year prior to privatization, and earnings management in the year prior to privatization, respectively.

Table 11. First year financial improvement and pre SIP earnings management

. Panel A. Pearson correlation among independent variables in the first year financial improvement and earnings management model

	Variable	1	2	3	4	5	6	7	8	9	10
1	Change in ROS	1	.	.	.	.	.	.	.	.	.
	p value	_	.	.	.	.	.	.	.	.	.
2	Change in ROA	0.89	1	.	.	.	.	.	.	.	.
	p value	0	_	.	.	.	.	.	.	.	.
3	Change in ROE	0.72	0.82	1	.	.	.	.	.	.	.
	p value	0	0	_	.	.	.	.	.	.	.
4	DACC in Year -1	-0.3	-0.3	-0.26	1	.	.	.	.	.	.
	p value	0.02	0.02	0.04	_	.	.	.	.	.	.
5	Firm size	0.19	0.2	0.26	-0.22	1	.	.	.	.	.
	p value	0.14	0.13	0.04	0.09	_	.	.	.	.	.
6	Change of control	0.03	0.03	0.04	0.17	-0.26	1	.	.	.	.
	p value	0.81	0.8	0.74	0.2	0.04	_	.	.	.	.
7	Property right	-0.1	-0.02	0.04	0.03	0.19	0.13	1	.	.	.
	p value	0.44	0.89	0.77	0.81	0.13	0.3	_	.	.	.
8	Economic freedom	-0.04	0.04	0.03	0.02	0.1	0.09	0.82	1	.	.
	p value	0.75	0.75	0.82	0.9	0.44	0.5	0	_	.	.
9	Economic growth	0.21	0.16	0.03	-0.09	-0.09	-0.1	-0.16	-0.01	1	.
	p value	0.11	0.2	0.8	0.49	0.47	0.44	0.22	0.94	_	.
10	Market activeness	0.04	-0.04	-0.17	0.1	0.04	0.16	0.2	0.22	0.24	1
	p value	0.75	0.79	0.18	0.43	0.75	0.21	0.12	0.09	0.07	_
	N	63	63	62	63	63	63	63	63	63	63

Panel B. First year financial improvement and pre SIP earnings management

Model: $Profit_{post-pre} = \alpha + \beta_1 DACC + \sum_{j=2}^{n+1} \beta_j Control\_variables$

Profit_{post-pre} is *Change in ROS, ROE or ROA* alternatively. *Change in ROS, ROE or ROA* is measured as the difference in R
respectively, between year 1 and year -1. *DACC* is the discretionary accruals in the year prior to privatization. Control vari
Change from Total control (or Change of control, alternatively), Property right (or Economic Freedom, alternatively) and
Firm size is measured as the log of total assets in billion US\$ in the year prior to privatization. *Change from Total control* i
that the government owns 100% before the SIP. *Change of control* is a dummy indicating that after the SIP, the governmen
(i.e. owned less than 50%). *Property right* is the rank of property right score in the 1996 Index of Economic Freedom prepa
Foundation and the Wall Street Journal. *Economic growth* is the aggregate two year GDP growth from the year of privatiza
and year 1). *Economic Freedom* is the rank of 1996 Economic Freedom overall score prepared by the Heritage Foundation
Journal. *Market activeness* is measured as the total annual value of stock traded, scaled by GDP (for year 1). Hypothesis 2
negative.

Dependent variables	variables	MODEL1 Coefficient	t	MODEL2 Coefficient	t	MODEL3 Coefficient	t	MODEL4 Coefficient	t	MODEL5 Coefficient	t
Change in ROS	Intercept	-12.22	-1.29	-15.75	-1.66	-16.66	-1.66	-13.71	-1.37	-15.25	-1.6
	DACC	-0.23	-1.62	-0.22	-1.56	-0.21	-1.49	-0.26*	-1.8	-0.23	-1.6
	Firm size	0.86	1.35	1.01	1.61	1.27*	1.9	0.87	1.3	1.19*	1.8
	Change from total control	.		3.76*	1.8	.		.		4.58**	2.2
	Change of control	.		.		2.71	1.04	1.3	0.5	.	
	Property right	.		.		-0.12	-1.16	.		-0.19*	-1.8
	Economic growth	.		.		0.08	1.31	.		.	
	Economic freedom	.		.		.		-0.01	-0.14	.	
	Market activeness	.		.		.		0.02	1.21	0.03	1.6
	R-square	0.09		0.13		0.14		0.12		0.21	
		63		63		63		63		63	

56

Panel B.(Continued) First year financial improvement and pre SIP earnings management

Dependent variables	variables	MODEL1 Coefficient	t	MODEL2 Coefficient	t	MODEL3 Coefficient	t	MODEL4 Coefficient	t	MODEL5 Coefficient	t
Change in ROE	Intercept	-31.95*	-1.94	-39.17**	-2.37	-38.89**	-2.19	-38.03**	-2.23	-38.19**	-2.3
	DACC	-0.42*	-1.69	-0.39	-1.59	-0.44*	-1.73	-0.42	-1.67	-0.35	-1.4
	Firm size	1.89*	1.7	2.22**	2.03	2.29*	1.92	2.33**	2.04	2.36**	2.0
	Change from total control	.		6.97*	1.9	.		.		6.99*	1.8
	Change of control	.		.		5.39	1.17	6.11	1.36	.	
	Property right	.		.		-0.03	-0.14	.		-0.04	-0.2
	Economic growth	.		.		0.04	0.39	.		.	
	Economic freedom	.		.		.		0.05	0.28	.	
	Market activeness	.		.		.		-0.05	-1.57	-0.03	-1.2
	R-square	0.11		0.16		0.13		0.17		0.19	
		62		62		62		62		62	
Change in ROA	Intercept	-7.98	-1.43	-10.76*	-1.96	-10.40*	-1.73	-9.15	-1.54	-10.56*	-1.9
	DACC	-0.13	-1.6	-0.13	-1.54	-0.13	-1.5	-0.15*	-1.72	-0.13	-1.5
	Firm size	0.53	1.41	0.65*	1.79	0.71*	1.75	0.53	1.33	0.73*	1.9
	Change from total control	.		2.96**	2.46	.		.		3.30***	2.6
	Change of control	.		.		1.41	0.91	0.84	0.54	.	
	Property right	.		.		-0.04	-0.57	.		-0.08	-1.2
	Economic growth	.		.		0.04	1.04	.		.	
	Economic freedom	.		.		.		0.04	0.61	.	
	Market activeness	.		.		.		0.01	0.52	0.01	0.9
	R-square	0.09		0.17		0.12		0.11		0.2	
		63		63		63		63		63	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

57

Table 12. Second year financial improvement and pre SIP earnings management

Panel A. Pearson correlation among independent variables in the second year financial improvement and earni...

model

	Variable	1	2	3	4	5	6	7	8
1	Change in ROS	1	.	.	.	.	.	.	.
	p value	_	.	.	.	.	.	.	.
2	Change in ROA	0.88	1	.	.	.	.	.	.
	p value	*0*	_	.	.	.	.	.	.
3	Change in ROE	0.68	0.85	1	.	.	.	.	.
	p value	*0*	*0*	_	.	.	.	.	.
4	DACC in Year -1	-0.37	-0.3	-0.12	1	.	.	.	.
	p value	*0.01*	*0.02*	*0.38*	_	.	.	.	.
5	Firm size	0.28	0.24	0.2	-0.27	1	.	.	.
	p value	*0.04*	*0.07*	*0.13*	*0.05*	_	.	.	.
6	Change of control	0.17	0.17	0.17	0.07	-0.3	1	.	.
	p value	*0.22*	*0.21*	*0.22*	*0.63*	*0.03*	_	.	.
7	Property right	-0.01	0.07	0.11	-0.04	0.19	0.07	1	.
	p value	*0.95*	*0.6*	*0.42*	*0.78*	*0.16*	*0.61*	_	.
8	Economic freedom	-0.02	0.06	0.09	-0.04	0.09	0.02	0.81	1
	p value	*0.86*	*0.65*	*0.51*	*0.78*	*0.53*	*0.91*	*0*	_
9	Economic growth	0.16	0.07	-0.02	-0.07	-0.16	-0.07	-0.29	-0.11
	p value	*0.25*	*0.6*	*0.86*	*0.62*	*0.25*	*0.61*	*0.03*	*0.4*
10	Market activeness	0.09	-0.05	-0.03	0.08	0.1	-0.06	0.23	0.13
	p value	*0.53*	*0.73*	*0.84*	*0.53*	*0.46*	*0.64*	*0.09*	*0.34*
21	N	57	57	56	57	57	57	57	57

58

Panel B. Second year financial improvement and pre SIP earnings management

Model: $Profit_{post-pre} = \alpha + \beta_1 DACC + \sum_{j=2}^{n+1} \beta_j Control\_variables$

Profit_{post-pre} is *Change in ROS, ROE or ROA* alternatively. *Change in ROS, ROE or ROA* is measured as the difference in R respectively, between year 2 and year -1. *DACC* is the discretionary accruals in the year prior to privatization. Control vari *Change from Total control (or Change of control, alternatively), Property right (or Economic Freedom, alternatively) and Firm size* is measured as the log of total assets in billion US$ in the year prior to privatization. *Change from Total control* i that the government owns 100% before the SIP. *Change of control* is a dummy indicating that after the SIP, the governmen (i.e. owned less than 50%). *Property right* is the rank of property right score in the 1996 Index of Economic Freedom prepa Foundation and the Wall Street Journal. *Economic growth* is the aggregate two year GDP growth from the year of privatiza year 1 and year 2). *Economic Freedom* is the rank of 1996 Economic Freedom overall score prepared by the Heritage Four Street Journal. *Market activeness* is measured as the total annual value of stock traded, scaled by GDP (for year 2). Hypoth negative.

Dependent variables	variables	MODEL1 Coefficient	t	MODEL2 Coefficient	t	MODEL3 Coefficient	t	MODEL4 Coefficient	t	MODEL5 Coefficient	t
Change in ROS	Intercept	-16.76*	-1.78	-23.72**	-2.59	-25.38**	-2.49	-22.05**	-2.34	-22.32**	-2.
	DACC	-0.25*	-1.75	-0.23*	-1.69	-0.23	-1.58	-0.31**	-2.25	-0.29**	-2.
	Firm size	1.11*	1.76	1.43**	2.38	1.69**	2.52	1.19*	1.89	1.40**	2.
	Change from total control	.		5.68***	2.88	.		.		6.39***	3.
	Change of control	.		.		5.03*	1.91	4.76*	1.92	.	
	Property right	.		.		-0.06	-0.59	.		-0.19**	-2.
	Economic growth	.		.		0.01	1.18	.		.	
	Economic freedom	.		.		.		-0.02	-0.27	.	
	Market activeness	.		.		.		0.06***	2.7	0.06***	2.
	R-square	0.13		0.25		0.21		0.28		0.38	
		57		57		57		57		57	

59

Panel B. Second year financial improvement and pre SIP earnings management

Dependent variables	variables	MODEL1 Coefficient	t	MODEL2 Coefficient	t	MODEL3 Coefficient	t	MODEL4 Coefficient	t	MODEL5 Coefficient	t
Change in ROE	Intercept	-37.98	-1.53	-55.84**	-2.26	-56.41**	-2.07	-54.59**	-2.07	-55.69**	-2.
	DACC	-0.2	-0.51	-0.12	-0.32	-0.17	-0.45	-0.17	-0.44	-0.11	-0.
	Firm size	2.22	1.34	3.10*	1.91	3.09*	1.72	3.11*	1.78	3.18*	1.8
	Change from total control	.		13.47**	2.52	.		.		13.62**	2.3
	Change of control	.		.		12.24*	1.75	12.11*	1.75	.	
	Property right	.		.		0.11	0.39	.		-0.03	-0.
	Economic growth	.		.		0.01	0.32	.		.	
	Economic freedom	.		.		.		0.13	0.5	.	
	Market activeness	.		.		.		-0.02	-0.31	-0.01	-0.
	R-square	0.05		0.15		0.11		0.11		0.15	
		56		56		56		56		56	
Change in ROA	Intercept	-11.3	-1.65	-17.32***	-2.68	-16.79**	-2.22	-15.56**	-2.18	-16.74**	-2.
	DACC	-0.15	-1.37	-0.13	-1.31	-0.13	-1.25	-0.17	-1.6	-0.15	-1.
	Firm size	0.73	1.59	1.01**	2.39	1.05**	2.11	0.83*	1.74	1.01**	2.3
	Change from total control	.		4.90***	3.53	.		.		5.25***	3.6
	Change of control	.		.		3.38*	1.74	3.27*	1.74	.	
	Property right	.		.		-0.01	-0.07	.		-0.09	-1.
	Economic growth	.		.		0	0.7	.		.	
	Economic freedom	.		.		.		0.04	0.54	.	
	Market activeness	.		.		.		0.02	1.42	0.02	1.5
	R-square	0.1		0.27		0.15		0.19		0.32	
		57		57		57		57		57	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

Firm size is consistently positively related with the financial performance improvement. The change from government's sole ownership to partly or solely private ownership has a significant impact on improving performance. This indicates that the introduction of private ownership into formerly sole state-owned firms may have significantly altered the firms' corporate control environment and objectives, therefore improve firms' efficiency and profitability. The control change variable, a proxy for the change from government controlled to non-government controlled ownership is positive but not as consistently significant as the coefficient on total control. This result is possibly due to the fact that share ownership does not entirely capture government's control power over SIP firms as the retention of 'golden shares' by the government in certain privatized firms enable it to interfere with major policies of the firms without the necessity of having more than fifty percent ownership. The coefficient for prior privatization discretionary accruals is negative in all models and for all measures of profitability. The significance level, however, is not consistent and in some models, the coefficient is not significant. The results, therefore, provide weak evidence supporting Hypothesis 2 that there is a negative relation between pre-privatization earnings management and post privatization financial performance. In other words, the recorded financial improvement is partly attributable to manipulative accounting choices before privatization. Furthermore, a higher significance is detected for the relation between DACC and Profit$_{pre-post}$ in year 2, suggesting that the reversal impact is likely more pronounced in later years.

5.4. Test of Hypothesis 3

The first two models in Table 13 show the relevance of earnings number in determining the offering price of SIPs. Consistent with the evidence in the value relevance literature (see, e.g., Barth et al. 1998; Francis and Schipper 1999), earnings are priced. The three components of earnings, Managed Earnings (EM), Unmanaged Earnings (UMA) and Cash Flows (CFO), are all positively related with the offer price, indicating that all these three components are priced. Even though there is a high correlation among the three components (ranging from 0.25 to 0.57), the finding indicates

that multicollinearity does not prevent the observation of significant impact of earnings management on the offer price (see Barth et al. 1998 for similar interpretation of their results). Furthermore, in a pairwise test of the importance of each component, the coefficient of EM is significantly higher than UMA (at the 10% level) but not CFO. The result suggests that the EM component influences the determination of offering prices at least to the same extent as other components do. The results, therefore, support Hypothesis 3a that earnings management in the pre-privatization period is positively related to the offering price and confirm the assertion that SIP management can suppress the offering price by managing earnings downward.

Table 14 summarizes the relation between earnings management and underpricing using alternative variable proxies. Results in the table lend strong supports to Perotti 's (1995) prediction that SIP underpricing is related to policy risk. The insignificance of the coefficients for information asymmetry proxies (firm size, first offer) and the sign and significance of policy risk proxies (regulated firms, corruption, government effectiveness) are consistent with Lam et al. 's(2007) results and assertion that policy risk rather than information asymmetry explains SIP underpricing. As the table shows, the coefficient for DACC is negative but not significant in any model, which is inconsistent with the prediction in Hypothesis 3b.

An important assumption in the association between DACC and underpricing in Hypothesis 3b is that the undervalued offer price is seen through by the market so that when former state-owned shares are listed, the true value of the shares is revealed. Whether or not managers can fool the market at a public offering is still an ongoing question given different research results and explanations (Teoh et al. 1998a; Teoh et al. 1998b; Shivakumar 2000; DuCharme et al. 2001). In order to test this assumption, the relation between the first stock market price and earnings management is examined. An insignificant or negative relation between earnings management and market price would be evidence that the market is not misled by managers' behavior (if the relation is statistically insignificant) or even punish managers' behavior (if the relation is negative).

Table 13. Relation between earnings management and offer price

Panel A. Pearson Correlation among independent variables in the price and earnings management model

	Variable	1	2	3	4	5	6	7	8	9
1	Firm value at offer price	1	.	.	.	.	.	.	.	.
	p value	_	.	.	.	.	.	.	.	.
2	Firm value at first stock price	0.83	1	.	.	.	.	.	.	.
	p value	0	_	.	.	.	.	.	.	.
3	Managed Earnings	0.13	0.15	1	.	.	.	.	.	.
	p value	0.31	0.25	_	.	.	.	.	.	.
4	Unmanaged earnings	0.02	0.06	-0.45	1	.	.	.	.	.
	p value	0.89	0.61	0	_	.	.	.	.	.
5	Cash flows	0.11	0.06	-0.67	-0.09	1	.	.	.	.
	p value	0.39	0.67	0	0.48	_	.	.	.	.
6	Book value	0.24	0.14	-0.16	0.26	0.25	1	.	.	.
	p value	0.05	0.29	0.22	0.04	0.04	_	.	.	.
7	Firm growth	-0.04	-0.02	0.28	-0.05	-0.16	-0.11	1	.	.
	p value	0.74	0.86	0.03	0.72	0.22	0.39	_	.	.
8	Earnings	0.37	0.35	-0.2	0.33	0.58	0.47	0.08	1	.
	p value	0	0	0.11	0.01	0	0	0.54	_	.
9	Government shares sold	0.34	0.44	0.09	0.17	-0.08	0.29	-0.06	0.18	1
	p value	0.01	0	0.49	0.19	0.55	0.02	0.62	0.17	_
	N	63	63	63	63	63	63	63	63	63

Table13. (Continued) Relation between earnings management and offer price

Panel B. Earnings management and offer price

Model: Firm value at offer price $= \alpha + \beta_1 *Managed\ Earnings + \beta_2 *Unmanaged\ Earnings + \beta_3 *Cash\ flows + \sum_{j=4}^{n+3} \beta_j * Control$

Firm value at offer price is calculated as the product of offer price per share and the number of outstanding stock after SIP. *Earnings* is measured as Earnings before Extraordinary items (EBEX). *Managed earnings* is the estimated discretionary ac assets. *Unmanaged earnings* is the estimated non-discretionary accruals, scaled by total assets. *Cash flows* is the cash flows by total assets. *Control variables* include *Firm growth* and *Government share sold*. *Firm growth* is annual sales growth. *Go* the percentage of government ownership offered in the SIP. *Book value* is the book value of common equity. All the above data and calculated as a percentage of total assets. Hypothesis 3a predicts β_1 to be positive.

Dependent variable	variables	MODEL1 Coefficient	t	MODEL2 Coefficient	t	MODEL3 Coefficient	t	MODEL4 Coefficient	t	N C
Firm value at offer price	Intercept	-0.52	-0.07	-11.74	-1.42	-12.57	-1.16	0.81	0.09	-
	Earnings	2.76***	3.1	2.39***	2.73	.		.		.
	Managed Earnings	.		.		3.93***	3.11	4.62***	3.66	4
	Unmanaged earnings	.		.		2.36**	2.05	3.07***	2.7	2
	Cash flows	.		.		2.92***	3.19	3.24***	3.47	2
	Firm growth	-0.22	-0.59	-0.15	-0.42	-0.34	-0.91	-0.46	-1.18	-
	Government shares sold	.		0.37**	2.38	0.35**	2.17	.		.
	Book value	.		.		.		.		1
	R-square	0.14		0.21		0.26		0.2		C
		63		63		63		63		6

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

64

Table 14. Relation between earnings management and underpricing

Model: $Underpricing = \alpha + \beta_1 * DACC + \sum_{j=2}^{n+1} \beta_j * Control\ variables$

Underpricing is measured either by *Underprice* or *Adjusted underprice*. *Underprice* is the difference between the log of fir[...] the log of offer price. *Adjusted underprice* is Underprice minus the difference between the log of market index on the first [...] and the log of market index on the day of offering. *DACC* is Discretionary accruals estimated for year – 1. *Control variabl[...] sale, Firm size, Regulated firms, Corruption* (or *Government Effectiveness,* alternatively), *First offer* and *International offe[...]* the Government's share sold in the offering, as a percentage of total number of shares. *Firm size* is the log of total assets in[...] *firms* is a dummy indicating firms operating in the transportation, telecommunication, utilities and services companies. *Co[...] Government Effectiveness* are the proportion ranks of corruption and government effectiveness index in 2000, respectively[...] governance database accompanying Kaufmann et al. (2009). *First offer* is a dummy indicating the first time selling the g[...] state-owned firm. Market activeness is the annual stock trading volume as a percentage of GDP. *International offer* is a du[...] to foreign investors. Hypothesis 3b predicts β_1 to be negative.

Dependent variable		MODEL1		MODEL2		MODEL3		MO[...]
Underprice	variables	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coet[...]
	Intercept	10.83**	2.01	5.59	0.75	6.53	1.07	10.2
	DACC	-0.12	-0.49	-0.16	-0.65	-0.16	-0.69	-0.1[...]
	% share for sale	0.07	0.94	0.05	0.7	0.06	0.78	0.08
	Firm size	-0.04	-0.03	-0.19	-0.16	-0.27	-0.25	0.53
	Regulated firms	6.72*	1.83	6.81*	1.84	6.90*	1.9	7.07
	Corruption	26.90***	2.73	25.47**	2.57	25.67**	2.62	22.7[...]
	Government Effectiveness	-38.95**	-2.67	-38.87**	-2.64	-39.40***	-2.73	-36.[...]
	First offer	.		1.26	0.22	.		.
	Market activeness	.		0.3	1.31	0.32	1.49	0.3
	International offer	.		.		.		-10.[...]
	R-square	0.17		0.21		0.21		0.24
	Nobs	59		59		59		59

65

Table 14. (Continued) Relation between earnings management and underpricing

Dependent variable Adjusted underprice	variables	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coef
	Intercept	9.98*	1.92	4.98	0.7	5.95	1.02	9.27
	DACC	-0.11	-0.47	-0.14	-0.62	-0.15	-0.67	-0.1
	% share for sale	0.07	0.95	0.05	0.7	0.06	0.79	0.07
	Firm size	0.15	0.14	0.02	0.01	-0.07	-0.07	0.65
	Regulated firms	6.48*	1.83	6.55*	1.84	6.65*	1.89	6.80
	Corruption	26.05***	2.74	24.69**	2.58	24.90**	2.64	22.2
	Government Effectiveness	-37.30**	-2.66	-37.18**	-2.62	-37.73***	-2.71	-34.9
	First offer	.		1.31	0.24	.		.
	Market activeness	.		0.28	1.26	0.3	1.44	0.28
	International offer	.		.		.		-9.3
	R-square	0.18		0.21		0.21		0.24
	Nobs	59		59		59		59

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

Results in Table 15 show that the managed accruals continue to be positively priced by the market. In other words, investors cannot undo managers' behavior. As such, the assumption underlying Hypothesis 3b is not satisfied, which could be the reason why Hypothesis 3b is not supported.

5.5.   Test of Hypothesis 4

The temporary nature of managed accruals causes income numbers to be noisy during both the period earnings are managed and the period during which reversals occur. Such noise impairs the value relevance of earnings number in relation to stock market price (Marquardt and Wiedman 2004). Accordingly, Hypothesis 4 predicts a lower relevance for SIP firms' earnings numbers than control firms. Table 16 presents results of the value relevance test. Panel A of Table 16 examines the relation between buy and hold stock returns and earnings and earnings changes while Panel B uses compounded monthly market adjusted returns as the dependent variable.

In Panel A, the interaction between earnings and the loss dummy is negative, indicating earnings numbers of loss making firms have lower relevance, confirming Collins et al. 's(1999) results. Earnings of high book value growth firms, high leverage firms and high sales growth firms, however, do not show greater relevance. There is evidence that earnings are more relevant in more developed market as the coefficient for the interaction between earnings and the dummy for market development (*Develop*) is significantly positive. The coefficient for the interaction between earnings and the dummy for SIP firms is significantly negative in Models 2 to 5 while insignificantly negative in the simple Model 1.

Recent studies use market adjusted returns to control for marketwide effects on individual stock returns (Marquardt and Wiedman 2004; Entwistle et al. 2010). While it is theoretically correct to exclude non-earnings effects in examining the value relevance between stock returns and earnings, models using market adjusted returns may be sensitive to the calculation of market returns and the construction of market indices. Panel B presents regression results of market adjusted returns for 12 months ending on the fiscal year end on earnings and earnings changes. Consistent with results using raw

Table 15. Relation between earnings management and first stock market price

Model: *Firm value at first price = α+β1*Managed Earnings +β2*Unmanaged Earnings+β3*Cash flows + β4*Control variables*

Firm value at first price is calculated as the product of first day close price per share (first day is consider the first day after the offering when the issued share begins to trade) and the number of outstanding stock after SIP, scaled by total assets. *Earnings* is measured as Earnings before Extraordinary items (EBEX).). *Managed earnings* is the estimated discretionary accruals scaled by total assets. *Unmanaged earnings* is the estimated non-discretionary accruals, scaled by total assets. *Cash flows* is the cash flows from operation, scaled by total assets.. Control variables include *Firm growth* and *Government share sold*. *Firm growth* is annual sales growth. *Government share sold* is the percentage of government ownership offered in the SIP. *Book value* is the book value of common equity. All the above variables are year -1 data and calculated as a percentage of total assets.

Dependent variable Firm value at first price	variables	MODEL1 Coefficient	t	MODEL2 Coefficient	t	MODEL3 Coefficient	t	MODEL4 Coefficient	t	MODEL5 Coefficient	t
	Intercept	0.82	0.07	-24.86*	-1.89	-21.93	-1.27	8.64	0.56	13.33	0.66
	Earnings	4.37***	2.95	3.51**	2.53	.		.		.	
	Managed Earnings	.		.		6.00***	2.98	7.57***	3.62	7.85***	3.49
	Unmanaged earnings	.		.		3.90**	2.13	5.54***	2.94	5.87***	2.77
	Cash flows	.		.		4.22***	2.88	4.94***	3.19	5.21***	3.01
	Firm growth	-0.26	-0.42	-0.11	-0.18	-0.42	-0.7	-0.68	-1.06	-0.72	-1.1
	Government shares sold	.		0.86***	3.42	0.80***	3.11	.		.	
	Book value	.		.		.		.		-14.1	-0.36
	R-square	0.13		0.27		0.31		0.19		0.19	
		63		63		63		63		63	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

returns, the interaction between earnings change and sample firms is negative. However, the significance of the coefficient as well as the goodness of fit are much lower than when raw returns are used.

In summary, the above results provide supports for Hypothesis 4 that the relevance of earnings in stock pricing is lower in the period immediately after public offerings, probably due to noisy earnings numbers.

Table 16. Value relevance of earnings number after privatization public offerings

Model: $R_t = α + β_1*Earnings + β_2*Earnings\ change + β_3*Earnings*sample + β_4*Control\ variables.$

R_t is individual stock returns measured by either unadjusted (*Ret12month*) or market adjusted (*Abreturn12*) returns. *Ret12month* is the buy and hold return for 12 months from the beginning of the first year after privatization and ending on the fiscal year end. *Abreturn12* is the compounded monthly abnormal return for 12 months ending on the fiscal year end. *Earnings* is the per share value of earnings before extraordinary items, scaled by year beginning stock price. *Earning change* is the per share change in earnings before extraordinary items for the first year after privatization, scaled by year beginning stock price. *Sample* is a dummy indicating SIP firms. Control variables include *Loss*, *HighBV*, *Highleverage, Growth, Develop* and their interaction with *Earnings change*. *Loss* is a dummy indicating negative earnings for the year. *High BV* is a dummy indicating firms with book value growth ranking above the median of the entire sample. *High leverage* is a dummy indicating firms with leverage ranking above the median. *Develop* is a dummy indicating firms locating in countries having the rank of total annual trading volume as a percentage of GDP greater than 0.5. *Growth* is a dummy indicating sales growth above the median. Hypothesis 4 predicts $β_3$ to be negative.

Panel A. Using unadjusted returns

Dependent variable Ret12month Independent variables	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value	MODEL5 Coefficient	t value
Intercept		0	0.14	-0.03	-1.18	-0.02	-0.72	-0.10***	-2.67	-0.14***	-3.76
Earnings	+	1.69***	9.77	1.75***	7.31	1.72***	7.13	1.46***	5.52	1.33***	4.8
Earnings change	+	0.55***	5.76	0.53***	5.49	0.55***	5.61	0.55***	5.64	0.53***	5.44
Earnings change*Sample	-	-1.62*	-1.76	-1.64*	-1.79	-1.66*	-1.81	-1.61*	-1.76	-1.63*	-1.79
sample		0.03	0.47	0.03	0.42	0.03	0.46	0.05	0.65	0.05	0.69
Loss	-	-0.17***	-4.89	-0.15***	-4.13	-0.15***	-4.1	-0.15***	-3.96	-0.14***	-3.88
Earnings * Loss	-	-1.81***	-9.77	-1.85***	-7.96	-1.94***	-8.15	-1.84***	-7.93	-1.76***	-7.34
High BV	+	.		0.05*	1.94	0.06**	2.03	0.05*	1.95	0.03	1.16
Earnings*High BV	+	.		-0.12	-0.66	-0.18	-1	-0.08	-0.45	-0.08	-0.45

70

Panel A. (Continued) Using unadjusted returns

	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value
High leverage		.		.		-0.03	-1.04	.	
Earnings*High leverage		.		.		0.19	1.58	.	
Develop	+	.		.		.		0.08**	2.52
Earnings * Develop	+	.		.		.		0.36***	2.69
Growth	+	.		.		.		.	
Earnings*Growth	+	.		.		.		.	
R-square		0.13		0.13		0.13		0.14	
		1965		1965		1965		1965	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

71

Panel B. Using compounded monthly abnormal returns

Dependent variable Abreturn12 Independent variables	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value
Intercept		0.01	0.83	-0.02	-1.01	-0.01	-0.52	0.02	0.52
Earnings	+	0.78***	6.83	0.80***	5.04	0.87***	5.31	0.77***	4.47
Earnings change	+	0.01	0.14	-0.01	-0.14	-0.02	-0.34	0	0.02
Earnings change*Sample	-	-1.76	-1.53	-1.82	-1.58	-1.75	-1.52	-1.89	-1.64
sample		0.03	0.33	0.02	0.29	0.03	0.35	0.01	0.16
Loss	-	-0.10***	-2.96	-0.08**	-2.15	-0.08**	-2.1	-0.08**	-2.17
Earnings * Loss	-	-0.84***	-6.29	-0.84***	-5.52	-0.79***	-5.05	-0.82***	-5.35
High BV	+	.		0.07**	2.42	0.07**	2.41	0.07**	2.39
Earnings*High BV	+	.		-0.07	-0.54	-0.03	-0.22	-0.08	-0.6
High leverage		.		.		-0.02	-0.73	.	
Earnings*High debt		.		.		-0.18	-1.6	.	
Develop	+	.		.		.		-0.05	-1.54
Earnings * Develop	+	.		.		.		0.03	0.28
Growth	+	.		.		.		.	
Earnings*Growth	+	.		.		.		.	
R-square		0.04		0.04		0.04		0.04	
		1899		1899		1899		1899	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

72

5.6. Sensitivity analysis

As HLM analysis is less frequently used in accounting analysis as compared to the simple OLS model, OLS regression of model (4.4) is performed to check the model sensitivity of HLM results. As Table 17 shows, OLS analyses generate qualitatively similar results. Year-1 continues to be significantly positive while Year 0, Year 1 and the sum of those three year dummies and their interaction with Positive DACC are not significant. Other control variables show similar signs but are more significant than the HLM results.

When the OLS model is used to examine effects of variables at both country and firm levels, a potential bias may be created due to uneven country representation in the regression sample. In order to mitigate such problem, country-weighted least square (WLS) regression procedure is also performed. The weight is inversely proportional to the number of observations in each country. WLS results are presented in Table 18. Similar to HLM and OLS results, firm size is negatively related with the magnitude of discretionary accruals. Legal environment variables are either significantly negative or insignificant in alternative models. Power Distance is significantly positive while both Uncertainty Avoidance and Individualism are significantly negative. These results, again, are consistent with Han et al. 's (2008) observation. The coefficient of Masculinity, however, is significantly negative in one model while insignificantly negative in another model, which is inconsistent with the OLS as well as Han et al. 's (2008) results. In WLS models, the coefficients of Utilities and the offering size (measured by the percentage of government's share for sale) are both significantly positive, indicating that utilities firms manage earnings more than other firms and the larger the share offer to the public, the higher the earnings manipulation. Again, Year -1 is significantly positive while the sum of Year-1 and the interaction between Positive DACC and Year -1 is not consistently significant across models. Surprisingly, Year 0 is significantly positive and the sum of Year 0 and its interaction with Positive DACC is significantly negative. This result indicates that DACC in the year of privatization for sample firms are always lower than

Table 17. Discretionary accruals around privatization - OLS results

Model:

$$absDACC = \alpha + \beta_1 * Year\text{-}1 + \beta_2 * Year0 + \beta_3 * Year\text{-}1 + \beta_4 * PositiveDACC + \beta_5 * PositiveDACC * Year\text{-}1 + \beta_6 * PositiveDACC * Year0 + \beta_7 * PositiveDACC * Year1 + \beta_8 * lnTA + \beta_9 * Utilities\ firms + \beta_{10} * \%Government\ share\ for\ sales + \beta_{11} * International\ offer + \beta_{12} * (Country\ specific\ variables)$$

absDACC is the absolute value of discretionary accruals. *Positive DACC* is a dummy indicating positive discretionary accruals. *Year -1, Year 0, Year 1* are dummies indicating the year before privatization, of privatization and after privatization, respectively. For control firms, the value of these variables is 0. *Utilities firms* is a dummy indicating firms operating in the utilities and telecommunication industries. *%Government share for sale* is the percentage of government ownership offered to the public. *International offer* is a dummy indicating the offering to foreign investors. *Country specific variables* include *Legal Enforcement, Outsiders' Right, Power Distance, Uncertainty Avoidance, Individualism and Masculinity. Legal Enforcement* and *Outsiders' Right* are the log of Legal Enforcement score and Outsiders' Right score in La Porta et al. (1998). *Power Distance, Uncertainty Avoidance, Individualism* and *Masculinity* are the log of respective culture scores in Hofstede (2001).

		MODEL1		MODEL2		MODEL3		MODEL4		MODEL5	
variables	Predicted	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Intercept		4.78***	44.23	4.78***	44.24	5.43***	15.57	3.93***	2.69	2.68*	1.76
Year -1	+	2.55***	2.7	2.47***	2.61	2.42**	2.55	2.44**	2.58	2.48***	2.62
Year 0		1.47	1.5	1.43	1.46	1.35	1.37	1.31	1.33	1.36	1.38
Year 1	-	1.3	1.47	1.21	1.36	1.11	1.24	1.12	1.25	1.11	1.24
Positive DACC		-0.16	-1.19	-0.16	-1.19	-0.17	-1.27	-0.16	-1.19	-0.15	-1.1
Positive DACC*Year -1	-	-2.10*	-1.73	-2.17*	-1.78	-2.23*	-1.83	-2.24*	-1.84	-2.24*	-1.84
Positive DACC * Year 0		-0.72	-0.59	-0.84	-0.69	-0.83	-0.68	-0.72	-0.59	-0.74	-0.61
Positive DACC * Year 1	+	0.07	0.05	0.02	0.02	0.12	0.09	0.1	0.08	0.3	0.23
Log TA	-	-0.48***	-14.28	-0.48***	-14.27	-0.49***	-14.42	-0.47***	-13.65	-0.48***	-14
Utilities firms		0.17	1.07	0.17	1.03	0.22	1.32	0.05	0.28	0.1	0.61
% Government share for sale		0	0.32	0	0.32	0.01	0.49	0.01	0.44	0.01	0.48
International offer		.		1.23	0.98	1.2	0.95	1.04	0.83	1.31	1.04

Table17. (Continued) Discretionary accruals around privatization - OLS results

		MODEL1		MODEL2		MODEL3		MODEL4	
		Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Legal Enforcement	-	.		.		-0.04	-0.88	.	
Outsiders right	-	.		.		-0.13***	-2.76	.	
Power Distance	+	.		.		.		0.05	0.18
Uncertainty Avoidance		.		.		.		-0.06	-0.27
Individualism		.		.		.		-0.29*	-1.71
Masculinity	+	.		.		.		0.54***	3.63
R-square		0.04		0.04		0.04		0.04	
Nobs		5080		5080		5080		5080	
β_1		2.55***		2.47***		2.42**		2.44**	
β_2		1.47		1.43		1.35		1.31	
β_3		1.3		1.21		1.11		1.12	
$\beta_1+\beta_5$		0.446		0.302		0.189		0.196	
$\beta_2+\beta_6$		0.758		0.593		0.518		0.584	
$\beta_3+\beta_7$		1.373		1.235		1.22		1.224	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

75

Table 18. Discretionary accruals around privatization - WLS results

Model:

$absDACC = \alpha + \beta_1 * Year\text{-}1 + \beta_2 * Year0 + \beta_3 * Year\text{-}1 + \beta_4 * PositiveDACC + \beta_5 * PositiveDACC * Year\text{-}1 + \beta_6 * PositiveDACC *$
$\qquad PositiveDACC * Year1 + \beta_8 * lnTA + \beta_9 * Utilities\ firms + \beta_{10} * \%Government\ share\ for\ sales + \beta_{11} * International\ o$
$\qquad specific\ variables)$

absDACC is the absolute value of discretionary accruals. *Positive DACC* is a dummy indicating positive discretionary accr
Year 1 are dummies indicating the year before privatization, of privatization and after privatization, respectively. For contr
these variables is 0. *Utilities firms* is a dummy indicating firms operating in the utilities and telecommunication industries.
sale is the percentage of government ownership offered to the public. *International offer* is a dummy indicating the offerin
Country specific variables include *Legal Enforcement, Outsiders' Right, Power Distance, Uncertainty Avoidance, Individu*
Legal Enforcement and *Outsiders' Right* are the log of Legal Enforcement score and Outsiders' Right score in La Porta et
Distance, Uncertainty Avoidance, Individualism and *Masculinity* are the log of respective culture scores in Hofstede (2001

variables	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value
Intercept		4.26***	38.44	4.29***	38.64	6.17***	18.88	3.49***	3.21
Year -1	+	1.96***	4.16	1.93***	4.09	2.04***	4.35	2.77***	5.76
Year 0		1.85***	3.84	1.85***	3.84	1.95***	4.07	2.75***	5.55
Year 1	-	0.17	0.36	0.13	0.27	0.24	0.52	0.98**	2.06
Positive DACC		-0.33**	-2.52	-0.33**	-2.51	-0.41***	-3.11	-0.30**	-2.3
Positive DACC*Year -1	-	-0.08	-0.13	-1.21*	-1.89	-1.28**	-2	-1.64***	-2.59
Positive DACC * Year 0		-4.40***	-7.81	-5.53***	-8.7	-5.56***	-8.79	-6.05***	-9.64
Positive DACC * Year 1	+	0.87	1.51	-0.29	-0.44	-0.36	-0.56	-0.76	-1.19
Log TA	-	-0.44***	-11.65	-0.43***	-11.61	-0.42***	-11.21	-0.39***	-10.64
Utilities firms		0.75***	5.66	0.68***	5.15	0.53***	3.84	0.57***	4.15
% Government share for sale		0.03**	2.4	0.03**	2.44	0.03**	2.54	0.03**	2.26
International offer		.		1.84***	3.82	1.08**	2.2	1.04**	2.13

76

Table 18. (Continued) Discretionary accruals around privatization - WLS results

		MODEL1		MODEL2		MODEL3		MODEL4	
		Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Legal Enforcement	-	.		.		-0.23***	-7.06	.	
Outsiders right	-	.		.		0.04	0.68	.	
Power Distance	+	.		.		.		1.40***	9.2
Uncertainty Avoidance		.		.		.		-0.68***	-6.09
Individualism		.		.		.		-0.29**	-2.07
Masculinity	+	.		.		.		-0.19*	-1.86
R-square		0.05		0.06		0.07		0.1	
Nobs		5080		5080		5080		5080	
β_1		1.96***		1.93***		2.04***		2.77***	
β_2		1.85***		1.85***		1.95***		2.75***	
β_3		0.17		0.13		0.24		0.98**	
$\beta_1+\beta_5$		1.89***		0.71		0.76		1.13*	
$\beta_2+\beta_6$		-2.54***		-3.68***		-3.61***		-3.31***	
$\beta_3+\beta_7$		1.04*		-0.16		-0.12		0.22	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

control firms, despite the sign of DACC. The evidence is consistent with the downward earnings management hypothesis. Year 1 is not consistently significant across models and the sum of Year 1 and its interaction with Positive DACC is not significant. Altogether, WLS results are in congruence with OLS and HLM results in supporting Hypothesis 1 that SIP firms manage earnings downwards prior to privatization.

Recognizing that the matching procedure for testing of Hypothesis 1 is subjective and results may be sensitive to the control for size, the definition of the small size difference group is modified. Size control is tightened by requiring that the small size difference group is the first quartile rank of size difference. Tightening the size control will create a trade-off between size control and best ROA matched firm. Even with a more strict control for size, the difference in firm size between sample and control firm is still significant. Size control is also loosened by requiring that the small size difference group is the first three quartile rank of size difference. Loosening size control will create a greater difference in size between sample and control firms. However, results are qualitatively similar even though the significance level is reduced when the size control is tightened (not tabulated).

The performance adjusted model based on Dechow and Sloan (1995) assumes that changes in accounts receivables are managed. Without clear evidence of whether the assumption is true for SIP firms, the performance adjusted model based on Jones (1991) is also used. This modification in the discretionary accrual estimation model does not change the test results.

Following prior studies, the log of total assets in billion US$ is used as a proxy for firm size throughout the paper. While this measure avoids the currency difference for firms from different countries and makes firm sizes comparable, it does not provide any control for cross country differences in economic environment. For example, a big firm in a developing country may be considered just a medium sized firm in a more developed one. In order to control for such economic differences, the total assets rank is alternatively used as a proxy for size. For each year and each country, the total assets denominated in local currency are ranked and the rank is used as a proxy for firm size.

Results obtained are qualitatively similar to the results when log of total assets in billion US dollars is used (not tabulated).

As it takes time to prepare and audit, financial statements are issued well after the fiscal year end. In order to capture the full impact of earnings, prior studies have used returns for the fifteen months ending on the third month after the fiscal year end (Francis and Schipper 1999). Therefore, a test of Hypothesis 4 is performed using 15-month returns. As shown in Table 19, similar results are documented.

Table 19. Value relevance of earnings number after privatization public offerings – fifteen month returns

Model
$R_t = \alpha + \beta_1*Earnings + \beta_2*Earnings\ change + \beta_3*Earnings*sample + \beta_4*Control\ variables.$

R_t is individual stock returns measured by either unadjusted *(Ret15month)* or market adjusted *(Abreturn15)* returns. *Ret15month* is the buy and hold return for 15 months from the beginning of the first year after privatization and ending 90 days beyond fiscal year end. *Abreturn15* is the compounded monthly abnormal return for 15 months ending 90 days after the fiscal year end. *Earnings* is the per share value of earnings before extraordinary items, scaled by year beginning stock price. *Earning change* is the per share change in earnings before extraordinary items for the first year after privatization, scaled by year beginning stock price. *Sample* is a dummy indicating SIP firms. Control variables include *Loss, HighBV, Highleverage, Growth, Develop* and their interaction with *Earnings change*. *Loss* is a dummy indicating negative earnings for the year. *High BV* is a dummy indicating firms with book value growth ranking above the median of the entire sample. *High leverage* is a dummy indicating firms with leverage ranking above the median. *Develop* is a dummy indicating firms locating in countries having the rank of total annual trading volume as a percentage of GDP greater than 0.5. *Growth* is a dummy indicating sales growth above the median. Hypothesis 4 predicts β_3 to be negative.

Panel A. Using unadjusted returns

Dependent variable Ret15month	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value	MODEL5 Coefficient	t value
Intercept		0.06**	2.32	0.03	0.91	0.05	1.39	-0.10*	-1.94	-0.16***	-2.89
Earnings	+	2.25***	9.1	2.33***	6.8	2.29***	6.65	2.06***	5.39	1.88***	4.71
Earnings change	+	0.77***	5.66	0.75***	5.44	0.77***	5.56	0.75***	5.39	0.73***	5.23
Earnings change*Sample	-	-2.37*	-1.81	-2.39*	-1.83	-2.42*	-1.85	-2.31*	-1.77	-2.33*	-1.8
sample		0.01	0.11	0.01	0.06	0.01	0.12	0.04	0.35	0.04	0.39
Loss	-	-0.16***	-3.13	-0.14***	-2.62	-0.14**	-2.57	-0.13**	-2.44	-0.12**	-2.35
Earnings * Loss	-	-2.31***	-8.68	-2.37***	-7.14	-2.49***	-7.34	-2.38***	-7.2	-2.28***	-6.65
High BV	+	.		0.05	1.27	0.05	1.38	0.05	1.32	0.03	0.65

80

Panel A.(Continued) Using unadjusted returns

Dependent variable Ret15month	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value
Earnings*High BV	+	.		-0.14	-0.55	-0.23	-0.89	-0.11	-0.41
High leverage		.		.		-0.05	-1.52	.	
Earnings*High leverage		.		.		0.26	1.45	.	
Develop	+	.		.		.		0.15***	3.39
Earnings * Develop	+	.		.		.		0.37*	1.86
Growth	+	.		.		.		.	
Earnings*Growth	+	.		.		.		.	
R-square		0.11		0.11		0.11		0.12	
		1964		1964		1964		1964	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

81

Table 19. (Continued) Value relevance of earnings number after privatization public offerings – fiftee

Panel B. Using compounded monthly abnormal returns

Dependent variable Abreturn15	Predicted	MODEL1 Coefficient	t value	MODEL2 Coefficient	t value	MODEL3 Coefficient	t value	MODEL4 Coefficient	t value
Intercept		0.03	1.23	-0.02	-0.63	-0.01	-0.14	0.02	0.37
Earnings	+	0.91***	5.74	0.98***	4.43	1.02***	4.49	0.85***	3.55
Earnings change	+	-0.06	-0.58	-0.08	-0.85	-0.09	-0.95	-0.07	-0.66
Earnings change*Sample	-	-2.52	-1.58	-2.6	-1.63	-2.56	-1.6	-2.66*	-1.67
sample		0.01	0.07	0.01	0.05	0.01	0.1	0	-0.01
Loss	-	-0.09*	-1.78	-0.05	-1.05	-0.05	-1.02	-0.05	-0.98
Earnings * Loss	-	-1.00***	-5.36	-1.02***	-4.83	-1.00***	-4.6	-0.98***	-4.61
High BV	+	.		0.09**	2.29	0.09**	2.29	0.09**	2.28
Earnings*High BV	+	.		-0.13	-0.78	-0.11	-0.64	-0.17	-0.99
High leverage		.		.		-0.03	-0.86	.	
Earnings*High leverage		.		.		-0.1	-0.65	.	
Develop	+	.		.		.		-0.05	-1.05
Earnings * Develop	+	.		.		.		0.2	1.29
Growth	+	.		.		.		.	
Earnings*Growth	+	.		.		.		.	
R-square		0.02		0.03		0.03		0.03	
		1821		1821		1821		1821	

*, **, *** denote significance level at 10%, 5% and 1%, respectively.

82

CHAPTER 6. CONCLUSION AND DISCUSSION

Privatization of SOEs has moved from being a radical and controversial policy initiative of the Thatcher government in the UK during the1980s to become a widely adopted economic tool worldwide during the 1990s and 2000s. Besides its ability to help raise revenues for the government, selling state owned firms to the private sector is supported for enhancing the financial, as well as operational efficiency of the firms in question. Improved firm performance after privatization is considered to result from reduced agency costs, streamlined incentives, efficient monitoring and competitive operating environment. Prior empirical studies have consistently documented evidence of financial and operational performance improvements of state owned firms after being privatized. However, given strong financial improvements, the inconsistent stock performance of those firms is puzzling.

This study looks into possible accounting manipulation that would confound with the documented financial improvements and explain the mismatch between financial performance and stock performance. Just like other ownership transfer events, the selling of a SOE to the public provides an incentive and opportunity for management to engage in manipulative accounting activities. The manager of a to-be-privatized SOE may be interested in buying into the firm and therefore, wants to set a low price. As a result, the manager has an incentive to induce a low valuation to justify the low price. Since the depressed performance initiated by accounting choices will not sustain, the reversal impact will result in a financial improvement in later years. If 'artificial' financial improvement is suspected, it will not be rewarded and compatible stock improvement is not guaranteed.

Using a sample of 63 firms from 24 countries during 1990 to 2006, this study documents significantly negative discretionary accruals for SOEs during the year prior to privatization. Results are consistent across models used. Interestingly, these discretionary accruals are significantly and positively related to offering prices, indicating that management could indeed influence the pricing of SOEs favorably to them through engaging in earnings management. However, this study fails to provide evidence supporting the prediction that earnings management explains the deep underpricing

phenomenon in SIPs. A possible explanation for such failure is investors' inability to completely undo management's manipulation. This conjecture is supported by the evidence that the stock market still prices discretionary accruals. As suspected, pre-privatization discretionary accruals are negatively related to post-privatization financial improvements. The evidence, therefore, suggests a possible noise factor in the recorded benefits of privatization. A further look into the value relevance of earnings of SIP firms after the first year of privatization shows a lower coefficient for these firms, as compared to other firms on the market. Collectively, the research results show that SIP firms engage in downward earnings management before public offerings, which induce low offering prices. Pre-privatization accounting choices contribute to the documented financial improvement and reduce the ability of accounting earnings in predicting stock performance.

Contrary to a private sector public offering, earnings management to induce a lower offering price during a SIP imposes lower costs to its manager. While benefiting from a more affordable share price, should the SOE manager decides to buy into the firm, the fact that this lower price is also favorable to the firm's investors reduces litigation probability. Furthermore, the reputation of the manager is less likely to be impaired and may in fact be enhanced by post-share-issue financial performance improvement. If the manager selects to depress earnings before the share offer, the reversal impact of such earnings management decision will result in an increase in earnings in later years. The pre-issue accounting choices, therefore, work nicely for the manager, allowing him/her to benefit from both the low offering price and improved performance. Of course, one may contend that privatization deals are subject to government monitoring and approval so that management's misbehavior may be caught. It should be noted, however, that principal - agency problem and conflict of goals exist even within the government. A failed privatization offering would harm the government's reputation in the entire privatization program. Furthermore, while the government aims at generating high revenue for its budget, it is also under pressure to sell the assets quickly to cover the budget deficit or reduce public debts. As a result of such pressure, a low valuation to justify a low offering price is more likely to be accepted and approved.

There are certain limitations of this study that call for future research. First, the study is unable to directly examine the relationship between management share purchases during privatization and their behavior before privatization. Due to data unavailability, management ownership in privatized SOEs cannot be obtained. As such, the conclusion of possible opportunistic behavior can only be inferred from the fact that there is an ex-ante incentive to manage earnings downward to manipulate offering prices and management acts consistently with that incentive. Second, earnings management is just one way to influence offering prices. Given the possibility of using other approaches to value and price privatization share issues, such as assets valuation, examining only earnings management may not guarantee the revelation of management's misbehaviors. Third, even though results are produced from widely accepted and highly recommended discretionary accruals estimation models, they are sensitive to the specification of the models. The limitation, therefore, provide a motivation to examining real earnings management activities, such as earnings management through related party transactions, tunneling etc., to influence the valuation during privatization processes.

In conclusion, despite the above mentioned limitations, this study provides an evidence of management's opportunistic accounting choices during the privatization of SOEs. In addition to the valuation effect to induce a lower offering price, such accounting choices contaminate the documented financial improvements of SOEs after privatization. The study, therefore, helps paint a more complete picture of the costs and benefits privatization may bring about to the firms in question, their ultimate and intermediate owners as well as the entire economy.

APPENDICES

Appendix 1. Sources of data

	Type of data	Name of source	Description of Source	Reference location
1	List of share-issue privatizations	World Bank database	Two separate datasets provided by the World Bank collectively cover privatization transactions around the world (but mainly in developing countries) from 1988 to 2008.	http://rru.worldbank.org/Privatization/
		Privatization Barometer	The Privatization Barometer was launch in 2003 by Fondazione Eni Enrico Mattei (FEEM), a non-profit, nonpartisan research institution. PB is official provider of privatization data to OECD and the World Bank. As of 2010, KPMG Advisory S.p.A. becomes unique partner of PB, providing data, research skills and financial resources. Privatization Barometer is the first Internet portal serving as a unique and independent source on privatization activities and trends in both Old and New European countries,	http://www.privatizationbarometer.net/database.php
		Megginson's Appendix 1	This book provides and extensive review and in-depth analysis of worldwide privatization activities over the last three decades. Appendix 1 lists major privatization public offerings around the world from 1961 to August 2003.	Megginson, W. L. (2005). Financial Economics of Privatization. Oxford; New York, Oxford University Press

2	Financial data, Daily stock market data	Datastream	Thomson Reuters Datastream is the world's largest financial statistical database, covering both country and firm level estimates, fundamentals, indices and economic data in more than forty countries.	Subscribed database College of Business
		WRDS	Wharton Research Data Services (WRDS) is a web-based business data research service from The Wharton School at the University of Pennsylvania. The Compustat Global database in WRDS provides international firm fundamental data and daily security information.	Subscribed database College of Business
3	National economic data	International Financial statistics	This IMF (International Monetary Fund) database covers current and historical financial and economic data for its member countries. Time series data is available from 1948 on exchange rates, international liquidity, international banking, interest rates, prices, production, international transactions, government accounts, and national accounts.	Subscribed database University of Hawai'i
		World Development Indicators	This World Bank database covers more than 900 development indicators, with time series data for more than 200 countries and 18 country groupings from 1960. Data includes social, economic, financial, natural resources, and environmental indicators.	Subscribed database University of Hawai'i
4	Domestic legal environment	La Porta et al. (1998)	The paper examines legal rules covering protection of corporate shareholders and creditors, the origin of these rules, and the quality of their enforcement in 49 countries. Legal environment scores are assigned to each country covered by the study for ease of comparison and analysis.	La Porta, R., F. Lope al. (1998). "Law and Journal of Political E 1113.

87

5	National cultural index	Hofstede (2001)	Hofstede explores the differences in thinking and social action that exist among members of more than 50 modern nations. Based on painstaking field research, national culture characteristics are analyzed and scores are assigned for five major dimensions: Power distance, Uncertainty avoidance, Individualism and collectivism, Masculinity and femininity, Long- versus short-term orientation	Hofstede, G. H. (200... consequences: com... behaviors, institution... organizations across... Thousand Oaks, Ca... Sage Publications, c...
6	Economic freedom index	Heritage Foundation	Since 1995, The Wall Street Journal and The Heritage Foundation, Washington's preeminent think tank, have tracked the march of economic freedom worldwide. The Index covers 10 benchmarks that gauge the economic success of 183 countries around the world including: business freedom, fiscal freedom, trade freedom, government size, monetary freedom, investment freedom, financial freedom, property rights, labor freedom and freedom from corruption. Freedom scores are assigned annually, based on extensive survey of international, national and independent reports.	http://www.heritage... ad
7	National Governance indices	Worldwide Governance Indicators	The Worldwide Governance Indicators project reports aggregate and individual governance indicators for 213 economies over the period 1996–2009, for six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence, Government effectiveness, Regulatory quality, Rule of law, Control of corruption. The indicators are constructed based on extensively surveying enterprises, citizens and experts. The database is associated with Kaufmann et al. (2009)	www.govindicators....

Appendix 2. Variable description and measurement

	Variables	Proxied for	Measurement
	Dependent variables		
1	absDACC	Level of earnings management	Absolute value of estimated discretionary accruals
2	ROA	Firm performance	Earnings before extraordinary items/Total assets (%)
3	ROE	Firm performance	Earnings before extraordinary items/Total owners' equity
4	ROS	Firm performance	Earnings before extraordinary items/Total sales (%)
5	Firm value at offer price	Offered value to the public	Offer price to the public, scaled by total assets per share
6	Firm value at first price	Market assessed value	Closing stock price on the first trading day of the offered s scaled by total assets per share.
7	Underprice		Log first day closing price - log offer price
8	Adjusted Underprice		Underpice - (log of market return index on the first day cl price - log of market return index on the offer day).
9	Ret12month	Stock performance	12 month buy and hold stock return starting from the beg the year and ending on the fiscal year end.
10	Ret15month	Stock performance	15 month buy and hold stock return starting from the beg the year and ending 90 days after the fiscal year end.
11	Abreturn12	Stock performance	Compounded monthly market adjusted return for 12 mon ending on the fiscal year end.
12	Abreturn15	Stock performance	Compounded monthly market adjusted return for 15 mon ending 90 days after the fiscal year end.
	Independent variables		
1	Positive DACC		Dummy for positive discretionary accruals
2	Year -1		Dummy indicating the year before privatization for sampl
3	Year 0		Dummy indicating the year of privatization for sample firm

89

4	Year 1		Dummy indicating the year after privatization for sample
5	Loss		Dummy indicating loss making firm year.
6	Change from total control	Change in corporate governance	Dummy indicating 100% state-owned firms before privati
7	Change of control	Change in corporate governance	Dummy indicating firms with greater than 50% state own before privatization
8	First offer	Information asymmetry	Dummy indicating first time sale of state ownership to th
9	Growth	Growth opportunities	Dummy indicating firms with sales growth ranks above th of the entire sample
10	High BV	Growth opportunities	Dummy indicating firms with book value growth ranks ab median of the entire sample
11	High leverage	Risk of default	Dummy indicating firms with debt ratio ranks above the r the entire sample
12	International offer	Information asymmetry/Monitoring by savvy investors	Dummy indicating public offer with international tranche
13	Regulated firms	Policy risks (regulated firms are deemed to be more sensitive to policy changes than other firms)	Firms with two digit SIC codes in (47, 48, 49)
14	Sample	Sample firms	Dummy indicating SIP firms
15	Utilities firm	Regulated industries in which the behavior of discretionary accruals may be different from the rest.	Dummy for firms with principal two digit SIC codes in (48,
16	% Government share for sale	Signaling/Reputation building/Government monitoring	Government ownership for sale as a percentage of total f capital

90

17	Book value		Book value of owners' equity per share, scaled by beginni
18	Cash flows	Cash portion of income	Cash flows from operation, scaled by beginning total asse year-beginning price depending on model used.
19	Earnings change	Firm performance	Change in earnings before extraordinary items, calculated share basis and scaled by beginning price.
20	Firm growth	Growth opportunities	Change in sales/Total previous year's sales (%)
21	Log TA	Firm size	Log of total assets in billion US$.
22	Managed Earnings	Earnings management	Estimated discretionary accruals as a percentage of begin assets * beginning total assets, calculated on a per share scaled by beginning price.
23	Unmanaged earnings	Non-managed portion of income	Total accruals - the managed portion of total accruals, cal on a per share basis and scaled by beginning price.
24	Property right	Economic freedom	Rank of property right score in 1996 Economic Freedom i published by the Heritage Foundation.
25	Economic freedom	Economic freedom	Rank of overall economic freedom score 1996 Economic F index published by the Heritage Foundation.
26	Economic growth	General economic condition	GDP growth as a percentage
27	Develop	Market development	Dummy indicating country with total trading volume/GDF above the median.
28	Market activeness	Market development	Total annual stock trading volume as a percentage of GDF
29	Power Distance	National culture	Log of Power Distance score assigned by Hofstede, G. H. (country of residence
30	Uncertainty Avoidance	National culture	Log of Uncertainty Avoidance score assigned by Hofstede (2001) for country of residence
31	Individualism	National culture	Log of individualism score assigned by Hofstede, G. H. (20 country of residence
32	Masculinity	National culture	Log of Masculinity score assigned by Hofstede, G. H. (200 country of residence

91

33	Legal Enforcement	National legal environment	Legal Enforcement score assigned by La Porta, R., F. Lope Silanes, et al. (1998) for country of residence.
34	Outsiders' Right	National legal environment	Outsiders' Right score assigned by La Porta, R., F. Lopez-d et al. (1998) for country of residence.
35	Corruption	Policy risks	(Proportion) Rank of corruption score in the 2000 Worldw governance indicators.
36	Government Effectiveness	Policy risks	(Proportion) Rank of government effectiveness score in th Worldwide governance indicators.

Appendix 3. Summary of financial and operational improvements in SIP firms

This table summarized results from studies on financial and operational improvement of SIP firms after privatization. Numbers in each c
change, median change (in brackets) and proportion of firms behaved as predicted between the 3 years after privatization and 3 years

Studies	N	ROS (%)	ROA (%)	ROE (%)	Sales per employee (% over base year)	Income per employee (% over base year)	Capital Exp./ Sales (%)	Capital Exp./Total Assets (%)	Employment (number)	Total Debts/ Total Assets (%)	Long-term debts/ Equity
Megginson, Nash and Randenborgh (1994)	55	2.49*** (1.4) 69.1***	0.93* (0.3) 68.6***	0.16 (0.11) 55	10.64*** (11.57) 85.7***	25.08* (17.65) 69.7**	5.21** (1.59) 67.4**	1.35 (1.13) 59.5	2,346 (276) 64.1*	-2.43* (-2.34) 71.7***	-52.88 (-16.6 70*
Boubakri and Cosset (1998)	78	6.05*** (1.8) 62.82**	1.5* (0.2) 54.43	1.7 (1.29) 51.94	24.79*** (24.14) 80.35***	63.06*** (43.65) 69.64***	13.22* (1.37) 62.50**	2.54* (1.43) 60.41*	139* (104) 57.89	-5.08** (-1.62) 63.07**	-44.15 (-5.74 64.51
D'Souza and Megginson (1999)	85	3.00*** (3.00) 71***	1.00*** (3.00) 65***	1.00 (1.00) 52	21*** (29) 79***	70*** (67) 76***	-1 (-1) 55	-1 (-0) 51	-805 (-770) 64**	-6*** (-8) 67***	
Boubakri, Cosset and Guedhami (2004)	50	6.4** (2.4) 62*	1.9** (1.1) 65**	1.8 (2.5) 64**	36.7*** (17.6) 68**	79.7*** (52.1) 73***	16.9* (2.2) 68**	4.1* (1.9) 61	397 (244) 68**		
Current study	63	1.54** (1.39) 65.08***	0.27 (0.53) 60.32*	0.5 (1.09) 52.38	22*** (20) 82.54***	39*** (45) 73.02***	-0.68** (-1.38) 42.86	-1.13** (-0.44) 42.86	-2488 (-62) 57.14	-3.27 (-2.85) 60.32*	
Predicted sign		+	+	+	+	+	+	+	-	-	-

***, **, * denotes significance level 1%, 5% and 10% respectively

93

NOTES

[1] See Appendix 1 for detailed description of these sources.

[2] See Megginson and Netter (2001) for a complete survey of empirical studies on privatizations.

[3] Source: World bank privatization and Privatization barometer databases (see Appendix 1 for details).

[4] Source: World bank privatization and Privatization barometer databases (see Appendix 1 for details).

[5] One may contend that the insider's incentive analyzed in Cornelli and Li (2005) and further expanded in this study is not specific to privatization but any ownership transfer event where a separation of ownership and control exists before the event, and the insider manager, who has not previously owned the firm, has now an opportunity to buy into the firm. The fact that such incentive is not examined in private sector ownership transfer is due to (i) a separation of ownership and control before the event is infrequently observed and (ii) even if there exists an agency problem between the owner and the insider manager before the event, monitoring benefits of the owner outweights monitoring costs and therefore, the insider manager has a lower ability to act opportunistically.

[6] The square term of K is used to signal that the disutility of efforts is nonlinear.

[7] α includes both the portion allocated to the insider manager at a discount and the additional share bought by the manager on the market. For simplicity, the two are not separated and the possible discount is ignored.

[8] The theory of ownership presented by Grossman and Hart (1986)

[9] For example, a politician may seek votes by encouraging excess employment and wages. In other cases, goods are produced and business is located as a result of politicians' desire rather than consumers' demand or economic consideration (Shleifer and Vishny 1994).

[10] World bank privatization database (see Appendix 1 for details).

[11] Privatization barometer database (see Appendix 1 for details).

[12] Appendix 1, Megginson, W. L. (2005). Financial Economics of Privatization. Oxford ;New York, Oxford University Press.

[13] Tests of Hypothesis 1 require the use of financial data in the year after privatization. The exclusion of EU privatizations after 2003 avoids incomparable accounting numbers due to required IFRS adoption in EU countries starting from 2005.

[14] See Appendix 1 for description of the databases.

[15] Consistent with prior research, the value of beginning total asset is used as a scale variable to correct the heteroskedasticity in the unscaled model. An alternative to this variable is the absolute value of current year operating cash flow, which has been used in Leuz et al. (2003). As this study is interested in both the sign and magnitude of the discretionary accruals rather than just the magnitude, scaling by beginning total assets is considered more appropriate as the scalar is always positive, and therefore, will not confound with the sign of the after scale variable.

[16] Economic freedom definition and measurement is taken from the Index of Economic Freedom version 2009 (see Appendix 1 for description of the database).

[17] Summary of performance improvements documented across studies is provided in Appendix 3.

[18] Control firms include all non-privatized firms having available financial and market data in relevant calendar years. The final number of control firm observations is 6011. In performance matched discretionary accruals test, 63 control firms are selected from this pool to match with 63 sample firms, based on country, industry, year, performance and size.

[19] Due to data inavailability, the number of observations for each performance indicator ranges from 51 to 85.

[20] For VIF rule of thump, please see Menard, S. (1995). *Applied Logistic Regression Analysis: Sage University Series on Quantitative Applications in the Social Sciences. Thousand Oaks, CA: Sage*

REFERENCES

Aggarwal, R. and R. Leal. 1993. The Aftermarket Performance of Initial Public Offerings in Latin America. *FM: The Journal of the Financial Management Association* 22(1): 42-53.

Aharony, J., C.-J. Lin and M. P. Loeb. 1993. Initial Public Offerings, Accounting Choices, and Earnings Management. *Contemporary Accounting Research* 10: 61-81.

Balsam, S., E. Bartov and C. Marquardt. 2002. Accruals Management, Investor Sophistication, and Equity Valuation: Evidence from 10-Q Filings. *Journal of Accounting Research* 40(4): 987-1012.

Barth, M. E., W. H. Beaver and W. R. Landsman. 1998. Relative valuation roles of equity book value and net income as a function of financial health. *Journal of Accounting & Economics* 25(1): 1-34.

Berkman, H., M. E. Bradbury and J. Ferguson. 2000. The Accuracy of Price-Earnings and Discounted Cash Flow Methods of IPO Equity Valuation. *Journal of International Financial Management & Accounting* 11: 71-83.

Bortolotti, B., J. D'Souza, M. Fantini and W. L. Megginson. 2002. Privatization and the sources of performance improvement in the global telecommunications industry. *Telecommunications Policy* 26(5/6): 243-268.

Bortolotti, B. and V. Milella. 2006. Privatization in Western Europe: Stylized Facts, Outcomes, and Open Issues, Working paper, Fondazione Eni Enrico Mattei, Available at ssrn.com.

Boubakri, N. and J.-C. Cosset. 1998. The Financial and Operating Performance of Newly Privatized Firms: Evidence from Developing Countries. *Journal of Finance* 53: 1081-1110.

Boubakri, N., J.-C. Cosset and O. Guedhami. 2004. Privatization, corporate governance and economic environment: Firm-level evidence from Asia. *Pacific-Basin Finance Journal* 12(1): 65-90.

Boubakria, N., J.-C. Cosset and O. Guedhami. 2005. Postprivatization corporate governance: The role of ownership structure and investor protection. *Journal of Financial Economics* 76(2): 369-399.

Boutchkova, M. K. and W. L. Megginson. 2000. Privatization and the Rise of Global Capital Markets. *Financial Management* 29(4): 31-76.

Cheng, Q. and T. D. Warfield. 2005. Equity Incentives and Earnings Management. *Accounting Review* 80(2): 441-476.

Choi, S.-D., I. Lee and W. L. Megginson. 2008. Do Privatization IPOs Outperform in the Long-Run?

Choi, S.-D., I. Lee and W. L. Megginson. 2010. Do Privatization IPOs Outperform in the Long-Run? *Financial Management* 39(1): 153-185.

Christensen, T. E., R. E. Hoyt and J. S. Paterson. 1999. Ex Ante Incentives for Earnings Management and the Informativeness of Earnings. *Journal of Business Finance & Accounting* 26(7/8): 807-832.

Chung, R., M. Firth and J.-B. Kim. 2002. Institutional monitoring and opportunistic earnings management. *Journal of Corporate Finance* 8(1): 29-48.

Collins, D. W., M. Pincus and H. Xie. 1999. Equity Valuation and Negative Earnings: The Role of Book Value of Equity. *Accounting Review* 74(1): 29-61.

Cornelli, F. and D. D. Li. 2005. Insider Ownership and Privatization, Working paper, London Business School, Hong Kong University of Technology. Available at ssrn.com.

Cornett, M. M., A. J. Marcus and H. Tehranian. 2008. Corporate governance and pay-for-performance: The impact of earnings management. *Journal of Financial Economics* 87(2): 357-373.

Cornett, M. M., J. J. McNutt and H. Tehranian. 2009. Corporate governance and earnings management at large U.S. bank holding companies. *Journal of Corporate Finance* 15(4): 412-430.

D'Souza, J., W. Megginson and R. Nash. 2007. The effects of changes in corporate governance and restructurings on operating performance: Evidence from privatizations. *Global Finance Journal* 18(2): 157-184.

D'Souza, J. and W. L. Megginson. 1999. The Financial and Operating Performance of Privatized Firms During the 1990s. *Journal of Finance* 54: 1397-1438.

Dechow, P. M. and R. G. Sloan. 1995. Detecting Earnings Management. *Accounting Review* 70(2): 193-225.

Dewenter, K. L. and P. H. Malatesta. 1997. Public Offerings of State-Owned And Privately-Owned Enterprises: An International Comparison. *Journal of Finance* 52: 1659-1679.

Dewenter, K. L. and P. H. Malatesta. 2001. State-Owned and Privately Owned Firms: An Empirical Analysis of Profitability, Leverage, and Labor Intensity. *The American Economic Review* 91(1): 320-334.

Doupnik, T. S. 2008. Influence of Culture on Earnings Management: A Note. *Abacus* 44(3): 317-340.

DuCharme, L. L., P. H. Malatesta and S. E. Sefcik. 2001. Earnings Management: IPO Valuation and Subsequent Performance. *Journal of Accounting, Auditing & Finance* 16: 369-396.

Ehrlich, I., G. Gallais-Hamonno, Z. Liu and R. Lutter. 1994. Productivity growth and firm ownership: An analytical and empirical investigation. *Journal of Political Economy* 102(5): 1006-1038.

Entwistle, G. M., G. D. Feltham and C. Mbagwu. 2010. The Value Relevance of Alternative Earnings Measures: A Comparison of Pro Forma, GAAP, and I/B/E/S Earnings. *Journal of Accounting, Auditing & Finance* 25(2): 261-288.

Francis, J. and K. Schipper. 1999. Have Financial Statements Lost Their Relevance? *Journal of Accounting Research* 37(2): 319-352.

Friedlan, J. M. 1994. Accounting Choices of Issuers of Initial Public Offerings. *Contemporary Accounting Research* 11: 1-31.

Frydman, R., C. Gray, M. Hessel and A. Rapaczynski. 1999. When does privatization work? The impact of private ownership on corporate performance in the transition economies. *Quarterly Journal of Economics* 114: 1153-1191.

Garcia-Meca, E. and J. P. Sanchez-Ballesta. 2009. Corporate Governance and Earnings Management: A Meta-Analysis. *Corporate Governance: An International Review* 17(5): 594-610.

Gong, G., H. Louis and A. X. Sun. 2008. Earnings Management and Firm Performance Following Open-Market Repurchases. *Journal of Finance* 63(2): 947-986.

Gonzalo, J. A., V. Pina and L. Torres. 2003. Objectives, techniques and valuation of state-owned companies in privatization processes. *Public Management Review* 5(2): 177-196.

Gray, S. J. 1988. Towards a Theory of Cultural on the Development of Accounting Influence Systems Internationally. *Abacus* 24(1): 1-15.

Grinblatt, M. and C. Y. Hwang. 1989. Signalling and the Pricing of New Issues. *Journal of Finance* 44: 393-420.

Grossman, S. J. and O. D. Hart. 1986. The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration. *Journal of Political Economy* 94(4): 691-719.

Han, S., T. Kang, S. Salter and Y. K. Yoo. 2008. A cross-country study on the effects of national culture on earnings management. *Journal of International Business*: 1-19.

Haw, I.-M., B. Hu, L.-S. Hwang and W. Wu. 2004. Ultimate Ownership, Income Management, and Legal and Extra-Legal Institutions. *Journal of Accounting Research* 42(2): 423-462.

Hayn, C. 1995. The information content of losses. *Journal of Accounting & Economics* 20(2): 125-153.

Hofstede, G. H. 2001. *Culture's consequences : comparing values, behaviors, institutions, and organizations across nations* London: Sage Publications.

Hribar, P. and D. W. Collins. 2002. Errors in Estimating Accruals: Implications for Empirical Research. *Journal of Accounting Research* 40(1): 105-134.

Huang, Q. and R. M. Levich. 2003. Underpricing of New Equity Offerings by Privatized Firms: An International Test. *International Journal of Theoretical & Applied Finance* 6: 1-30.

Hung, M. 2000. Accounting standards and value relevance of financial statements: An international analysis. *Journal of Accounting & Economics* 30(3): 401-420.

Jelic, R. and R. Briston. 1999. Hungarian privatisation strategy and financial performance of privatised companies. *Journal of Business Finance & Accounting* 26(9/10): 1319-1357.

Jelic, R., R. Briston and W. Aussenegg. 2003. The Choice of Privatization Method and the Financial Performance of Newly Privatized Firms in Transition Economies. *Journal of Business Finance & Accounting* 30: 905-940.

Jensen, M. C. and W. H. Meckling. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics* 3(4): 305-360.

Jones, J. J. 1991. Earnings Management During Import Relief Investigations. *Journal of Accounting Research* 29(2): 193-228.

Jones, S. L., W. L. Megginson, R. C. Nash and J. M. Netter. 1999. Share issue privatizations as financial means to political and economic ends. *Journal of Financial Economics*. 53**:** 217-253.

Kaplan, S. N. and R. S. Ruback. 1995. The Valuation of Cash Flow Forecasts: An Empirical Analysis. *Journal of Finance* 50(4): 1059-1093.

Kaufmann, D., A. Kraay and M. Mastruzzi. 2009. Governance Matters VIII: Governance Indicators for 1996-2008, World Bank Policy Research Working Paper No. 4978. Available at ssrn.com.

Kimbro, M. B. 2005. Managing Underpricing? The Case of Pre-IPO Discretionary Accruals in China. *Journal of International Financial Management & Accounting* 16: 229-262.

Koh, P.-S. 2003. On the association between institutional ownership and aggressive corporate earnings management in Australia. *British Accounting Review* 35(2): 105-128.

Kothari, S. P., A. J. Leone and C. E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting & Economics* 39(1): 163-197.

Krishnan, G. V. 2003. Audit Quality and the Pricing of Discretionary Accruals. *Auditing* 22(1): 109-126.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. W. Vishny. 1998. Law and finance. *Journal of Political Economy* 106(6): 1113.

Lam, S.-s., R. Seow-Kuan Tan and G. Tsao-Min Wee. 2007. Initial Public Offerings of State-Owned Enterprises: An International Study of Policy Risk. *Journal of Financial & Quantitative Analysis* 42: 313-337.

Leuz, C., D. Nanda and P. D. Wysocki. 2003. Earnings management and investor protection: an international comparison. *Journal of Financial Economics* 69(3): 505-527.

Levis, M. 1993. The Long-Run Performance of Initial Public Offerings: The UK Experience 1980-1988. *Financial Management* 22(1): 28-41.

Li, H. and S. Rozelle. 2004. Insider privatization with a tail: the screening contract and performance of privatized firms in rural China. *Journal of Development Economics* 75: 1-26.

Ljungqvist, A. P., T. Jenkinson and W. J. Wilhelm, Jr. 2003. Global Integration in Primary Equity Markets: The Role of U.S. Banks and U.S. Investors. *The Review of Financial Studies* 16(1): 63-99.

Lo, A. W. Y., R. M. K. Wong and M. Firth. 2009. Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China. *Journal of Corporate Finance* 16(2): 225-235.

Mahoobi, L. 2003. *Privatising state-owned enterprises : an overview of policies and practices in OECD countries.* Paris, France.: Organisation for Economic Co-operation and Development.

Marquardt, C. A. and C. I. Wiedman. 2004. The Effect of Earnings Management on the Value Relevance of Accounting Information. *Journal of Business Finance & Accounting* 31(3/4): 297-332.

Megginson, W. L. 2005. *Financial Economics of Privatization* Oxford Oxford University Press.

Megginson, W. L., R. C. Nash, J. M. Netter and A. B. Poulsen. 2004. The Choice of Private Versus Public Capital Markets: Evidence from Privatizations. *Journal of Finance* 59: 2835-2870.

Megginson, W. L., R. C. Nash, J. M. Netter and A. L. Schwartz. 2000. The Long-Run Return to Investors in Share Issue Privatization. *Financial Management* 29: 67.

Megginson, W. L., R. C. Nash and M. van Randenborgh. 1994. The Financial and Operating Performance of Newly Privatized Firms: An International Empirical Analysis. *Journal of Finance* 49: 403-452.

Megginson, W. L. and J. M. Netter. 1997. Equity to the People: The Record on share Issue Privatization Programs. *Privatization International Yearbook*: 27-34.

Megginson, W. L. and J. M. Netter. 2001. From State to Market: A Survey of Empirical Studies on Privatization. *Journal of Economic Literature* 39(2): 321.

Menyah, K. and K. Paudyal. 1995. Subscriber return, underpricing, and long-term performance of U.K. privatization initial public. *Journal of Economics & Business* 47(5): 473.

Moonchul, K. and J. R. Ritter. 1999. Valuing IPOs. *Journal of Financial Economics*. 53**:** 409-437.

Nabar, S. and K. K. Boonlert-U-Thai. 2007. Earnings Management, Investor Protection, and National Culture. *Journal of International Accounting Research* 6(2): 35-54.

Parker, D. 2009. *The official history of privatisation* Abingdon: Routledge.

Perotti, E. C. 1995. Credible Privatization. *American Economic Review* 85: 847-859.

Perotti, E. C. and P. van Oijen. 2001. Privatization, political risk and stock market development in emerging economies. *Journal of International Money & Finance* 20(1): 43-69.

Perry, S. E. and T. H. Williams. 1994. Earnings management preceding management buyout offers. *Journal of Accounting & Economics* 18(2): 157-179.

Pivovarsky, A. 2001. How Does Privatization Work? Ownership Concentration and Enterprise Performance in Ukraine, Working paper, International Monetary Fund. Available at ssrn.com.

Rangan, S. 1998. Earnings management and the performance of seasoned equity offerings. *Journal of Financial Economics*. 50**:** 101-122.

Ritter, J. R. 1991. The Long-Run Performance of Initial Public Offerings. *Journal of Finance* 46: 3-27.

Rodriguez-Perez, G. and S. van Hemmen. 2010. Debt, diversification and earnings management. *Journal of Accounting & Public Policy* 29(2): 138-159.

Shivakumar, L. 2000. Do firms mislead investors by overstating earnings before seasoned equity offerings? *Journal of Accounting & Economics*. 29**:** 339-371.

Shleifer, A. and R. W. Vishny. 1994. Politicians and firms. *Quarterly Journal of Economics* 109(4): 995-1025.

Shleifer, A. and R. W. Vishny. 1997. A Survey of Corporate Governance. *The Journal of Finance* 52(2): 737-783.

Siqueira, K., T. Sandler and J. Cauley. 2009. Common agency and state-owned enterprise reform. *China Economic Review* 20(2): 208-217.

Soffer, L. C. 2001. Discussion: "Earnings Management: IPO Valuation and Subsequent Performance". *Journal of Accounting, Auditing & Finance* 16(4): 397-400.

Sokol, D. D. 2009. Competition Policy and Comparative Corporate Governance of State-Owned Enterprises. *Brigham Young University Law Review* 2009(6): 1713-1812.

Subramanyam, K. R. 1996. The pricing of discretionary accruals. *Journal of Accounting & Economics* 22(1-3): 249-281.

Teoh, S. H., I. Welch and T. J. Wong. 1998a. Earnings Management and the Long-Run Market Performance of Initial Public Offerings. *Journal of Finance* 53: 1935-1974.

Teoh, S. H., I. Welch and T. J. Wong. 1998b. Earnings management and the underperformance of seasoned equity offerings. *Journal of Financial Economics* 50: 63-99.

Teoh, S. H., T. J. Wong and G. R. Rao. 1998. Are Accruals during Initial Public Offerings Opportunistic? . *Review of Accounting Studies* 2: 175-208.

Teshima, N. and A. Shuto. 2008. Managerial Ownership and Earnings Management: Theory and Empirical Evidence from Japan. *Journal of International Financial Management & Accounting* 19(2): 107-132.

Titman, S. and B. Trueman. 1986. Information quality and the valuation of new issues. *Journal of Accounting & Economics* 8(2): 159-172.

Tucker, J. W. and P. A. Zarowin. 2006. Does Income Smoothing Improve Earnings Informativeness? *Accounting Review* 81(1): 251-270.

Verbrugge, J. A., W. L. Megginson and W. L. Owens. 1999. State Ownership and the Financial Performance of Privatized Banks: An Empirical Analysis. Banking Privatization Conference, Washington DC, World Bank/Federal Reserve Bank of Dallas.

Welch, D. and O. Fremond. 1998. The case-by-case approach to privatization: Techniques and examples, World Bank Technical paper no. 403. Available at ssrn.com.

Willner, J. 2003. Privatization: a skeptical analysis. *International handbook on Privatization* 60-86. Cheltenham: Edward Elgar Publishing Ltd.

Wu, Y. W. 1997. Management Buyouts and Earnings Management. *Journal of Accounting, Auditing & Finance* 12(4): 373-389.

Yeo, G. H. H., P. M. S. Tan, K. W. Ho and S. Chen. 2002. Corporate Ownership Structure and the Informativeness of Earnings. *Journal of Business Finance & Accounting* 29(7/8): 1023-1046.