ISCTE Business School
Instituto Universitário de Lisboa

Change in Corporate Governance and Tunnelling Behaviour of Controlling Shareholders: The Case of Chinese Listed Companies After the Share Reform

LIU Shuhan

Thesis submitted as partial requirement for the conferral of

Doctor of Management

Supervisor:

Professor José Paulo Esperança, Full Professor, ISCTE University Institute of Lisbon

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Professor SHAO Yunfei, Professor, University of Electronic Science and Technology of China, School of Management and Economics

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Declaration

I declare that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

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Abstract

Based on a review of the background of non-tradable share reform and on the relevant documents on the tunnelling behaviour of majority shareholders and corporate governance, this thesis first undertakes a comparative analysis of governance mechanisms that restrain the tunnelling activities of Chinese listed companies before and after the share reform. Second, by using related transactions as the proxy variables of tunnelling, we could judge the changes in tunnelling activities before and after the share reform through the analysis of the relationships among absolute scale, relative scale and structural changes in related transactions and the share reform. Third, an empirical test was conducted to determine whether the tunnelling behaviour of related transactions decreased after the share reform. Results showed that the tunnelling effect of related transactions weakened after the share reform. The tunnelling effect of related transactions with controllable shareholders was not different from that of other related transactions as a whole. Finally, from the empirical research on the joint effect of share reform and corporate governance on tunnelling behaviour, we found that ownership counterbalance, institutional shareholding and independent directors did not have an effective function in restricting related transactions after the share reform. The share reform had a significantly adverse effect on related transactions by forming either total assets or total debt. This thesis appreciates the positive results of the share reform. As for tunnelling behaviour, more system defects may have to be eliminated, so we propose several countermeasures.

Keywords: Non-tradable Share Reform; Corporate Governance; Tunnelling; Related Transactions

Classification: F276, F830

Resumo

Esta tese baseia-se na revisão do quadro legal da reforma das acções não transaccionáveis e em estudos relevantes sobre o comportamento de "tunnelling" por parte de accionistas maioritários. É feito um estudo comparativo dos mecanismos de governação que limitam as actividades de "tunnelling" por parte das empresas chinesas cotadas, antes e depois da reforma. Em segundo lugar usam-se as transacções relacionadas como estimativa para o "tunneling", avaliando as mudanças de comportamento após a reforma, através da análise das relações entre dimensão absoluta, dimensão relativa e e mudanças estruturais em transacções relacionadas. Em terceiro lugar foi feito um teste empírico para determinar se o comportamento de "tunnelling" das transacções relacionadas decrescia após a reforma. Os resultados confirmam um decréscimo da actividade de "tunnelling" após a reforma. O efeito das transacções relacionadas por parte de accionistas com posição de controlo não diferia de outras transacções relacionadas. Finalmente, o estudo empírico do efeito conjunto da reforma legal e da governação empresarial sobre o comportamento de "tunnelling" permitiu concluir que o equilíbrio da propriedade, os investidores institucionais e os directores independentes não tiveram um papel significativo na restrição de transacções relacionadas após a reforma. A reforma teve um efeito adverso significativo nas transacções relacionadas através da formação de activos totais ou da dívida total. Este estudo regista os resultados positivos da reforma do quadro legal das acções. Para controlar o fenómeno de "tunnelling", é necessário eliminar mais deficiências do sistema, pelo que se propõe um conjunto de contra medidas.

Chave: Reforma de acções não transaccionáveis; Governação empresarial; "Tunnelling"; Transacções relacionadas.

Número de classificação: F276, F 830.

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Chapter 1: Introduction

1.1 Research Background

Non-tradable shares refer to the shares initially held by the founder of a company, which cannot be considered in the market as ordinary shares held by regular investors. The formation of this phenomenon is rooted in the political and economic background of China, and it influences the development and operation of the Chinese stock markets.

In December 1990, the Shanghai Security Exchange (SSE) was founded, which symbolised the return of the stock market after 40 years of absence in China. When the stock market was initially born in the country, its scope was extremely limited; only eight stocks were being traded in the SSE and five stocks in the Shenzhen Security Exchange (SZSE), which was founded in September 1991. The Chinese stock market has several distinct characteristics. In 1992, China began to change its economic model from the planned format to a market economy. During the transformation, the hidden side of state-owned companies was exposed, resulting in a significant decline in corporate performance. The companies were trapped in difficult situations. Fortunately, the capitalist element entered the market and became the effective medicine for enhancing the efficiency of state-owned companies. Under the strict supervision and approval of relevant departments, state-owned companies became the major components of listed companies. Influenced by the concepts related to a planned economy, the state-owned economy was considered to take the leading position in the entire economy and to set the major guidelines for the development of the Chinese stock market. Thus, companies not owned by the government could hardly be qualified to go public. Furthermore, to ensure that the state-owned companies would not lose their national character in the stock exchanges, the shares owned by start-up companies (mainly state-owned agencies) could not be traded in the stock market. Such shares are now referred to as non-tradable shares. This situation created a division between tradable and non-tradable shares in the Chinese stock market. Before the share reform, non-tradable shares accounted for two-thirds of the total amount of shares. Only one-third of the total shares could be traded.

For a long time, the stock rights division was regarded as the original cause of numerous homeomorphisms, such as related transactions, hunger for capital raising, interest

manipulation and insider dealing, which are against the principles of fairness, justice and openness. The stock rights division was regarded as a solution to the problems related to the corporate governance, management and market trading of listed companies (Wu, 2004). Wu summarised the eight problems of stock rights division as the institutional foundation of hunger for fundraising among Chinese listed companies and the reason for low efficient investment, diminishing performance, continued related transactions and frequent insider dealing. Wu (2006) refined the aforementioned eight problems into three parts that seriously held back the development of the Chinese capital market. Wu (2006) summarised the three major hazards as the conflict between tradable shareholders and non-tradable shareholders, the failure of the capital market's pricing function and the obstacles to the development of the Chinese capital market into an effective mechanism to assess and encourage the growth of companies.

As a result of stock rights division, wide segmentation is observed between tradable and non-tradable shareholders. The former can gain income through capital gains and dividends, whereas the latter can only gain dividends. In the earlier development period of the Chinese stock market, the listed state-owned companies did not run efficiently while they were still in the initial period of transformation. During this period, the dividends were not extremely high, a situation that motivated the controlling shareholders to invade the interests of other shareholders through tunnelling activities. The highly concentrated share structure was convenient for shareholders who controlled the company. In the late 20th century, the predicament of state-owned companies further strengthened the motivation of their controlling shareholders to obtain private benefits for controlling rights. During this period, the legal system of the Chinese stock market lagged behind, the supervision was powerless and the internal corporate governance had various problems. Tunnelling behaviour in the stock market was prevalent under these conditions. Tunnelling is regarded as a drawback for long-term investors. However, the situation has not improved significantly since then. Tunnelling behaviour decreases the motivation to improve corporate performance and boost investor enthusiasm, as well as limits the development of the stock market. The supervision agency of the Chinese stock market attempted to change this situation. In April 2005, it launched a reform with Sanyi Heavy Industry, Tsinghua Tongfang and Zijiang Enterprise as the pilot companies. The agency unveiled a share reform plan of paying compensation ratio by non-tradable shares to tradable shares, with the agreement that the tradable shareholders pay the compensation ratio and the non-tradable shareholders could obtain the rights of trade.

Thereafter, the share reform was conducted in Shanghai and among the SZSE agencies. Although a number of companies could not complete the reform process and the non-tradable shares did not achieve full circulation, on the whole, the share reform was completed by 2007.

Can the share reform solve all of the problems related to the governance of Chinese listed companies? The reform allows only non-tradable shares to circulate in the stock market, but whether non-tradable shares circulate depends to a certain extent on share price and change trend. Constraints also exist in the circulation period and amount of non-tradable shares, such as the provision of Article 27, 'Listed companies non-tradable share reform management', which prescribes that original non-tradable shares should not be transacted or transferred within 12 months from the implementation date of the share reform. After the expiration of this provision, the proportion of selling amount of original non-tradable shareholders, which have over 5% of the total shares of listed companies, should not exceed 5% in 12 months and should be no more than 10% in 24 months. In 2007, stricter limitations were imposed on state-owned share deduction in listed companies' state-owned share transfer management as released by stated-owned asset management committees. Therefore, the share reform is a gradual, rather than an instant, process. At the same time, other governance mechanisms also changed before and after the share reform—certain changes were brought by the reform and others were brought by related laws and regulations. A fair recognition of the effects brought by share reform requires overall analysis. Thus, to choose the perspective and obtain the conclusions, the changes of shareholding structure, market for corporate control and board of directors before and after the share reform must be clarified. The relationship between these mechanisms and the reform must also be examined to provide a reference for future research on non-tradable share reform.

According to the analysis of the stock rights division after the share reform, majority shareholders pay more attention to stock price (Wu, 2004). Tunnelling behaviour influences stock price negatively. Majority shareholders have to balance the profits made by tunnelling and the loss from stock price reduction; thus, the tunnelling behaviour will decrease significantly among listed companies. If we measure tunnelling activities in terms of related transactions, the transaction deals should be decreased or, more accurately, the tunnelling behaviour in related transactions should be reduced. Thus, after the share reform, can any changes be observed in the related transactions of the listed companies? If there is any change, has the quality or structure changed? Do the related transactions indicate tunnelling behaviour or normal fair trade? Are such changes caused by an exogenous governance mechanism such

as share reform or others? All these questions have to be further tested empirically.

1.2 Research Contents and Structure

This thesis takes the Chinese non-tradable reform as the research background. Based on the non-tradable share reform, the implementation of the system as the research background before and after the corporate governance reform and the change in tunnelling behaviour of majority shareholders (with related transactions as the proxy variable), we conduct a comparative analysis based on joint corporate governance factors and an empirical test on the influence of the other majority shareholders. Given that the increase after the interests of other majority shareholders are realised and equity transfer is carried out, the majority shareholders pay added attention to the share price and the connected transaction can be used as the proxy variable for tunnelling in the empirical test. If related transactions still have a tunnelling effect, reform can be pursued further to influence related transactions and to test whether tunnelling behaviour has changed among the majority shareholders.

The order of the chapters and the specific contents of each chapter are as follows:

Chapter 1 is the introduction. It includes the research background of this thesis, identifies the research problems, proposes research frameworks and contents and introduces research methods. Empirical research data resources, mode design and variables are explained in detail.

Chapter 2 provides the literature review. It includes a summary and commentary on related literature about the governance of tunnelling behaviour and the reform on non-tradable shares.

Chapter 3 provides the institutional background and relevant theories. In this chapter, the institutional demand for non-tradable share reform is analysed based on the historical origin of equity division to explain the reform process. Moreover, corporate control theory and principal–agent theory are used to analyse the reason for the occurrence of tunnelling activities.

Chapter 4 presents the governance mechanism changes to control the tunnelling behaviour of Chinese listed companies before and after the share reform. Comparative analysis is conducted in this chapter based on the following aspects: laws and regulations, market for corporate control, shareholding structure, institutional investors and board of directors. Share reform is an independent external governance mechanism that works

alongside other mechanisms. Therefore, a better evaluation of its functions and effects can be made only if the roles and changes of each aforementioned aspect are clarified.

Chapter 5 describes the changes in the related transactions of Chinese listed companies before and after the share reform. The literature analysis shows that related transactions are the key means of tunnelling behaviour among majority shareholders. Therefore, this chapter arrives at a conclusion about tunnelling behaviour changes before and after the share reform by analysing the relationships among absolute scale, relative scale and structural changes of related transactions, including related purchasing, related sales, related assets business, related stock rights business, related investment and funds occupation and share reform. At the same time, based on the assets, liability and net assets index formed by all related transactions and trading-related transactions, and comprehensively reflecting the occupation relationship between majority shareholders and listed companies from listed companies' capital occupation, listed companies account for the capital and capital net occupation of related parties.

Chapter 6 discusses the empirical test of influences on tunnelling behaviour by the share reform. The test is divided into two steps. The first step is to inspect whether related transactions still indicate tunnelling behaviour after the share reform. We also inspect the tunnelling changes in the related transactions formed between listed companies and majority shareholders before and after the share reform, and compare the tunnelling effects with other related transactions. The second step is to inspect the influence of share reform on related transactions, that is, to inspect related transaction changes before and after the reform, and to ascertain whether the changes in each year are obvious.

Chapter 7 is the empirical test of joint influences on tunnelling behaviour by share reform and corporate governance. In the previous chapter, the empirical evidence of the effect of related transactions on firm returns indicates that related transactions still have tunnelling behaviour after the share reform. Therefore, this chapter uses related transactions as the proxy variable for tunnelling behaviour to investigate the joint influence of share reform and corporate governance on the tunnelling behaviour of majority shareholders.

Chapter 8 provides the conclusion. This chapter briefly summarises the main research findings, puts forward corresponding policy recommendations and points out the limitations and future research directions.

1.3 Major Research Method

This thesis employs various econometric approaches, mainly empirical and normative research, to examine whether the reform of non-tradable shares affects corporate governance and the tunnelling behaviour of majority shareholders. On the one hand, this thesis uses the property, ownership and control theory and the principal–agent theory to analyse the causes of the tunnelling problem. On the other hand, this thesis explores the historical origin of the non-tradable share reform from three aspects, namely, economic system, securities market and investment environment. It then focuses on the problems of related transactions and majority shareholders' tunnelling behaviour caused by equity division, and finally analyses why the non-tradable share reform is needed. Based on the analysis of theories and institutional background, this thesis assimilates the findings of related domestic and foreign studies, considers the current situation of the external governance environment and internal governance mechanism before and after the share reform, proposes the research hypotheses, builds empirical models, uses Eviews to analyse the data and, finally, provides useful explanations for the empirical results.

1.3.1 Comparative Analysis

The influence of share reform on majority shareholders can be understood by comparing the tunnelling behaviour before and after the share reform. In this thesis, the related transactions are chosen to be the proxy variable for tunnelling behaviour. In general, the operating scale and profits of Chinese listed companies are increasing, a situation that provides resources for related transactions. The changes in absolute scale of related transactions do not necessarily reflect the deterioration of tunnelling behaviour. We can compare the comparative scale and trade structure of related transactions to obtain an accurate analysis of changes in the tunnelling behaviour.

Countless management mechanisms have been applied to tunnelling behaviour. Although changes were made before and after the share reform, we cannot simply consider them as the effects of the reform because they may be the effects of other mechanisms. Therefore, in this thesis, we compare the changes of management mechanisms of tunnelling behaviour to identify whether behaviour changes are caused by the share reform.

1.3.2 Quantity Analysis

No matter how a company manages itself, or whether the share reform happened or not, the tunnelling behaviour of listed companies will always exist. This thesis is not designed to analyse whether tunnelling behaviour existed before or after the share reform, but focuses instead on its changing trend, which should be understood accurately.

To a certain extent, measuring tunnelling is difficult. By taking related transactions as the representative of tunnelling behaviour, this thesis will comparatively and quantitatively analyse the structural and scale changes of tunnelling behaviour. In this study, descriptive statistics and quantity modeling demonstrations are important methods to analyse quantity.

1.3.3 Data Sources

Our sample consists of companies listed in the Shanghai and Shenzhen stock markets. To conduct a comparison over time, the time range of the sample is from 2004 to 2010. Sample companies must have finished equity division between 2005 and 2007. Besides institutional shareholding data sourced from the Wind database, the data of related transactions are collected from the China Securities Market and Accounting Research (CSMAR) database and the rest of the data are collected from the Taiwan Economic Journal (TEJ) database.

When analysing the absolute size, relative size and structural change of related transactions, the used data on related purchases, related sales, related asset business, related equity trading, related investment and related capital occupation are generated from the file ‘related transactions information’ in CSMAR. The data on asset, debts and net assets caused by related transactions are generated from the file ‘capital operation information in related transactions’ in CSMAR, which combines corresponding items based on the properties of capital items.

1.3.4 Research Hypotheses and Model Construction

1.3.4.1 Main Research Hypotheses

Through the analysis of institutional background, we can determine that related transactions inevitably exist in most listed Chinese companies due to state-owned enterprise reform, peeling, blind listing and so on. Moreover, if corporate governance is imperfect, the tunnelling behaviour of controlling shareholders cannot be restrained beforehand, or afterwards, they need not pay any cost for their tunnelling activities or the gain they obtained

from such activities is far more than the cost. Therefore, these majority shareholders have the conditions and motivations to conduct tunnelling activities. Empirical evidence from Liu et al. (2004), Chen and Wang (2005) and Jiang et al. (2009) also indicate that the related transactions of Chinese listed companies are mostly characterised by tunnelling behaviour. Therefore, the research hypothesis 1 in this thesis states that before the share reform, the related transactions of listed companies are characterised as tunnelling behaviour, i.e. the related transactions should be negatively correlated with company performance.

Before the share reform, non-tradable shares could only obtain dividends, but not capital gains. After the share reform, the non-tradable shares of majority shareholders obtained circulating rights. The incentives of majority shareholders become not only the dividends, but also capital gains. Capital gains are determined by the change of stock prices. Thus, when majority shareholders want to implement tunnelling behaviour, they must consider that company performance may be affected and stock price may decrease, which lead to possible loss in capital gains. Considering this, the tunnelling behaviour of majority shareholders will be reduced. Liao and Zhang (2008) and Liu et al. (2010) demonstrate that the entire circulation of shares helps to reduce tunnelling behaviour. Therefore, the research hypothesis 2 in this thesis states that after the share reform, the tunnelling function of the related transactions of listed companies is weaker than before the share reform.

Liu et al. (2003) assert that after the share reform, controlling shareholders can earn income from their property via equity transfer. However, if the rate of return on new investment is low, controlling shareholders will prefer to decrease the sale price of equity and to quickly obtain more benefits from the listed companies. Huang (2006) suggests that even if the entire circulation of shares is enforced, under the circumstance that equity is highly decentralised, the majority shareholders of tradable shares still have significant motivation to embezzle the resources of listed companies. Therefore, after the share reform, tunnelling behaviour will still exist. Thus, the research hypothesis 3 in this thesis states that after the share reform, the related transactions of listed companies will still reflect the tunnelling behaviour.

1.3.4.2 The Idea of Model Construction

Most domestic studies directly use related transactions as the proxy variable. Various measures are used for related transactions; some use other receivables (Jiang and Yue, 2005; Ye et al., 2007), some use the net amount of related party receivables and related party payables (Huang, 2006) and others use the net amount of other receivables minus other

payables (Hou et al., 2008). Wang and Xiao (2005) classify the data into two categories. In the first classification, the assets of the listed company are occupied by other companies, which means they are generated as 'assets' in the balance sheet of this company and are used as the measure of the listed company's capital occupation degree by related party. In the second classification, the listed company takes over the other companies' assets, which means they are generated as 'debt' in its balance sheet and are used to measure the degree of the listed company's use of other companies' capital. Finally, the difference between these two measures is defined as the net amount of the listed company's capital occupation by related party.

Several studies employ the effect of related transactions on performance to measure the tunnelling function. Yang (2010) uses the sum of related transactions product marketing, labour relations, asset equity trading, fund transfer and providing and receiving guarantee to measure the transaction degree of the listed company with the related party, examine the effect of related transactions on performance and further explore whether related transactions support tunnelling behaviour in the listed company.

After the share reform, the behaviour mode of majority shareholders is no longer limited to transferring the internal profits of the listed company, but becomes the trade-off between obtaining capital gains from the external market and transferring internal profits. Therefore, this thesis first builds models to examine the effect of related transactions on performance and to explore the property of related transactions. If the related transactions are found to affect performance negatively, the tunnelling function exists. A higher degree of tunnelling implies serious tunnelling activities. By contrast, if the related transactions affect performance positively, then the support function exists. If the related transactions indeed show a tunnelling function, the influence of corporate governance and share reform on the related transactions can also be examined. Therefore, this thesis conducts two types of analyses. First, the empirical study on the effect of share reform on tunnelling behaviour in Chapter 6 focuses on the effect of related transactions on performance, where the measure of related transactions is constructed following the approach of Wang and Xiao (2005). The assets (including accounts receivable, notes receivable, other receivables and prepayments), debts (including accounts payable, notes payable, other payables and advance receivables) and net assets generated by related transactions are also used in this analysis. Second, since empirical evidence in this thesis suggests that related transactions negatively affect performance, the study on the joint effect of share reform and corporate governance on tunnelling behaviour in

Chapter 7 directly use related transactions as the proxy variable for tunnelling.

1.3.4.3 Basic Model and Related Variables

To test research hypotheses 1, 2 and 3, we construct the following model:

$$\begin{aligned} ROE_{adj} = a &+ \beta_1 RPT + \beta_2 IFREF + \beta_3 RPT * IFREF + \beta_4 INSHOLDER \\ &+ \beta_5 INDDR + \beta_6 FIRST + \beta_7 TOP_{2-5} + \beta_8 SOE + \beta_9 LEV \\ &+ \beta_{10} SIZE + \beta_{11} PB + \delta \end{aligned} \quad (1\text{-}1)$$

ROEadj is the net profit after tax divided by equity, minus the median for the industry. α is the intercept. The definition of RPT, which represents related transactions, is based on the work of Wang and Xiao (2005)[①]. IFREF is a dummy variable that is equal to one if the company has finished share reform and is zero otherwise. RPT*IFREF is the intersection item of related transactions and the dummy variable of share reform. It is intended to test the edge effect compared with the period before the share reform as the related transactions results in an increase of performance after the share reform. The remaining variables are the controlling variables that represent corporate governance and firm characteristics. Extensive research shows that these variables have a significant effect on company performance and the tunnelling behaviours of majority shareholders (Xiao and Wang, 2005; Li, 2007, Xia and Fang, 2005; Chen et al., 2001; Pagano and Roll, 1998; Bennedsen and Wolfenzon, 2000; Li et al., 2004; Ma et al., 2005; Ye et al., 2007). In the following analysis, this thesis also builds Model (1-2) to compare the tunnelling functions of the related transactions with majority shareholders and other related transactions. On the basis of Model (1-1), the related transactions (RPT) are further divided into the related transactions with majority shareholders (represented by DRPT) and the related transactions with other related parties (represented by RPT- DRPT).

[①] Following the work of Wang and Xiao (2005), we divided the data into two types to better indicate the conditions of a company's occupied assets. One is that the assets of listed companies are occupied by other companies and form the assets in the company's balance sheet, including affiliate deposits, short-term investments, accounts receivable, notes receivable, prepayment, other receivables, dividends receivable, interest receivable, other long-term assets and bond investment. The sum of these items (recorded as RP_AST) reflects the extent of the listed company's assets occupied by the affiliate party. The second type results from the listed company's occupation of another company's assets and forms liabilities in a company's balance sheet, including related party short-term loans, accounts payable, notes payable, deposit received, other payables, wages payable, accrued expenses, dividends payable, maturity of long-term liabilities, long-term payable and long-term loan. The sum of these items (recorded as RP_LIAB) reflects the extent to which listed companies have occupied the assets of affiliated companies. The balance between the listed company's assets occupied by affiliates and the affiliate's assets occupied by the company is defined as the net amount of the listed company's assets occupied by affiliates (recorded as RP-NET). We also apply relative comparison by using RP_AST, RP_LIAB and RP_NET divided by the total assets, resulting in the variables RP_ASTR, RP_LIABR and RP_NETR.

$$ROE_{adj} = \alpha + \beta_1 DRPT + \beta_2 (RPT - DRPT) + \beta_3 IFREF + \alpha_1 DRPT * IFREF + \alpha_2 (RPT - DRPT) * IFREF + \beta_4 INSHOLDER + \beta_5 INDDR + \beta_6 FIRST + \beta_7 TOP_{2-5} + \beta_8 SOE + \beta_9 LEV + \beta_{10} SIZE + \beta_{11} PB + \delta \quad (1\text{-}2)$$

1.4 Contributions of this Thesis

Based on the theoretical analysis and multilevel empirical tests, the contents of this thesis remedy several defects in existing literature, which mainly include the following four points.

Firstly, different from previous studies that mainly analyse the motivation of majority shareholders from the perspective of internal governance structure, this thesis considers the change in external governance environment (i.e. share reform) and investigates the change in tunnelling behaviour from the perspectives of both internal governance structure and external governance environment. This thesis also examines the interaction mechanism from the aspect of internal and external governance factors affecting the motivations of majority shareholders, and thus further enriches domestic and foreign studies on corporate governance and investor protection.

Secondly, since the reform of non-tradable shares is a special issue that only exists in China due to the unique feature of Chinese capital markets, no existing foreign studies can be found on the same subject. Meanwhile, most domestic research on the tunnelling behaviour of majority shareholders only analysed the ongoing period of share reform. However, the effect of the share reform is time-lagged, so this thesis extends the sample and horizon of the empirical analysis to further examine the topic.

Thirdly, for the choice of measures of related transactions, this thesis employs the occupied capital of the listed company, i.e. the capital that the listed company occupies in other companies, and the net capital occupation to achieve a comprehensive analysis, as well as considers both the functions of tunnelling and support. In addition to the total assets, total debts and net assets generated by related transactions, the assets, debts and net assets generated only by related transactions of trading activity are examined.

Finally, in analysing the tunnelling behaviour of majority shareholders, strictly speaking, we should use the related transactions of listed companies with majority shareholders (including other companies controlled by majority shareholders), not all related transactions, to remove the effect of related parties like other shareholders. In this thesis, both the entire related transactions and the related transactions with majority shareholders are used in our

analysis, and the results of related transactions with majority shareholders are compared with those of other related transactions.

Chapter 2: Literature Review

2.1 Tunnelling

Tunnelling behaviour (Johnson et al., 2000), also referred to as stolen behaviour (Diankov et al., 2008), refers to the action by which controlling shareholders transfer the properties or profits of listed companies and support tender guarantees for shareholder loans with a favourable price. This thesis only studies property transfer action as the favourable price for shareholders.

2.1.1 Origins of Tunnelling

As the literature shows, tunnelling behaviour is generally acknowledged as an agency problem under the control of majority shareholders. This behaviour mainly originates from asymmetric information, predicament in the group action of minority shareholders and defects in corporate governance.

Research on the agency problem of companies dates back to Adam Smith (1776). However, the issue attracted real and full attention with Berle and Means (1932), who studied the agency problem caused by dispersed ownership under the background of separation of ownership and control in American companies. The early research on the agency problem conducted by Jensen and Mekling (1976) concentrates on the interest conflict between shareholders and managers. However, subsequent research finds that dispersed ownership is not a global condition, whereas shareholder concentration is more common, even in the US (Shleifer and Vishny, 1986; La Porta et al., 1999; Claessens et al., 2000; Faccio et al., 2001). Centralised shareholding grants substantial controlling power to majority shareholders and facilitates their infringement on the benefits of other stakeholders. The situation becomes severe if a company is under weak investor protection (Shleifer and Vishny, 1997).

The controlling authority of majority shareholders originates from the ownership ratio they hold, which can help to solve the supervision problem of shareholders and the agency problem between shareholders and managers (Jensen and Mekling, 1976). However, as their stake increases, the majority shareholders act on behalf of minority shareholders and themselves, thus strengthening the supervision of managers while also protecting their own

interest. Consequently, the agency relationship between majority and minority shareholders emerges. La Porta et al. (1999) and Claessens et al. (2000) point out that through cross holdings, pyramid ownership structure and dual stockholdings, the majority shareholders strengthen their control and cause the separation of control and cash flow rights. Consequently, the majority shareholders undertake partial costs in exercising control over the company on behalf of all shareholders. They also directly obtain benefits from unfair related transactions, which in turn become the incentive for tunnelling and infringes on the interests of minority shareholders (Claessens et al., 2002; La Porta et al., 2002). Faccio et al. (2001) note that the prominent agency problem of listed companies in regions from Western Europe and East Asia was tunnelling activities, specifically, the infringement of minority shareholders' interests by majority shareholders.

According to the incomplete contract theory proposed by Grossman and Hart (1986) and Hart and Moore (1990), in the interest conflicts between majority and minority shareholders, the former can occupy minority shareholders' interests via asymmetric information. This factor is one of the theoretical prerequisites to tunnelling formation.

Interest conflict definitely exists in the principal–agent relationship (Jensen and Mekling, 1976), and one way to reduce loss is to pay for supervision cost. However, the supervision of minority shareholders over majority shareholders is a type of group action. According to the classical theory on group action as explained by Olson (1980), in most cases, the asymmetry between costs and benefits of group action of numerous minority shareholders make free riding behaviour a rational choice for minority shareholders, and thus create opportunities for tunnelling by majority shareholders.

Tunnelling is a property issue. Barzel (1997) states that property rights are a function of the protection of people making a direct effort while others attempt their expropriation and the framework of limited protection provided by the government. In the conflict of interest between majority and minority shareholders, the government protection cited by Barzel (1997) may be interpreted as the benefit protection offered to minority shareholders by corporate governance. The principal–agent relationship provides conditions for the occupation of majority shareholders, from which minority shareholders cannot protect themselves. Thus, corporate governance becomes the last line of defense for the protection of minority shareholders. La Porta et al. (1999) and Shleifer and Vishny (1997) show that insufficient legal protection for investors or the protection of minority shareholders by other corporate governance mechanisms was a major reason for tunnelling activities.

2.1.2 Forms and Measurements of Tunnelling

According to Shieifer and Vishny (1997), the tunnelling behaviour of majority shareholders involves the issuance of special dividends and the unfair related transactions that infringe on the interests of minority shareholders. Johnson et al. (2000) divide the practice of tunnelling into two types: operational and financial. The former involves diverting resources and unfair related transactions while the latter involves equity dilution, insider dealing and creeping acquisitions. In a study of the tunnelling activities of listed companies in Western Europe and East Asia, Faccio et al. (2001) discover that to ensure sufficient tunnelling resources, majority shareholders tunnel the company and implement a lower dividend policy to increase their controllable resources. Jian and Wong (2004) find that when listed companies in the Chinese mainland have sufficient cash flow, majority shareholders tend to tunnel the assets out of the company via generous commercial credits and other credit resources. Barelay et al. (2007) point out that controlling the discount ratio of private issue is also an effective tunnelling activity.

Numerous forms of tunnelling activities exist, all of which can be measured by direct and indirect methods (Cheung et al., 2006). International studies on tunnelling mainly adopt indirect measurement methods, for example, the separation of control and cash flow rights, and the premium of large stock rights deals. The reason may be that investor protection is comparatively better in Euro-American countries where tunneling is not so common and where researchers encounter difficulties in finding clear evidence and a representative sample.

In the research on China, both types of measurement were used. For example, the cases that adopt indirect methods include Shi (2003), who estimates control value by the price difference between control dealings and small-scale equity dealing; Ye (2003), who adopts the price difference of dealing between controlling and non-controlling shares; Zhao et al. (2004), who estimate the premium of control transfer price in proportion to net assets; as well as Tang and Jiang (2002) and Xu et al. (2006), who evaluate tunnelling behaviour based on the premium of large shares dealing to net assets.

Many scholars also employ the direct measurement method. Li et al. (2004) and Ma et al. (2005) adopt assets occupation; Zheng (2005), Feng et al. (2005), Ye et al. (2007) and Gao and Song (2007) investigate tunnelling in guarantees; Liu et al. (2004) examine tunnelling in related transactions through case studies of the Wuliangye Group; Huang and Yin (2008), Zhu et al. (2008) and Chen (2009) investigate tunnelling in private issue; and Deng and Zeng

(2005) and Gu et al. (2006) examine the tunnelling activities and dividend policy. Regardless of the method adopted to measure tunnelling behaviour, the general conclusion about the Chinese market is that a greater number of domestic listed companies flexibly adopt one or several ways to conduct tunnelling activities.

We use related transactions to measure tunnelling behaviour in this thesis, while other studies use receivables, other receivables or net amount. Jiang and Yue (2005), Ye et al. (2007) and Luo and Tang (2005) choose other receivables as the capital occupation index of majority shareholders. Huang (2006) use the net amount between receivables and payables of related transactions. Hou et al. (2008) employ the net amount between other receivables and other payables, generated by the related transactions of majority shareholders, as majority shareholders capital occupation variables. Li et al. (2004) use net capital occupation between majority shareholders and listed company as capital occupation. Receivables, prepayment and other receivables should be considered when majority shareholders occupy the capital of listed companies; receivables, prepayment and other receivables should be considered when listed companies occupy the capital of majority shareholders. The difference between them is the net occupancy. Based on statistical analysis, the capital accumulation of majority shareholders is divided into operating capital occupancy generated from operating activities and non-operating capital occupancy generated from non-operating activities.

Wang and Xiao (2005) divide the data into two categories to better illustrate the conditions of capital occupation. One category refers to the assets formed in the balance sheet of the capital of listed companies that are occupied by other companies divided by the company's total assets at the end of the year as the index of occupancy degree by related parties. The second category is the liabilities formed in the balance sheet of listed companies that occupy other companies' capital divided by the company's total assets at the end of the year as the index of occupancy degree by the listed companies. Finally, we define the balance between the capital that related parties occupy in the listed company and the capital that the listed company occupies in the related party as the occupancy net amount occupied by the related party. Comprehensive measurements are conducted on the listed company's occupied capital, the listed company occupying another company's capital and the net capital occupancy.

2.1.3 Tunnelling Control System

Tunnelling is a key principal–agent problem. The control system in corporate governance

deals mostly with the regulation of conflict between owners and managers. Research on the conflict between majority and minority shareholders is scarce and mostly focused on legal governance and ownership structure (Jiang, 2004). The findings on the resolution of conflict between shareholders and managers highlight the conflict between majority and minority shareholders. In fact, the governance mechanism to solve the conflict between shareholders and managers helps to control the tunnelling. Research shows that to control tunnelling behaviour, a corporate governance system should provide the conditions to perform monitoring activities, including shareholder activism, ownership structure, board of directors, market of control rights and investors' legal protection.

2.1.3.1 Shareholder Activism

Two methods are employed to conduct the monitoring activity: positive behaviour and negative surrender (Vives, 2000). The former means that shareholders conduct monitoring activity to examine the behaviours and decisions of managers. Blair (1995) considers shareholder activism as a specific statement through which investors remain positive and active in monitoring performance to manage the company efficiently.

Institutional investors were previously passive shareholders who adapted the feet ballot, a Wall Street principle, to be involved in corporate management. Although they own a comparatively larger share and can have stronger impact on management than retail investors, their influence was used ineffectively. After the 1990s, most institutions gave up 'vote with their feet' . When the stock-owned company encountered problems, institutional investors began to participate in and improve the corporate management voluntarily and actively. This situation marked the beginning of a new time in which shareholders were involved in management, represented by institutional investors (Li, 2008).

The management effectiveness of institutional investors is a subject of debate among scholars. Huddart (1993), Maug (1998) and Noe (2002), among others, believe in the hypothesis of effective supervision. They hold the idea that institutional investors can restrain and partially solve the agency problem by supervising and controlling the business. However, Coffee (1991), Barnard (1992) and Webb (2003) uphold the hypothesis of negative supervision. They predict that company value is negatively correlated with the shareholding ratio of institutional investors based on the hypothesis of interest conflict and negative supervision. Pound (1988) maintains that supervision from institutional investors is null and void. Although questions remain about the empirical examination of institutional investor supervision, most positive evaluations are provided in terms of the positive behaviour of

shareholders.

Scholars in China have carried out empirical research on the managerial function of Chinese institutional investors. Represented by Li (2008), most researchers argue that with the development of the Chinese domestic stock market and the greater power and scale of institutional investors, these investors actively participate in the reform of listed companies as well as successfully improve management efficiency and perceived organisational performance of these firms.

2.1.3.2 Ownership Structure

The managerial function of the ownership structure is mainly concerned with the influences on management by the shareholding ratio of the largest shareholder and the ownership concentration.

The influence on tunnelling behaviours by shareholding ratio of the majority shareholders is paradoxical. On one hand, the controlling power of majority shareholders originates from the shareholding ratio. The increase of shareholding ratio enhances the power to control a company and creates opportunities to invade the interests of other shareholders (Burkart et al., 1997; Rajan, 1992), a phenomenon called the entrenchment effect. Morck et al. (1988) and Claessens et al. (2002) provide empirical evidence of such a phenomenon. Faccio et al. (2000) find that except for England and Ireland, ownership is concentrated in Western Europe. Among 5,232 listed companies, 44.29% are controlled by families. Under the circumstances, majority shareholders infringing on the rights of minority shareholders is a common principal–agent problem. In a study of eight listed Asian companies, Lemmon and Lins (2003) find that infringement on the rights of minority shareholders by majority shareholders was significantly more serious during the Asian financial crisis, especially when the control rights were larger than the cash flow rights.

Meanwhile, the increase of shareholding ratio may weaken the motives towards tunnelling behaviour, a phenomenon called the alignment effect. According to the classical analysis by Jensen and Meckling (1976), the higher the ownership an entrepreneur takes, the larger the loss of potential value, which means that sharing revenue loss goes with the shareholding ratio. This case is true when the functioning persons are shareholders instead of entrepreneurs. Thus, the higher the shareholding ratio, the less the tunnelling behaviour. Based on the alignment effect, Gomes (1999) supports the idea that a high shareholding ratio can be regarded as a promise by dominant stockholders to external investors to give up

private benefits in favour of controlling power.

The influence of tunnelling activities on ownership concentration is a paradoxical issue. The decrease of ownership concentration, especially the existence of other principal shareholders, helps to monitor the largest shareholder. The existence of other majority shareholders function as supervision and counterbalance, which effectively restrict entrenchment behaviour (Henrik and Mattias, 2001). Meanwhile, shareholders may collude with one another to gain mutual benefits. Regardless of the relationship among majority shareholders, the cost of seeking the private interest of controlling shareholders will rise, and it can play a positive function in restraining tunnelling behaviour.

Several studies support the opinion that the decrease of ownership concentration helps to restrain tunnelling behaviour. Among these studies are the scale-model investigations conducted by Bloch and Hege (2001); an examination of the effects of second largest shareholders' shareholding ratio in Western European countries and in Germany by Faccio et al. (2001) and Gugler and Yurtoglu (2003); a study on the Italian national majority shareholders alliance by Volpin (2002) and an empirical study on the relationship of majority shareholders with firm value by Maury and Pajuste (2005).

In China, scholars have investigated the direct relationship between equity ownership structures (particularly in proportion to majority shareholders) and tunnelling behaviour. According to related transactions of Chinese listed companies from 2000 to 2003 (Li et al., 2004), the funds of listed companies occupied by shareholders and the proportion of the first majority shareholder indicate a rise-and-drop in a nonlinear relationship. The former is strictly negatively related to the proportion of other shareholders. Empirical studies on the related transactions of Chinese listed companies from 1999 to 2001 (Yu and Xia, 2004) demonstrate that the related transactions of companies with controlling shareholders are significantly higher than those of companies without controlling shareholders. Chen and Wang (2005) find that related transactions are significantly positively correlated with ownership concentration. Liu and He (2004) discover that the higher the shareholding ratio, the greater the possibility for majority shareholders to seek private benefits by tunnelling. However, Liu et al. (2010) propose the opposite conclusion. Based on mathematical model testing, they support the idea that the higher the shareholding ratio, the weaker the tunnelling behaviour will be.

In summary, the existing studies demonstrate that (1) the higher the shareholding ratio, the more powerful the tunnelling behaviour will be; (2) tunnelling behaviour enlarges the sharing revenue loss, so the problem remains that of the former against the latter; and (3) in

theory, as long as the shareholding ratio is not 100%, tunnelling behaviour brings positive profit. Thus, this thesis analyses the shareholding ratio of the largest shareholder and the change in ownership concentration.

2.1.3.3 Board of Directors

The board of directors can perform the monitoring duty directly because it represents the most fundamental supervision mechanism (Jensen, 1993). However, members of the board of directors are frequently considered as 'puppets' who have limited knowledge of company operations, and it has been said that 'the board always knows the least and the latest' (Monks, 2006). Therefore, the board has been suspected of inefficient monitoring. Nevertheless, a large number of studies are concerned about its governance functions.

Generally speaking, a large-scale board may facilitate corporate performance. However, recent research has shown a different opinion. From the theoretical perspective, Lipton and Lorsch (1992) argue that the size of a board should be limited to eight or nine members, and no more than 10. If a board has over 10 members, the cost of coordination outweighs the benefits, and the board may become less efficient and easily controlled. Jensen (1993) believes it impossible for a board to function well if it has more than seven or eight members.

Fama (1980), Fama and Jensen (1983) and Byrd and Hickman (1992) believe that external directors perform better than internal directors in supervision. Specific regulations are designed especially for external directors in certain countries and regions. For example, the Sarbanes–Oxley Act (2002) states that a listed company must have a board of supervisors that consist of independent directors. Similarly, the New York Stock Exchange adopted the Act and stated that the auditors and compensation board in a listed company should be appointed by independent directors. Similar regulations exist for listed companies in China.

Numerous empirical studies confirm the aforementioned opinions. For example, Weisbach (1988), Borokhovich et al. (1996), Huson et al. (2001) and Fields and Key (2003) find that external directors have a crucial function in mutual supervision and consultation.

However, other studies saw the possibility that the existence of external directors would hold back corporate performance, or that the former has nothing to do with the latter. Agrawal and Knoeber (1996) discover that the relationship between the external director system and Tobin's Q, which reflects corporation performance, is negative. Daily and Doalton (1993) show that the companies with good performance are less dependent on their boards. Johnson et al. (1996) demonstrate that in various aspects, no relationship exists between the

independent directors and corporate performance. Dalton et al. (1998) and Bhagat and Black (1999) argue that the relationship between the features of the board and the company performance is irrelevant. Based on these studies, we can infer that external directors have limited authority to improve their monitoring ability.

Except for the two opposing views mentioned, several experts believe that the relationship between the independent board system and company performance is complicated and cannot be described as merely a positive or negative correlation. Through an empirical study of 266 large companies in America between 1970 and 1980, Baysinger and Butler (1985) find that the relationship between the independence of the board and corporate financial performance indicates a fixed decline in the sample companies. However, no fixed linear relationship is observed between the two. Barnhart and Rosenstein (1998) use Tobin's Q to evaluate company performance based on a sample of 5,000 companies on the Standard & Poor's index. The result of their study provides weak evidence to indicate a linear relationship between the independent external board and corporate performance.

2.1.3.4 Market of Control Rights

The market of control rights to resolve the conflict between shareholders and managers has been studied extensively by Western scholars (Jensent and Rebuck, 1983; Shleifer and Vishny, 1997). These scholars believe that the market for control rights brings pressure, which holds back managerial opportunism, and that the agent cost is reduced accordingly.

Control rights transfer refers to the transfer of rights between different controlling shareholders. When corporate performance suffers due to poor management, other competitive companies can obtain control rights in capital markets through mergers when the share price falls. When a merger is successful, the managers of the merged company will lose reputation and even face the risk of unemployment. An effective and vigorous market provides the platform for control rights transfer as well as brings enormous pressure and constraints to the current management, thereby reducing the agency cost faced by companies.

In addition, for Chinese listed companies, one benefit of control transfer is that it alleviates the agency problems of state holding corporations. One feature of state-owned stock rights is that no single individual is responsible for supervising listed companies. Although people suppose that government officials should play this role, these officials do not have a residual claim to listed companies, and the motives of requiring them to supervise listed companies is obviously insufficient. Control rights transfer can provide a clearer definition

and transfer of property to parties that have the authority to supervise management. The second benefit is that it helps to improve the performance of listed companies. The government ensures that letting other companies take over listed companies is a more feasible way than bankruptcy or providing subsidy to poorly performing listed companies. Control rights transfer can motivate a new owner to inject high-quality assets, choose an excellent management team and provide effective management ideas to improve performance. Wang and Wong (2003) report that listed companies that perform poorly before the control rights transfer and provide control rights to private enterprises have worse profitability before the control transfer. Boycko (2006) argues that the transfer of ownership and control to private entities is an effective option for state-owned enterprises. Based on the study of 262 control transfer samples from 1996 to 2000, Xu (2005) finds that only the transfer with compensation to private enterprises indicates profitability and improved performance. Profitability mainly results from cost saving and the reduction in the number of employees, Profitability mainly results from cost saving and the reduction in the number of employees, but the poorer the performance of listed companies, the greater the possibility of listed companies to transfer to private enterprises. Therefore, under market pressure for corporate control rights, the managers and majority shareholders of listed companies restrain their own tunnelling behaviour. Lu (2010) states that share reform and more relaxed merger and acquisition rules can motivate the Chinese market to work towards corporate control rights, which will consequently enhance enterprise governance and value.

However, Shleifer and Vishny (1988) and Holmstrom and Kaplan (2001) doubt the governance function of the control rights market. After examining the literature on control rights, they conclude that the return for most shareholders of acquiring companies is significantly negative.

But Shleifer and Vishny (1998), Holmstrom and Kaplan (2001) doubted about governance functions of market for corporate control. For example Holmstrom and Kaplan (2001) found that most shareholders earning of acquiring companies were negative based on the conclusion of American market for corporate control research literature.

2.1.3.5 Legal Protection of Investors

La Porta et al. (2000) suggest that, in a number of countries, controlling shareholders commonly exploit minority shareholders. This tunnelling behaviour should be controlled through a corporate governance mechanism, the core of which is the legal protection system. For minority shareholders facing tunnelling behaviour from large shareholders, legal

protection is crucial. The weaknesses of minority shareholders' stock rights protection can be classified into three. The first weakness is rational apathy. Dispersed minority shareholders want to supervise large shareholders, but the costs of information collection and of action are high. With low returns, most rational minority shareholders will give up supervision of large shareholders. The second is hitchhiking psychology, which also prevents minority shareholders from supervising large shareholders. The supervision of large shareholders by minority shareholders can be likened to a public product; other shareholders who do not participate in the supervision can take a free ride. The third is when large shareholders have motivations to invade the interests of minority shareholders and have advantages in terms of information and power (Sun, 2002). The first two points show that the degree of self-protection of minority shareholders is extremely weak, whereas the invasive intention of majority shareholders is extremely strong. Thus, legal mechanisms implemented by the government are significant means to protect minority shareholders.

La Porta et al. (1998) use eight indices based on the legal system of certain countries to measure the protection degree of shareholder stock rights. Their empirical analysis demonstrates that countries with a higher degree of legal protection on investor rights have a less pronounced tunnelling behaviour and their financial markets develop extremely fast. This fact shows the importance of laws to control tunnelling behaviour. La Porta et al. (2002) further demonstrate that under extreme cases without law protection systems, insiders can freely grab the company profits. With the improvement of legal protection systems, the tunnelling behaviour of insiders cannot be conducted as freely, and the cost of tunnelling will increase.

The legal protection of investors consists of two aspects: investor protection laws and their quality of enforcement. La Porta et al. (1998 and 1999) find that investor protection depends to a great extent on the legal influence in different countries. Specifically, with regard to law enforcement, La Porta et al. (1998) emphasise that effective law enforcement outweighs the weak laws and regulations themselves. Shleifer and Wolfenzon (2002) propose a theoretical model for the relationship between investor protection and capital market development, which suggests that in countries with sound investor protection laws, a larger and highly valued listed company will have a lower stock concentration and a diminished tunnelling behaviour.

After comparing the supervision of internal transactions in 103 countries, Bhattacharya and Daouk (2002) find that the financing cost of a listed company is considerably lower in

countries that effectively enforce the related party transaction laws than in those that do not. After studying the legal environment, law enforcement and security laws and regulations in 40 countries, Hail and Leuz (2005) discover that the financing cost of a listed company is significantly lower in countries with strict law enforcement than in other countries. The low financing cost demonstrates that the investors are confident about the laws that protect their interests, and thus require a comparatively low rate of return. From another perspective, this condition illustrates that the enforcement of investor protection laws can help to control tunnelling.

Several scholars in China have studied the legal protection of investors, but not the relationship between legal protection and tunnelling. For example, Shen et al. (2004) investigate the historical practice of investor legal protection. Moreover, Zhang (2007) examines the establishment of an investor legal protection indicator system and confirms that China has increasingly tougher regulations with regard to related transactions.

2.2 Non-tradable Share Reform

Research in this field is conducted along two directions: short-term effect and long-term effect. Several scholars have examined the impact of these directions on tunnelling.

The short-term effect of reform is generally assessed by the market. Ding (2006) uses panel data gathered for 15 months after the share reform and analyses the influence on the value of listed companies. The results indicate that most of the corporate value was improved by shareholding reform, but the value of inferior companies dropped rapidly with the desalination of the theme while the value of superior companies remained stable. These facts indicate that the pricing function of the capital market is improving and that the corporate value tends towards rational differentiation. Zhang (2006) investigates the factors that influence the reform scheme of various companies, including the game of different participants and the response of stock prices to the reform. He and Li (2007) state that the share reform helped improve corporate value and advocate that the reform be carried out as early as possible. Other studies suggest that the reform is directly related to tunnelling. Zhou and Lv (2009) analyse the high payment of cash dividends in the case of Chihongxinzhe's share reform, and find that it seriously expropriated the interests of minority shareholders. Zheng et al. (2009) find that majority shareholders conduct earnings manipulation to reduce payment to non-tradable shareholders.

Liu and Xiong (2005) improve the resource allocation efficiency of the Chinese stock market fundamentally. Liao and Zhang (2008) design the corporate governance index, which consists of four dimensions: majority shareholders, board of directors, management and information disclosure. The researchers empirically examine the fundamental change of corporate encouragement mechanism, which significantly improves the corporate governance index. Huang (2010) analyses the influence of reform on corporate governance.

Several scholars investigate the influence of reform on tunnelling. Feng and Ruan (2007) examine its influence on related transactions. Using data on family-owned companies, Liao and Zhang (2008) find that the share reform discourages tunnelling behaviour. Liu et al. (2010) arrive at the the following conclusion by establishing the behaviour of controlling shareholders in a property negotiation context. On the one hand, full circulation can help to discourage tunnelling behaviour; on the other hand, tunnelling behaviour will not disappear after full circulation. Through theory mode derivation and empirical research, Huang (2006) finds that even if full circulation is realised, majority shareholders will still have motives to occupy corporate resources under the condition of extremely dispersed stock rights; that is, tunnelling will continue after non-tradable reform. Dang (2008) chooses as research samples listed companies that had completed the non-tradable reform before the end of 2005, and uses data from 2004 to 2006 to conduct empirical studies on the factors that influenced cash dividends before and after the share reform. The study showed no change in the first largest shareholder's interest on cash dividends before and after the reform, and that the obedience or conspiracy of other majority shareholders did not change as a result of increasing balance ability.

2.3 Review of Research Status

The market of control rights and block trade in China is not fully developed. In addition, the indirect measurement of tunnelling behaviour, which is used in foreign countries, does not suit the Chinese condition. The direct mode of measurement is more acceptable due to the wealth of data on the Chinese stock market. The tunnelling behaviour possibly includes related capital occupation, related asset transactions, related stock rights business and related purchasing. We have to consider all of these factors to fully understand the current situation of tunnelling in China. Current studies that use direct approaches only employ one or two measures, and thus their analysis is not comprehensive. Therefore, additional measurement techniques must be selected to examine whether the conclusion is robust.

Before and during the corporate share reform in China, many studies were conducted on its influence on governance. Most of these studies were theoretical and the post-reform situation was seldom studied. Most of the research on the influence of share reform focused on whether the payment of consideration is a type of tunnelling. The influence of reform on tunnelling behaviour, especially the comparison of its effects, was mostly neglected. Similarly, the anticipation of the reform effect prevailed, but the corresponding post-reform research was scarce. Most of the domestic studies on the tunnelling problem focus only on the ongoing period of share reform; the sample and timeframe are insufficient, and few studies discuss the joint effect of exogenous governance factors and other governance mechanisms. Given that the effect of the share reform is time-lagged, the sample and horizon should be extended for further study.

Not all the majority shareholders in listed companies display tunnelling behaviour; it is possible that they only transfer resources to listed companies and support listed companies to obtain long-term income from control rights. However, the motivations of different companies may be different at different times. If all these samples are put together without difference, the essence of tunnelling can be covered by the illusion of support. Song and Cong (2008) show that the related transactions of majority shareholders can improve corporate performance after the share reform, which indicates supporting behaviour. Through the analysis of the sample chosen in this thesis, we find that the sample with strong motivation of support is not deleted and only the data for 2008 are chosen. Thus, such supporting behaviour may be caused by the fact that listed companies tend to manipulate profits upward when the securities market is in a bull period. Therefore, we have to extend the sample period, delete the sample containing the companies with support motivation and test whether the tunnelling behaviour still exists for listed companies during normal periods.

In summary, abundant research has been conducted on the control mechanism of tunnelling behaviour, the measure of tunnelling and the influence of share reform on corporate governance and tunnelling activities. However, in these studies, the measurement of tunnelling behaviour is not comprehensive and the research design has to be improved because few studies have analysed the relationship between share reform and change in tunnelling behaviour. Therefore, further study based on an extended sample and horizon is necessary.

Chapter 3: Institutional Background and Relevant Theories

Equity division, the specific product under the economic system, securities market and investment background in China at that time, is just an expediency in a specific period. Its side effect is increasingly obvious with the improvement of the importance of capital market and the expansion of its scale, which necessitate non-tradable share reform. In this chapter, the institutional demand for non-tradable share reform is analysed based on the historical origins of equity division to explain the reform process. The corporate control theory and the principal–agent theory are used to analyse the reason behind the tunnelling behaviour of majority shareholders.

3.1 Institutional Background

3.1.1 Concept of Equity Division

Equity division (also known as equity abruption or equity splitting) refers to the phenomenon in which the ownership structures of tradable and non-tradable shares split in ownership structures among Chinese listed companies. Specifically, shares issued by certain listed companies to the public are publicly traded in stock exchanges, and other shares are not yet listed in the market before a public issue. However, the proportion of non-tradable shares is always larger, so non-tradable shareholders always control the enterprises. Thus, the phenomenon of ‘same shares with different equities, prices, and interests’ with Chinese features occurs.

3.1.2 Occurrence of Equity Division

Equity division originally appeared in 1991. The Interim Procedures for the Management of the Issuing and Trading of Shares in Shenzhen implemented on June 15, 1991, specifies in Article 14 that the issuance of shares can be divided into Public Issue, Internal Issue, and Private Issue, wherein, the Private Issue shall be fully subscribed by imitators (legal persons) (more than 5 but less than 49). Privately issued shares can only be transferred among legal persons. After the Shanghai and Shenzhen stock exchanges opened for business, only publicly issued shares could be listed and traded, and privately issued shares were prohibited. In April

7, 1993, the General Office of the State Council and other authorities released the Suggestions on Immediately Stopping the Irregular Practice of Issuing Internal Employee Shares, which emphasised that no organisation or individual can illegally purchase or ask for internal employee shares of the corporation by using power, or transfer the shares to the individual after purchasing them in an individual's name. Limited liability companies that violate the relevant national regulations shall be strictly investigated and punished. Thus, the equity division occurred.

3.1.3 Historical Origins of the Institutional Arrangement of Equity Division

The occurrence of equity division cannot be separated from the economic system, securities market and investment environment at that time. In this section, the historical origins of the equity division system are explored and analysed from three perspectives. The institutional demand for equity division is introduced in the next section.

3.1.3.1 Chinese Economic System

(1) Formation and development of the enterprise group in China

After the Third Plenary Session of the 11th Central Committee of the CPC, China began to implement the strategy of horizontal economic union, on which basis the enterprise group appeared and developed (Tang et al., 2000). The State Council issued relevant regulations to specify the definition, formation principles and internal management of enterprise groups successively in 1987, which significantly accelerated the formation of such groups in China (Tang et al., 2000; Yao et al., 2004).

Pilot work on the enterprise group was determined as one of the four major duties of the State Council in 1995 in relevant resolutions raised during the Third Plenary Session of the 14th Central Committee of the CPC. The construction of enterprise groups in China entered into a legalisation and standardisation development stage thereafter (Tang et al., 2000). Several other important measures and policies were issued during this period, including (1) the selection of pilot enterprises to offer key support; (2) the preparation of policies to support the development of pilot enterprises; (3) the enhancement of financial support for large-scale enterprise groups; and (4) the encouragement of enterprise groups to implement asset restructuring. Pilot enterprise groups can enjoy certain preferential policies on mergers and acquisitions (Yin, 2000).

According to related provisions in these documents, China selected 56 pilot enterprise

groups across the country. These groups enabled the effective adjustment and development of the economic structure (Yao et al. 2005). The Company Law was implemented in 1994, which not only provided a corresponding Code of Conduct for the operations of enterprise groups, but also laid the foundation for the standardised operation and management of such groups. In 1995, China began to implement the strategy of 'retaining the large and releasing the small' to mainly support large-scale enterprise groups by providing them with preferential policies. The State Council and related authorities issued relevant notices in April 1997, which set forth the goal of 'establishing the parent–subsidiary system with capital as the main link'. However, this notice gave rise to related transactions of the parent-subsidiary companies while deepening the reform of minority enterprise groups. According to data from the State Statistics Bureau, in 2003, 2,692 large-scale enterprise groups existed with year-end assets and operating revenue amounting to over RMB 500 million. Each enterprise group, with an asset scale of RMB 632 million, governed about 10.5 member enterprises on average. The enterprise groups clearly had considerable scale.

(2) Government control-based state-owned enterprise reform

After the PRC was founded, China established a highly centralised planned economic system based on that of the former Soviet Union in response to the strategy of 'Centralizing Resources and Giving Priority to the Heavy Industries'. To meet the requirements of the planned economy, the state-owned enterprises adopted the organisational form of bureaucracy, under which the enterprise has no individual personnel, supplies, management and decision making, autonomous investment and financing rights and so on. In the early stage of the new nation, the highly centralised planned economic system contributed significantly to the rapid establishment of the state-owned economic system. However, the system could not effectively solve the incentive and information problems in resource configuration without the market mechanism. Therefore, the Central Government controlled the enterprises and the state-owned enterprises could not make decisions independently, which resulted in a serious waste of resources and lower efficiency.

To solve the aforementioned problems, the Central Government has carried out a series of decentralisation reforms since the 1970s. These reforms were mainly intended to decentralise and delegate powers to state-owned enterprises and local governments. However, the core remained the reform of state-owned enterprises. Since 1978, the government has implemented a series of innovations and reforms without affecting the ownership, but the effects were not stratified. Thus, the ownership-based shareholding reform occurred. In

November 1993, decisions made during the Third Plenary Session of the 14th Central Committee of the CPC raised the modern enterprise system for state-owned enterprises. In September 1997, the 15th Central Committee of the CPC emphasised the need to improve and adjust ownership structure and to explore multiple approaches to the public ownership system. The suggestion that the state-owned economy shall vigorously develop mixed ownership and shareholding system was raised during the Fourth Plenary Session of the 15th Central Committee of the CPC in September 1999. In October 2003, it was emphasised during the Third Plenary Session of the 16th Central Committee that mixed ownership shall be developed vigorously to turn the public ownership system into the main approach. In the same year, the State-owned Assets Supervision and Administration Commission was established, which indicated that the state-owned assets of enterprises belong to the country. Several enterprise groups, driven by a series of policies, carried out a joint stock company and limited liability company-oriented corporation restructuring, where parent companies participate in the governance and share the interests of the subsidiaries according to the proportion of capital contribution. Property links are also established to protect the relationship between parent companies and their subsidiaries. Government control has a key role in state-owned enterprises because the assets of state-owned companies belong to the country.

3.1.3.2 Securities Market

3.1.3.2.1 Formation of the Securities Market

The securities market was built to address the financing of state-owned enterprises. Operation and development will also promote the development of the securities market; therefore, the reform of state-owned enterprises is closely linked to the formation and development of the securities market. In December 1986, the State Council stated that various provinces and cities could choose few large and medium enterprises owned by the public to carry out pilot shareholding systems, promote the shareholding reform in China and significantly increase the number of joint stock companies. With the increasing demand for stock exchanges, the Shanghai and Shenzhen stock exchanges were established in December 1990 and July 1991 respectivcely. In October 1992, the Security Commission and China Securities Regulatory Commission (CSRC) were set up to manage the securities market. In April 1996, relevant policies were passed in the Fourth Conference of the Eighth National People's Congress, and the development of the stock market was listed as part of the middle and long-term development plan of China.

3.1.3.2.2 Main Characteristic of the Securities Market in China - Government Intervention

The securities market in China was formed under the framework of the socialist market economic system and developed in the process of system reforms of state-owned enterprises. Although the emergence of the securities market was not arranged by the government on purpose, the government intervened in its development to a large extent. During the early stages of the stock market development, the motive of government intervention was to maintain order, cultivate the market and correct market failures. However, governments at all levels realised that the stock market has a key function in the reforms of state-owned enterprises and started to interfere in the stock market. Therefore, in this case, the growing securities market was dedicated to serving the reforms of state-owned enterprises, and the stock issue system had the same task, which finally turned the state-owned enterprises into the foundation of the securities market. At the initial stage of stock market development in China, the shares of a listed company were divided into non-tradable and tradable shares. The government intervention under the ideology of public ownership led to the formation of non-tradable shares, which made it convenient for non-tradable shareholders to infringe on the interests of tradable shareholders through methods such as artificially reducing the stock supply and raising the stock price.

However, the process of mercerisation with the purpose of protecting the interests of minority investors pushed forward to solve the equity division issue. The purpose of mercerisation reform was to effectively allocate the resources through a price mechanism, but the resources could not be priced reasonably. On the one hand, the price of tradable shares deviated from that of non-tradable shares and led to conflict among tradable and non-tradable shareholders. On the other hand, the equity division separated the interests of tradable shareholders and non-tradable shareholders, so the former usually traded stocks to avoid infringement on their interests, and the value idea became a meaningless term, let alone the effective allocation of resources. In recent years, with the intensification of conflicts among traders, the government pursued a series of measures to push forward the development of the securities market, which to a certain extent helped to solve the equity division issue. However, all of these measures failed to achieve the desired effect due to the existence of equity division. The reason is that the interests of tradable shareholders deviated from those of non-tradable shareholders under the condition of equity division, so it was difficult to protect the interests of minority investors.

In recent years, there was a rapid process of mercerisation of the securities market for the

following reasons: first, the economic benefits of state-owned enterprises (especially large state-owned ones) improved under the guidance of relevant policies; second, aiming to build a harmonious society and maintain social stability, the governments had to address the issue of equity division to protect the interest of minority investors; third, under the background of deepening the securities market reform and facilitating China's entry into the World Trade Organization, foreign institutional investors were also introduced with relevant mercerisation mechanisms. However, the governments still had specific concerns in the process of pushing forward the mercerisation of the market. For example, the share reform plan for state-owned listed companies had to be approved by the state-owned Assets Supervision and Administration Commission to reduce the losses of state assets in the share plans.

Government intervention is divided into two parts: the government units as shareholders of listed companies and as constitutors of the market mechanism (Xia and Chen, 2006). Government action, however, is limited in two aspects: its control power cannot be transferred casually and many factors must be fully considered in the appointment of chief executives and senior executives (Fan et al., 2006). Jensen et al. (1976) argue that the control power market is a significant external governance mechanism that can help to restrain the speculative behaviours of managers. Among the listed companies controlled by the government, effective motivation is absent when the expected control power of corporate management will not be transferred. In addition, the lack of control power market makes it difficult to evaluate the performance of the companies and managers, a situation that makes incentive contracts invalid and increases the speculative behaviour of managers. Under the condition that an incentive mechanism becomes invalid and the control power market is absent, the efficiencies of companies can be improved only through effective supervision of the state-owned listed companies, which is difficult to implement.

In the securities market of China, government departments have the right to appoint senior executives of enterprises, but are not concerned about the earnings of the enterprises and have difficulty finding suitable talents for not being a real shareholder (Zhang, 2003). Therefore, the governments interfere in the enterprises by imposing their objective functions on the latter, which causes enterprise behaviour to deviate from the target of wealth maximisation and damages the economic benefits of enterprises. The targets of the governments tend to change from time to time, so the enterprises fail to form effective expectations, a situation that further reduces corporate efficiency. The analysis results indicate that government-controlled listed companies do not have any motive to select good managers

and fail to design a set of effective incentive mechanisms. Thus, Fan et al. (2006) thinks that government interventions are not conducive to enhancing the efficiencies of enterprises.

3.1.3.2.3 Institutional Arrangement of the Securities Market in China

Among various systems of the securities market in China, stock issuance examination system and asset reorganisation before an initial public offering (IPO) as well as equity arragement in the process of share reform are three basic institutional arrangements. These arrangements can fundamentally change the mechanism arrangement of the securities market and have a significant effect on issues such as asset restructuring and equity arrangementsof listed companies.

(1) Stock Issuance Examination System

In the practice of securities issuance of various countries, three examination systems are used due to differences in the markets, legal systems and social environments of different countries. These are the registration, approval and examination systems. The issuance examination system includes quantity control and administrative examination, and approval is taken in the early stage of market development. In the early stage, 'total quantity control and division of quota' is adopted under the quota control. In accordance with relevant regulations released by the State Council in 1992, under the total quantity control, competent departments are required to issue limited securities in different places, but no limit is imposed on the quantity of enterprises. In this case, ministries and commissions will recommend a number of enterprises to go public to take care of the enterprises within their jurisdictions, so the scale of new listed companies during this period is small and the quality is low.

In view of the flaws in the aforementioned regulations, the CSRC has proposed since 1996 that the management method for the new share issuance of 'Total Quantity Control and Limit to Given Number of Issuers' should be followed. The Commission also proposed that priority should be given to 56 pilot enterprise groups, 100 pilot enterprise groups with modern enterprise systems and 300 key enterprises. This rule, however, still has flaws, in that ministries and commissions will select larger enterprises to go public to earn more capital, and then cause several irrelevant enterprises to go public as well.

To solve the aforementioned problems, the Securities Law issued on December 1998 stipulated the approval system that has been implemented since July 1, 1999. For the specific implementation of the approval system, the Channel System was adopted in 2001, and the CSRC published the Interim Measures for the Stock Issuance and Listing Sponsorship System

in 2003 and replaced the Channel System with the Sponsor System. Throughout the change process of issuance examination of the securities market in China, the market does not break away from the mission to serve the reform of state-owned enterprises, and governments continue to have actual control of several key examination and approval procedures. Therefore, government intervention still exists in the process of going public.

(2) Joint-Stock System Reorganisation and Asset Reorganisation in the IPO Process

Separate listing, overall listing and bundled listing are three basic forms through which state-owned enterprises reorganise and recapitalise. Based on the preceding analysis, the issuance examination system of stocks has a critical function and is the target of asset reorganisation in the enterprise. At the stage of 'scale control and division of quota', the scale of tradable shares of the enterprise is given, and the scale of total assets and net assets required for the restructuring of enterprises can be deduced from the given quota. However, the simulated scale of the assets is inconsistent with the real scale of the enterprise. Therefore, the enterprises will have to peel off assets to go public. Importantly, asset reorganisation must meet the requirements of the CSRC on profitability before stock issuance, and the expected income level per share can be raised in the process of issuing the stock as high as possible. Although bundled and overall listings are theoretically the natural choices at this stage, what enterprises care most about is the amount of funds raised after going public and after the scale is determined. The latter, however, depends on the earnings per share and price–earnings ratio when going public. Therefore, the asset stripping issue still exists in the bundled and overall listings of large enterprises.

(3) Equity Arrangements of Listed Companies

Equity arrangements of listed companies are classified in various ways, and different equity division methods have different purposes. However, fundamentally, equity arrangements made by the securities market for listed companies mainly focus on serving the reform of state-owned enterprises and protecting the principal status of the public sector. In light of the research purpose of this thesis, two basic characteristics of equity arrangement for listed companies are discussed: the arrangement for equity liquidity and the provisions on shareholding proportion of the first majority shareholder.

The equity liquidity arrangement of a listed company comes first. Before the non-tradable share reform in 2004, the shares of listed companies had a dual ownership structure of tradable and non-tradable shares. The former includes A, B and H shares; the latter includes private placement of legal person's shares, staff shares, sponsor's legal person's

shares, state-owned shares, foreign legal person's shares and other non-tradable shares. Tradable shares can be traded at secondary market, while non-tradable shares are not. This type of system limits the circulation ability of the stock shares of many listed companies. Although the equity division is reasonable to a certain extent, the professional and academic circles as well as the regulator think that this kind of system brings various governance issues to the listed companies under the current system environment in China, and restricts the long-term development of the securities market.

Most state-owned shares and legal persons' shares can circulate only through the over-the-counter market (i.e. the reorganisation action such as the merger and acquisition and the equity transfer of the enterprises) between non-tradable shares, which greatly restricts the liquidity of the stock. Only minority tradable shares have liquidity, which leads to the serious imbalance of supply and demand in the stock market, long-term distortion of stock prices and speculative behaviour. Asymmetric equity liquidity also makes it difficult to form effective restraints and incentives for shareholders. Moreover, the shareholding arrangement for the first majority shareholder strengthens the controlling power of majority shareholders, a situation that widely exists among listed companies at present.

3.1.3.3 Investment Environment

The implementation of equity division seems to make no sense now, but it was applicable to the investment environment during the time of the share reform. Given that the shares were oversupplied in the Shanghai and Shenzhen capital markets at the time, few people dared, wanted, or had the money to buy shares. Therefore, it was difficult for both state-owned shares and corporate shares to go public. If both types of shares were allowed to go public, the conditions of the stock market would have worsened and the long-term development of the market would have been affected as both types of shares accounted for two- thirds of the total shares.

However, after the first batch of stock buyers gained large interests in the stock market, the demand for shares increased markedly, driven by the wealth effect. Owing to the equity division and the limited availability of tradable shares, the supply of shares fell short of demand, and the majority shareholders took the opportunity to issue shares at a premium price. As the IPO system improved, more companies decided to go public, which resulted in a gradual balance between the supply and demand of shares in the market. Although the stock market seemed to improve, the problems (e.g. the majority shareholders encroaching on the interests of minority shareholders) hidden in the imbalance of supply and demand remained.

Since then, the public has had a clear knowledge of the investment environment in the Chinese capital market.

3.1.4 Institutional Demand for Non-tradable Share Reform

3.1.4.1 Internal Demand of Non-tradable Share Reform

Ideologically, the institution of equity division was proposed to meet the financing needs of state-owned enterprises under rigid constraints. However, the implementation of equity division was an expedient measure during the specific period. Over time, its after-effect became clearer when the capital market became more significant and the scale increased, which led to an internal demand of non-tradable share reform.

3.1.4.1.1 Demand for Capital Market Functioning

(1) Basic Function of the Capital Market

Considering the actual situation in China, 'Several Opinions of the State Council on Promoting the Reform, Opening and Steady Growth of Capital Markets' was issued in January 2004. In this document, four functions of the capital market were identified: promoting capital formation, optimising resource allocation, propelling economic restructuring and improving corporate governance. With regard to the functions of capital market, price discovery may be regarded as the core function of the capital market while financing may be the original function. Provided that a sound system is established based on rational investor behaviour and complete information disclosure, the value of the share can be truly reflected in its market price. As a result, the role of the 'invisible hand,' namely, the function of resources allocation, can be brought into full play.

(2) Interest Model of Equity Division

Ordinary shareholders have two basic rights, income right and voting right. The latter ensures the successful realisation of the former. According to the stock-pricing-based dividend discount model (DDM), stock price is the discounted value of future income. However, before the non-tradable share reform, almost two-thirds of the shares were non-tradable, which indicated that all tradable shares were unlikely to affect the policy making of the company. In other words, before the non-tradable share reform, both rights of the tradable shareholders could not be assured in that the dividend decision making was up to the value orientation of the non-tradable shareholders. This resulted in the condition that the same stock was not entitled to the same right.

The basic rights of tradable shareholders cannot be assured due to equity division, and thus uncertainties about future income (especially dividends) increase. Under the circumstances, tradable shareholders focus on obtaining capital gains, which gives rise to serious speculations in the stock market. Consequently, a speculative profit-making model results from the structure of the equity division. The interests of non-tradable shareholders are divided into two types, namely, increase of net assets of the listed company and interest transfer resulting from the control of the listed company. The former mainly consists of two parts: cumulative operating profits of the company and financing at a higher price than the net assets per share. Comparatively speaking, the latter is a short cut for non-tradable shareholders to make a fortune.

The preceding analysis shows that the market itself determines the investor behaviour and idea because the profit-making model is decided by the equity division. However, such a model results in an interest division between non-tradable and tradable shareholders. It also decides that the basic functions of the capital market can be distorted by the 'rational' decisions of market participants.

(3) Functions of Capital Market Distorted by Equity Division

Four major functions of the capital markets are distorted by the equity division in the following aspects. Functions such as the original value discovery and resources allocation of the market cannot be fully put into practice, thus lowering the operational efficiency of the capital market and wasting the resources.

① Self-pricing function is distorted by equity division

Price discovery is a fundamental function to improve the stock market, but the pricing function of the shares is distorted by equity division whether it is in the primary or secondary market. With respect to the stock evaluation, the uncertainty of the circulation of non-tradable shares in the future will be considered as they account for two-thirds of the market, except for the development status of the company. The shareholders' control of the listed company is another factor to consider. For example, the shares issued at a premium price in the primary market may lead to the share price becoming unacceptable in the secondary market. In this way, the law of value is destroyed, which indicates that the role of pricing function in the capital market may not be brought into full play.

② Resource allocation is distorted by equity division

The distortion of the pricing mechanism leads to the fact that no value investor can be

formed in the securities market yet. According to the statistics, the annual turnover rate of shares in the Shanghai and Shenzhen stock exchanges remains over 200%, and even as much as 500% in some years. In developed countries, by contrast, the annual turnover rate is usually lower than 100%. For instance, in 2001, the annual turnover rate in the New York Stock Exchange was 87%. However, the rates were 287% and 221% in Shanghai and Shenzhen respectively.

In China, the share price movement in the securities markets may indicate that the concept stock is the best type of security regardless of performance; blue-chip stocks perform as poorly as underperforming stocks; large-cap stocks are inferior to small-cap ones; the shareholdings of market makers or large institutions are better than those of others, which cause more funds to flood into the trash stocks. This makes resource allocation more difficult to implement in the capital market.

③ Corporate governance is distorted by equity division

The existence of a sole majority shareholder of state-owned and corporate shares results from equity division. Given their larger shareholding, the insiders' control of the listed company appears serious. Even worse, the insiders encroach on the interests of minority shareholders. Such a lack of common interest in corporate governance promotes self-serving behaviour, i.e. non-tradable shareholders (the majority shareholders) harm the interest of tradable shareholders to increase their own benefit. With regard to non-tradable shareholders, more attention is paid to the increase or decrease of net asset value, whereas tradable shareholders' income comes from the stock price movement in the secondary market. As a result, interest division is formed between non-tradable and tradable shareholders. The action of most majority shareholders or controlling shareholders to protect their own interests seems legal but unreasonable (e.g. money grabbing in the stock market, selling bad assets through reorganisation and delaying payables), because they neither care about the share price nor have the initiative to manage the company well. On the contrary, tradable shareholders care only about the share price because they have no right to participate in company operations. Consequently, the performance of the listed company may worsen due to the misguided interests of the shareholders.

④ Merger mechanism is distorted by equity division

In a mature securities market, when the share of a company drops to an extremely low price as a result of inefficient operations and management, some strategic investors may

decide to purchase a large amount of shares or become the controlling shareholders by acquiring the company, even dismiss or replace the management, change the operational mode as well as improve productivity and performance. However, the survival and development of the market for corporate control are completely restricted by the equity division mechanism because the capable majority shareholders have no opportunity to replace the incapable ones. Therefore, it is impossible for the enterprises to systematically make up for the losses and to gain profits under market pressure according to the principle of the survival of the fittest.

The following two abnormal merger modes will also result from equity division:

Firstly, the listed companies will be restructured through merger in a speculative manner as a result of the equity division because neither the income from investment in the subsidiary companies can be reflected in the share price increase nor the controlling shareholders make profits through share price increase, regardless of whether their performance has improved or their competitiveness strengthened. For this reason, the following three measures are usually taken to make profits regarding merger and reorganisation (Wu, 2004): (1) Through industrial transformation or high-quality assets input, the company may be made temporarily compliant with the financing requirements, and then allotment of shares or issuance of additional shares will be adopted to obtain the control rights for fundraising. Li et al. (2005) found that the merger between a listed company and a non-listed company is only a measure for the controlling shareholders and local government to grab money from or support the listed company. They attempt to make the company compliant with the financing requirements set by the supervision authorities. Once the company is compliant with the IPO requirements, all the merger activities are carried out for the sole purpose of earning money; (2) Reorganising or merging with other companies, and then manipulating the share price for illegal money making through insider trading; (3) Misusing corporate resources (e.g. guarantees) to obtain low-cost funds. All these illegal mergers seriously stray from the original target. Worse, to a large extent, the share price fluctuates substantially and damages the interest of minority shareholders.

Secondly, due to the limited transfer of non-tradable shares, non-transparent trading mechanism and insufficient price discovery, the turnover and evaluation of all state-owned assets are greatly affected. Given that the value-added non-tradable share is difficult to sell, abnormal profits is their primary objective through the purchase of the equities of the targeted listed company. For example, the targeted company may be made compliant with the

financing requirements through high-quality assets input. After a successful fundraising, the use rights will be obtained through tunnelling activities or a malicious guarantee will be provided to the purchaser through the listed company.

3.1.4.1.2 Stabilising the Demand for Interest Conflict Between Tradable and Non-Tradable Shareholders

A small number of non-tradable shareholders hold a large proportion of shares, and tradable shareholders find it difficult to hold the minority of decentralised shares to reach a consensus. Hence, tradable shareholders lose their business decision-making powers to the company and cannot effectively restrain the behaviour of majority shareholders. Therefore, majority shareholders, with the goal of maximising their interests, invade the interests of minority shareholders through ways such as transferring risk. The behaviour of encroaching on the interests of the minority shareholders will be analysed and explained from four aspects.

(1) Directly divert, possess, or maliciously use the resources of the listed company

In the Chinese securities market, it is common for majority shareholders to illegally possess the funds of a listed company and to use the resources of the listed company for malicious guarantee. For example, according to the 2004 annual report of one company, the majority shareholders possessed a total of RMB 50.9 billion in funds by the end of 2004. Various fund possession ways of the majority shareholders were not easily perceived, so the actual fund possession amount could be worth hundreds of billions of RMB. According to data from the Shanghai and Shenzhen stock exchanges, among 836 listed companies on the SSE, 148 listed companies carried out behaviours of illegal guarantees by the end of 2004, namely, the interests of 17.8% of the listed companies were invaded by the majority shareholders. The illegal guarantee amount of the listed companies on the SSE was RMB 23.88 billion in total, and the illegal guarantee amount of listed companies on the SZSE was RMB 18.6 billion in total. These figures reflect the severe tunnelling behaviour of the majority shareholders of the listed companies.

(2) Transfer profits through related transactions

Majority shareholders transfer the profits through related transactions such as asset acquisitions, leasing, agency, provision of guarantee, contribution of capital and project approval of the related parties, donation and debt reconstruction. Based on the case of Zarva Group, we analyse how the majority shareholders invade and tunnel the interests of the listed company step by step through related transactions.

The main businesses of the Zarva Technology (Group) Co., Ltd., (*ST Zarva, stock code 000688) include manufacturing and selling of computers and electronic network servers. The Group, founded on April 20, 1989, was formerly called the Fuling Building Ceramics Company Limited, and was listed on the Shenzhen Stock Exchange on January 20, 1997. As of September 2012, the Company had issued a total of RMB 401.913108 million worth of shares.

Apart from providing controlling shareholders with funds, the Zarva Group also supplies funds to other companies that are managed by several directors of the Group. In 2004, the Zarva Group supplied RMB 526.58 million to the Sichuan Lixin Investment Company and its subsidiary companies; RMB 104.79 million to the Company legally represented by Li Zhongjiang, the director of the Group; as well as RMB 1035.77 million to the Company legally represented by Tan Qi, a former director of the Group. By the end of 2004, RMB 1000.95 million was occupied.

Furthermore, Zarva Group supplied a huge sum of illegal guarantees to controlling shareholders, wherein joint and several liability guarantees amounting to RMB 35.5 million were supplied to the Huaxiang Company and the Meihua Company controlled by Li Zhongjiang, director of the Group; and joint and several liability guarantees with the amount of RMB 21 million were supplied to the Zhengdong Pharmaceutical Company controlled by Zhang Liangbin, controller of the Group, in 2004 only. As of April 2006, the Zarva Group had supplied external guarantees of nearly RMB 1 billion.

The case of the Zarva Group indicates that the majority shareholders tunnel the listed company through related transactions that are not obstructed by the Board of Directors, who also try to acquire stocks from the Company. Therefore, the management function of the Board of Directors is not effectively performed. Many similar cases exist in which the government and minority shareholders always undertake the related transactions of the majority shareholders. The equity division problem may thus bring a heavy burden to the government and the minority shareholders.

(3) Transfer investment risks

For the equity division, almost all of the risks of investment impulsions of the listed company are undertaken by tradable shareholders, through which the non-tradable shareholders, driven by certain interests, may undertake certain investments that obey moral hazard. A sample of over 300 listed companies from January 2000 to April 2001 indicates that 45 listed companies, accounting for 14% of the total sample, suffered losses within one year

after their IPOs, seasoned equity offering and rights offering. This finding shows that the listed company with a low utilisation efficiency rate of funds may blindly invest during the equity division (Ma, 2007).

(4) Manipulate dividend distribution

Listed companies in China generally do not issue cash bonuses because the majority shareholders of the companies cannot acquire the interests arising from the share price increase. Therefore, they do not have the motivation to implement a stable dividend policy to attract investors. On the contrary, they can acquire a retained dividend from the listed companies through tunnelling behaviour.

According to the statistics, total financing in the Chinese capital market was RMB 891.705 billion from 1998 to 2004. Additionally, the total dividend amount of the listed companies during this period was RMB 181.209 billion, most of which were possessed by the majority shareholders, and only about RMB 60 billion of dividends were acquired by the tradable shareholders. However, the stock trading stamp tax during the same period was RMB 116.341 billion. Along with the commissions paid for the transactions, the net investment loss of the investors reached hundreds of billions of RMB. The equity division is the main cause of these losses.

3.1.4.2 External Needs of Non-tradable Share Reform

The external needs of non-tradable share reform are created by insider trading in the capital market, state-owned asset loss arising from ways such as tunnelling via related transactions, strong interest of business and academic circles in the non-tradable share reform and the demand for the development of the capital market in China. In this thesis, the external needs of non-tradable share reform are stated from two aspects: the requirements of deepening the reform of commercial banks and the requirements of proper regulation.

(1) Requirements of Deepening the Reform of Commercial Banks

The core of the reform of China's economic system is the reform of the state-owned system. State-owned enterprises that constantly consumed social resources during their development mainly relied on financial support from the national government and on bank loans before and after the establishment of the four major banks, which resulted in a heavy bad loan burden for the banks. The implementation of the debt-to-equity swap system solved some of the existing problems of state-owned banks at the cost of higher moral hazard. However, the operation system of policy banks could not prevent the policy burden on the

part of commercial banks.

With the rapid increase of bad incremental loans, the decision maker realises that the problem of state-owned commercial banks can be solved through a two-way reform. On the one hand, direct financing channels that can simultaneously achieve fund and risk diversion must be launched; on the other hand, state-owned commercial banks must carry out shareholding reform to provide companies the opportunity to standardise the governance structure while the capital is replenished by IPO earnings. The government is forced to start the non-tradable share reform for the securities market that is suffering from equity division.

(2) Requirements of Proper Regulation

Government overregulation has been a malpractice in the securities market in China since the non-tradable share reform. At the beginning of 2000, to ensure the healthy development of the market, new leaders of the CSRC proposed a regulatory policy that states, 'the market determines what shall be determined by it, and the government, only serving as referee, is responsible for regulating'. The management layer gradually resumes its function with this policy, but the government cannot get rid of the burden of a policy-driven market due to the policy arrangement of equity division. For example, in 1999, the government introduced a policy of 'permitting three kinds of enterprises to enter the market' (namely, state-owned enterprises, state-controlled enterprises and listed companies to trade shares in the secondary stock market) to save the market, which actually serves for using the money of the State-owned Assets Supervision and Administration Commission and the banks to invest in stocks. However, the country, securities traders and investors suffered great losses during the bear market from 2001 to 2005 and various government policies proved ineffective. Therefore, proper regulation could not be achieved. The demand for proper regulation also pushed forward the introduction of non-tradable share reform.

3.1.5 Historical Evolution of Non-Tradable Share Reform

(1) Non-tradable share reform

Non-tradable share reform is based on the idea of balancing the interests between tradable and non-tradable shareholders through consultations so that non-tradable shares can circulate freely in the securities market.

On April 29, 2005, a pilot non-tradable share reform was started on four listed companies: Zijiang Enterprise, Sanyi Heavy Industry, Taurus Energy and Tsinghua Tongfang. By the end of 2006, 1,269 listed companies, accounting for 97% of the total market capitalisation of the

SSE and SZSE, began to carry out share reforms or had completed the reforms.

In the relevant management methods of non-tradable share sale introduced by the CSRC in September 2005, it was stipulated that original non-tradable shares should not be transferred or exchanged within one year after the share reform. Furthermore, non-tradable shareholders with a shareholding ratio of over 5% can be exchanged after one year, but the ratio of exchange should not exceed 5% within one year and not exceed 10% within two years (the total number of exchange shares issued by the listed companies of that same year shall prevail). In accordance with the regulations of the preceding clause, non-tradable shareholders are divided into two categories: (1) small non-tradable shareholders with a shareholding ratio of less than 5%, and (2) large non-tradable shareholders with a shareholding ratio of more than 5%.

(2) Equity division era, post-equity division era and entire circulation era

The Chinese capital market can be divided into three eras in accordance with the sequence of non-tradable share reform: equity division, post-equity division, and entire circulation.

Equity division era (before 2006) refers to the stage from the establishment of the Chinese capital market to the time of implementation of non-tradable share reform. In this era, the shares of listed companies were divided into tradable and non-tradable shares, and the behaviours of tradable and non-tradable shareholders at this stage had strong particularities.

Post-equity division era (from 2006 to 2009) refers to the transition stage from the experimental time to the official beginning of non-tradable share reform, during which non-tradable shareholders wantonly invaded and occupied the interests of tradable shareholders in the Chinese securities market.

Entire circulation era (since 2009) refers to the period when the non-tradable share reform officially began, the bans on small and large non-tradable shareholders were removed and non-tradable shares were allowed to circulate freely. The ‘same shares with same rights’ concept was truly realised in this era.

The eras of equity division are also divided in connection with a listed company. Next, Shenzhen Zhenye Group Co., Ltd. (hereafter referred to as SZY, security code: 000006) will be taken as an example to introduce the historical evolution of non-tradable share reform.

SZY, established on May 25, 1989 as a real estate company, was listed on April 27, 1992 and completed the non-tradable share reform on January 11, 2006. However, the shares of

SZY only achieved full circulation by January 11, 2009. Before January 11, 2006, SZY stayed in the equity division era; from January 11, 2006 to January 11, 2009, the company stayed in the post-equity division era; and since January 11, 2009, it has stayed in the entire circulation era.

3.2 Relevant Theories

3.2.1 Theories of Property Rights, Ownership and Control Rights

3.2.1.1 Theories of Property Rights and Ownership

Currently, scholars in China and abroad view and define property rights from different aspects. Externally, property rights can be defined as what can be done and what cannot, as well as rights of beneficiaries and impaired people, the detailed process and remedial measures. Another definition is that someone has a right to choose the purpose of using a certain economic product through a compulsory approach. Several Chinese scholars also redefine and conclude the definition of property rights as defined by overseas scholars: property rights refer to a type of mutual relationship that is recognised by people due to the existence and use of goods. People will conform to a specific conduct, otherwise they have to bear the costs of noncompliance. A consensus seems to exist among people about the property rights system, i.e. property rights is a type of economic and social relationship based on the determination of an individual's use of scarce resources. Meanwhile, numerous economists regard property rights as characterised by excludability, severability and alienability with the following functions and forms:

1) Excludability refers to a condition in which the owner of a property is entitled to refuse others use or possession of the property, or the owner seeks profits from others when they use or possess the property and bear related costs and damages arising from such use. The precondition of excludability is that the property rights have been clarified and defined. Otherwise, the property has no excludability, because the interests of others will be affected.

2) Severability refers to a condition in which the split of property rights make the property exchangeable and floatable because the allocation efficiency of the property rights is significantly improved, and the corporate system is further enhanced and developed. In the past, numerous traditional partnership enterprises were related to one another due to the inseparability of property rights. Therefore, once an enterprise faces a crisis, the other will be

involved because the interests of both parties are damaged. In an extreme case, the enterprises may go bankrupt. Meanwhile, the operation costs of collective property rights are significantly reduced due to severability. Therefore, the severability of property rights is a necessary condition to establish the capital market.

3) Alienability is formed due to severability. It refers to the condition in which the owner transfers the property rights to others and endows others with the rights to use the property. With a certain contract between both parties, they can obtain interests and take what they need.

People typically connect the concept of ownership with property rights. Different explanations exist, although both terms have the meaning of obtaining property rights. Ownership always emphasises a kind of ownership and the occupation and use of certain objects, which makes it a static concept. However, for property rights, ownership is a dynamic concept that always regulates human behaviour, e.g. whether a thing can be done or not, or in which condition it can and cannot be done.

In history, ownership is mainly defined in two modes in each country's laws, namely, generalising abstraction and enumeration, which are defined as follows: (1) generalising abstraction refers to the description and definition of ownership in a generalised and abstract manner. For example, according to Article 903 of the German Civil Code, ownership is defined as the rights of the owner to dispose of the property at will and eliminate the interference of others on the condition that the laws and third party rights are not violated. (2) Enumeration refers to the definition of ownership in a detailed, actual and specific manner. According to Article 206 of the Japan Civil Code, ownership is defined as the rights of the owner to freely use the profits and dispose of the property within the scope of the Code. In China, enumeration is presently adopted in various existing laws to describe ownership with the rights of possession added in. For example, ownership is defined in Article 71 of the General Rule of the Civil Law as the rights that the owner of the property can possess, occupy, use and dispose of the profits according to the law. According to Article 39 of the Property Law of the People's Republic of China, ownership is defined as the rights of the owner to possess, occupy the profits, or dispose of immovable or movable properties.

Although enumeration is adopted in many countries to describe the definition of ownership, several scholars believe this method not only confuses the boundaries between ownership and its functions, but also causes difficulties in understanding them. Currently, related references in the field demonstrate that the essence of ownership is the independent

possession of and deposition rights on the objects. The domestic scholar Liang (1998) argues that the results of ownership are the occupation, use, gains and disposition of the objects. However, these functions cannot constitute the ownership as it is completely undesirable to regard ownership and functions as the same. As the representative person of the property rights field, Zhang (1989) identifies three main types of property rights: rights of use, usufruct and assignment rights. However, ownership only exists in an abstract sense and, therefore, cannot be defined by enumeration .

For example, a dweller may be the owner or tenant of a house, even an unlawful possessor. Therefore, the ownership and property rights cannot be mentioned in the same breath because the use, gain and transfer of property rights are the same as previously mentioned. Thus, occupation, use and disposition rights shall be defined as ownership, rather than used to define the concept of ownership directly. Meanwhile, we can define the ownership in an abstract manner, i.e. the owner of the object will use the rights of disposition within the scope specified by the law. Therefore, we can conclude that the basic connotations of ownership include the following aspects: (1) the object is the basis for the existence of property rights; (2) the clarification of the relationships between the people and objects and the ownership of the object is also ownership; (3) the core of the ownership is derived from others, rather than from occupation, use, gains or disposition rights; (4) the owner possesses the property and, therefore, can use, occupy, dispose of and transfer it.

3.2.1.2 Control Rights Theory

In the middle of the 20th century, a description of human behaviour was proposed by Western scholars to elaborate on the control rights theory. The real world is full of uncertainty, and all the information at any time and any place is incomplete and asymmetric. The limited rationality of people caused by these reasons prevents them from foreseeing various situations after agreements are reached. In other words, even if people foresee certain contingent situations, they cannot include these situations in agreements so as to take timely measures to recover losses later. Therefore, incomplete agreements appear due to a number of subjective and objective factors, which also means that various defects and vulnerabilities had existed when the agreements were drawn up. Thus, the ownership of the rights to dispose assets should be clarified when agreements are defective or incomplete, that is to say, it is necessary to clarify the ownership of residual control rights.

Non-tradable share reform does not distinguish between ownership and control rights when the effects of majority shareholders of listed companies are studied. The reform holds

that asset owners naturally have residual control rights. Yang (2002) believes that it is only suitable for classic capitalist enterprises in which owners and managers become one. Zhang (1996, 2003) argues that enterprise ownership is divided into residual claim and residual control rights, where the former refers to the rights to claim the residual equity after the enterprise revenue is deducted by all the fixed contract payments and to the decision-making rights to activities not specified in agreements. Other scholars think that for listed companies, residual claim rights should correspond to control rights and be arranged reasonably. In modern enterprises, ownership is separated from control rights in a narrow sense, and can be regarded as the income rights required by enterprise shareholders based on their share proportions. Ownership is also referred to as cash flow rights or residual claim.

The other kind of residual control rights is decision-making rights not specified in agreements; no special provisions exist for such specified activities. At present, the classification of residual claim and control rights in listed companies typically refers to the 'Separation of Two Rights'. This thesis investigates the enterprise owner's governable ownership and, based on the theories of property, ownership and control rights, concludes that the separation of residual claim and control rights is caused by the three characteristics of property rights examined from different angles, which further produces principal–agent problems in listed companies.

3.2.2Principal–Agent Theory - Theoretical Origin of the Tunnelling Behaviour of Majority Shareholders

The principal-agent theory is a branch of enterprise theory that was gradually formed with the development of enterprises. Such development underwent three stages, namely, owner system, partnership and corporate enterprise. At the third stage, corporate enterprises are the basic forms of modern enterprises, and are mainly divided into joint stock limited companies and limited liability companies. The control rights of enterprises are controlled by operators and shareholders controlling the residual claim; thus, their interests are in conflict. Given that human beings are assumed to be rational, conflicts will inevitably exist. Therefore, a principal–agent relationship is produced to solve these conflicts. As a result, studies began examining how to design an effective contractual relationship only existing between principals and agents and minimising costs. The principal–agent theory was first put forward by property rights economists Jensen and Meckling in 1976. Actions specified in agreements that shall be taken by agents for the interests of principals are the contents of agreements.

Thus, the relationship between principals and agents can be considered as a contractual relation, and the principals and agents fulfil their own rights and responsibilities. Certainly, the target function of agents is different from that of principals, and their expected benefits are also different. Hence, how to properly handle the contractual relation between them is still a question; nevertheless, the primary cause is the Separation of Two Rights.

Based on the questions stated above, numerous problems are raised by the Separation of Two Rights, but the main problems are asymmetric information and incomplete agreements. First, with regard to asymmetric information, both parties are not informed when they make deals and are not aware of each other's information related to the deals, a situation that causes unfair trades. Second, concerning incomplete contract, the relationship between principal and agent is an unreasonable contractual relation. Thus, transaction costs are incurred at the same time the agreements are made and both parties pay the costs but fail to control their own behaviours, which directly results in the incompleteness of agreements finally caused by bounded rationality and transaction costs.

3.2.2.1 Principal–Agent Behaviours Among Shareholders

In accordance with the above research and analysis of the principal–agent theory, the relationship between the principal and the agent is essentially a contractual relationship that results from the asymmetric information condition. For the traditional principal–agent relationship mainly based on a capitalism market with decentralised equity, the relationship between the principal and the agent is a relationship between all the shareholders and the operator. The principal–agent relationship, in addition to the capitalism market with decentralised equity, further exists among other organisations. A principal–agent relationship also mainly exists between the shareholders of the enterprise in a relatively centralised market environment.

In the 1990s, research focused on the field transfer from the market with decentralised equity to the principal–agent relationship with centralised equity. In a sense, the relatively centralised equity is not only helpful for the proprietor to supervise the enterprise operators, but is also capable of relieving some principal-agent problems. However, moral hazards cannot be effectively avoided, and numerous interest conflicts are present among the majority and monitory shareholders. Although the supporting behaviours of majority shareholders are behaviours by which the enterprise supervises the operators to actively and effectively improve enterprise performance and to encourage the enterprise staffs, the interest transferring behaviours of Chinese majority shareholders and the tunnelling behaviours of the

shareholders are corresponding. When a listed company has financial difficulty and falls to a financial crisis, the majority shareholders can take measures, including reorganisation of the corporate assets, support application to the government and so on, to help the company solve the difficulties. Therefore, aside from the difficulties of the company being resolved, fresh resources can be introduced to the company. Through the research, scholars such as Liu (2004) and Zhang and Zeng (2006) indicate that for the majority shareholders of a company, the ultimate purpose of using the control power is not to sustain the performance level of the company, but to strive for interests with the minority shareholders and use various means to obtain additional interests. Simultaneously, majority shareholders may take several means similar to the supporting behaviours to prevent the company from falling to a financial crisis so that its subsidiary companies do not close down, allowing the shareholders to obtain more personal interests. If the majority shareholders insist on taking unlawful means to obtain interests, the entire performance level of the company and the interests of the minority shareholders can also be damaged, which may intensify the conflict of interests between the minority shareholders to prevent the company from developing under a stable environment.

Given that the equities of listed companies in China are relatively or highly centralised in majority shareholders, the problem between majority and minority shareholders are highlighted. Although many majority shareholders possess most of the equity of a company, they do not help supervise the managers of the company, but usually deprive the interests of the minority shareholders and cause confusion to company governance. Many listed companies in China have equities centralised in the majority shareholders. Although majority shareholders seemingly represent the interests of the company, they have control power and decision power over the board of directors of the company. If the majority shareholders only consider their personal interests, the corporate operators may suffer severe consequences. Generally, although the equity of a listed company in China is highly centralised in certain majority shareholders who also perform their functions of supervising the operators, they also need to pay the cost while performing their duties. Therefore, the listed company needs to adopt a rational way to make up for the cost paid by the majority shareholders during their supervising function performance, as well as to protect the interests of the small and medium investors from being damaged. Certainly, small and medium investors can also take corresponding measures to protect their interests when they are invaded by majority shareholders, such as by seeking legal protection or agent. Once the interests of small and medium investors are effectively protected, they will actively cooperate with majority

shareholders to supervise operators and complete supervision duties to improve the performance level of the company.

The survey result of a university corporate governance research group (2004) presented several interesting findings. First, the average index number of majority shareholders' behaviours is 53.70, wherein the index numbers of two companies reach 80 to 90, and the index numbers of 44 companies reach 70 to 80. Second, the average index number of board governance is 43.4, which is the lowest among all governance elements and differs greatly among listed companies. Only seven companies (i.e. 0.75% of all of the companies) have board governance index numbers from 70 to 80; 73.58% of the listed companies have board governance index numbers lower than 50. These findings indicate that the board of directors of a listed company in China needs to be strengthened and improved. Thus, the behaviours of majority shareholders of Chinese listed companies have very strong negative externality. The index number of related transactions also directly indicates that listed companies in China have the trend of abusing related transactions.

The analysis of the aforementioned survey results shows that the agency problem of the shareholders of a current listed company in China is relatively severe, and the interests of small and medium investors are invaded by the majority shareholders of the controlled company. Hence, the interests of small and medium investors are determined by various majority shareholders' behaviours to control the listed company. To reach a balance on the relationship between majority shareholders and small and medium investors, the perception of the opposite party should be considered so that a win–win situation can be achieved. Simultaneously, when the majority shareholders with centralised shareholding rights make a decision, they should consider the interests of the small and medium investors to bring the active role of the majority shareholders' control into full play. This may reduce the invasion to the interests of the small and medium investors and maximise the interests of the listed company. The capital market is a very important game process, in which all of us should continuously invest to obtain continuous interests. Moreover, the small and medium investors must be good at uniting the holders of scattered funds in the society to protect their interests, bring their rights to the listed company into full play and perform their duties well to improve the performance level of the company and protect their interests.

3.2.2.2 Occurrence Mechanism of Majority Shareholders’ Agency Behaviour

The most basic condition of majority shareholders’ agency problems is the separation between control rights and cash flow rights of listed companies. Control rights are also called

voting rights while residual claimant rights enjoyed in accordance with shareholding ratio are called cash flow rights. Therefore, problems arise spontaneously about the agency problem lying in the separation between control rights and cash flow rights of majority shareholders. All of these problems concern the reasons that majority shareholders infringe on the interests of small and medium investors caused by the Separation of Two Rights. The scholars La Porta et al. (1999) present the following explanations regarding this question. They trace the cause of the source problem back to the majority shareholders who occupy the majority of company shares. According to their study, these majority shareholders are not only universal in listed companies, but also choose people related to them to serve as directors or managers; thus, the control rights greatly exceed the cash flow rights of these shareholders. Additionally, western scholars Bebchuk et al. (1999) put forward a phenomenon called 'Separation of Control Rights and Cash Flow Rights', which is caused by the inconsistency of control rights and cash flow interests possessed by ultimate majority shareholders. Under the background of the Separation of Two Rights, the majority shareholders occupying the majority of company shares always hope to attain the largest control rights of the listed company through the least investment. Therefore, these majority shareholders easily infringe on the interests of other small and medium investors for their own interests. This situation is relevant in various countries where the interests of small and medium investors lack legal protection.

Therefore, aside from the problem of managers' infringement in the relationship between principal and agent, the infringement problem of majority shareholders infringing on the interests of outside investors is present therein (Shleifer and Vishny, 1997). In the separation of control rights and cash flow rights, the latter is usually less than the former. Hence, majority shareholders aim to make control rights greater than cash flow rights through the Separation of Two Rights, so they can obtain the largest control rights through the least investment for their own interests. Therefore, majority shareholders who occupy the majority of shares in listed companies aspire to enjoy control rights. After enjoying the rights, they will maximise their own interests by taking a variety of legal or illegal actions. On a short-term view, the behaviour does meet the requirements of majority shareholders; however, in a long term, such behaviour not only infringes on the interests of the company, but also the interests of the majority shareholders. In other words, when the interests of the majority shareholders of listed companies are infringed, these majority shareholders will pay all costs to transfer the resources of the companies as their own, during which, they will ignore the interests of the small and medium investors. As time passes, the listed companies become the means through which majority shareholders infringe on the interests of small and medium investors.

Chapter 4: Tunnelling Behaviour Governance Changes of Chinese Listed Companies Before and After the Share Reform

To clarify the effects of share reform, Chapter 2 reviewed related literature on tunnelling behaviour governance mechanism. On one hand, this chapter presents a comprehensive analysis of governance mechanism changes related with tunnelling control laws and regulations, shareholding structure, market for corporate control, board of directors and so on before and after share reform. On the other hand, this chapter analyses the relationship between share reform and governance mechanism changes. The significance of this chapter lies in inspecting the changes of governance mechanism independently, while also playing the role of linking the preceding sections with the succeeding sections of this study. If another governance mechanism strengthens and restrains tunnelling behaviour at the same period, Chapter 5 will consider these factors when inspecting the influence of share reform on majority shareholders' tunnelling behaviour and testing the effects of share reform.

4.1 Legal System Changes

The legal protection of investors consists of two aspects: investor protection laws and their quality of enforcement. La Porta et al. (1998) emphasise that effective law enforcement outweighs the weak laws and regulations themselves. We not only need to analyze whether the related legislation becomes complete after share reform, but also need to check whether the implementation of these legislation are strengthened.

4.1.1 Related Laws and Regulation Changes of Tunnelling Behavior Before and After the Share Reform

Company law, securities law and other laws related to tunnelling behaviour went through a process of perfection before and after the share reform. At the prime time of the share reform in January 2006, the revised company law and securities law were put into effect. Many laws cover tunnelling behaviour governance, such as company law, securities law and bankruptcy law. They all have regulations about information for listed companies. However, this study cannot analyse and discuss all regulations. Therefore, we focus on important

regulations as examples to show that the related regulation changes before and after the share reform.

(1) Cumulative voting

The shareholders' cumulative voting system was added to new company law. Article 106 of the new company law states that according to the bylaw of the company or the decision from the shareholders' meeting, a cumulative voting system can be practiced during the election of the director and supervisors on the basis of old company law, which is 'each share holds a voting rights when shareholders vote at the shareholders' meeting'.

Cumulative voting system aims to prevent controlling shareholders from manipulating the candidates of directors and supervisors and is intended to balance the interests among small, medium and large shareholders. The voting system can improve the situation where large shareholders control shareholders' meetings and the board of directors. To a certain extent, the system helps medium and small shareholders because they can use their own voting rights and select responsible directors or supervisors as well as make the structure of the board of directors and supervisors more reasonable. It is only a 'possibly carried out' cumulative voting system, and it adds the possibility of protecting the interests of medium and small shareholders.

(2) Extraordinary general meeting rights

Articles 41 and 102 of the new company law state that when the board of directors or the board of supervisors does not or cannot convene and preside over a temporary shareholder meeting, the shareholders representing one over ten or more of the voting rights (or those who individually hold share rights totalling more than 10% of the shareholder shares for more than 90 days) can gather and preside over the meeting.

The old 'company law' requirements of the general assembly of shareholders initiated the minimum requirement of '1/4', but such pertains only to 'proposal', and not 'held' or 'to hold'. This shows that shareholders, especially medium and small shareholders, gain more rights to hold temporary shareholders' meetings. Shareholders have their own rights to hold a meeting independently. They can supervise the board of directors and supervisors through shareholders' meeting and protect their own rights.

(3) Compression minority shareholders mechanism

Compression minority shareholders mechanism refers to minority shareholders challenging the decisions of the board of directors and supervisors. For example, minority

shareholders can challenge the board to the court or require the company to retake the stock rights when they object to important decisions. The new company law added shareholders' representative litigation, which refers to the situation when the legitimate interests of a company are violated by others, especially by controlling shareholders, directors and managers, and the company refuses or is idle at exercising litigation rights. In such instances, shareholders have the rights in their own name to protect the interests of the company and to take proceedings to infringers and investigate for legal responsibility. This regulation makes up for the old company law and protects the interests of medium and small shareholders. Minority shareholders can protect their rights through laws and challenge the decision of the board of directors and supervisors through the court.

(4) Add shareholder proposal rights

Article 103 of the new company law states that shareholders, alone or combined, holding more than 3% of the shares can propose a temporary proposal and submit it to the board of directors in written form 10 days before the shareholders meeting. The board of directors should inform other shareholders within two days after receiving the proposal and send this temporary proposal to the general shareholders meeting for discussion.

The statement, "alone and combined holding 3% above shares" refers to the shareholders of limited companies; this provision implies that medium and small shareholders enjoy temporary proposal rights. Through the broadening of proposal rights, more shareholders can freely express their own opinions and suggestions regarding the future of the company through the general shareholders meeting. Furthermore, the functions of the general shareholders meeting are strengthened and the corporate governance structure is enhanced.

(5) Expand shareholders' right to know

In the old company law, shareholders only had the rights to look up the shareholders meeting record and financial report. However, Articles 34 and 98 of the new company law provide that shareholders of a limited liability company have the right to look up copies of the articles of association, meeting records, resolutions of the board of directors meeting, resolutions of the board of supervisors meeting, financial reports, and account books. Article 34 also provides that if a limited liability company refuses to provide consultation, its shareholders can request the people's court to ask the company to do so.

The right to know is the premise and methods of shareholders to use their rights. The expansion of shareholders' right to know can prompt the board of directors and supervisors to

expand the range of information disclosure as well as to reduce lack of visibility to operate and promote the supervision right of shareholders.

(6) Limit major shareholder rights

Following the principle of responsibilities, the new company law strengthens shareholder rights. It also strengthens the duties and responsibilities of controlling shareholders and actual controllers, which can further improve the connected transaction system. Articles 20 and 21 of the new company law provide that for a company's shareholders, especially controlling shareholders, actual controllers cannot abuse their rights. If shareholders' abuse of power results in loss for the company, they should bear liability of compensation according to the law. At the same time, Article 125 of the new company law specifies the withdrawal system of connected directors and related voting rules of listed companies. The said article defines the main subject and scope of related transactions as the company's controlling shareholders, actual controllers, directors, supervisors and senior managers. The new company law and new securities law have provisions on the key links of asset buying and selling, securities issue, information disclosure and acquisition. It also confirms the legal duty of controlling shareholders and actual controllers of listed companies, and their legal responsibilities in case of violation. The abovementioned rules regulate the unbridled behaviour of controlling shareholders and balance the interests among shareholder rights, creditor rights and social public interests, strengthening the protection of minority shareholders.

(7) Weaken chairman rights

The old company law sets the chairman as the company's legal representative. By comparison, the new company law states that, 'legal representative according to the articles of association of the company to be chairman, executive director or manager and cancels chairman's sign company stock, securities rights and part of the board of directors power during the recession'. The multiple choice setting for the qualification of legal representatives cancels the chairman's power and weakens the control rights of chairman. It also changes the inside power structure and strengthens the balance between powers.

(8) Add independent directors system

No independent director system was mentioned in the old company law. When China first introduced the independent directors system in 2001, the system only stayed in the first legislative level in the department regulations. However, Article 123 of the new company law provides that listed companies must establish an independent directors system. The identity of

the directors is independent; to a certain extent, it can promote the protection of the benefits of medium and small investors and reduce tunnelling behaviour.

(9) Reduce the constraints of acquisition

The new securities law made new regulations on listed company acquisition. Other acquisition styles can exist aside from tender offer. Agreed acquisition can also offer a clear definition of concerned parties, which increases the acquisition of listed companies and relaxes acquirer's obligations. This is good for the development of mergers and acquisitions and Chinese stock market controlling rights, and also prompts controlling market restraint tunnelling behaviour.

(10) Information disclosure emphasis

In 2007, CSRC officially issued the 'listed companies' information disclosure management method', which increases the information disclosure duties of directors, supervisors and senior managers. In the same year, Article 161 of the criminal law was amended; it states that 'if companies with information disclosure obligation, provide false or concealing important facts financial report, or do not disclose information when it should be disclosed and seriously harm the interests of shareholders or others, or other serious circumstance, the person who are directly in charge and other persons directly responsible will be sentenced to fixed-term imprisonment of no more than 3 years, criminal detention and a minimum of twenty thousand Yuan to a maximum of two hundred thousand Yuan fine.' Relative to the 161st stipulation of the original criminal law, 'if companies provide false or concealing important facts of financial report, and seriously harm the interests of shareholders or others, the person who are directly in charge and other persons directly responsible will be sentenced to fixed-term imprisonment of no more than 3 years, criminal detention and a minimum of twenty thousand Yuan to a maximum of two hundred thousand Yuan fine'. To prevent tunnelling behaviours, extending the scope and strengthening the responsibility of information disclosure are extremely necessary.

4.1.2 The Implementation of Tunnelling Behaviour Laws and Regulations Before and After the Share Reform

The improvement of laws and regulations may only stay on thesis. The implementation of laws and regulations has important significance on ensuring that tunnelling behaviour is effectively controlled. La Porta et al. (1998) point out that, 'strong legal regulations can replace the weak laws and regulations'. To determine whether the improvement of laws and

regulations are effective in controlling tunnelling behaviour with powerful execution before and after the share reform, the present study uses the violations of listed companies as an example.

Table 4- 1 Violations of listed companies from 2004 to 2010

Year	2004	2005	2006	2007	2008	2009	2010
Number	33	54	57	57	29	52	39

The number of violations committed by listed companies (mainly concerning information disclosure) from 2004 to 2010 is shown in Table 4-1. The number of violations has not markedly increased after the improvement of related laws and regulations. The violations mainly involve 'the management approach of information disclosure for listed companies' released in 2007. Two possible reasons can explain this situation. One is that the listed companies are afraid of strict laws, and thus their law-abiding degree on information disclosure has improved. The other is that the laws and regulations are not executed effectively. Some evidence suggests that the latter reason is more plausible. From the four-year correction of the criminal law on 161 cases, a case with criminal responsibility for information disclosure is non-existent. From April 2009 to April 2010, three companies were not listed. The companies applied for initial public offerings, but the shares did not go through the review of the Securities Issuance Examination Committee. These companies were Li Li Electronics, Suzhou Goldengreen and Holy Land. Among them, Suzhou Goldengreen was involved with a false statement of intellectual property rights. Holy Land was also involved with serious false statements of sales income and hiding of major situations such as related transactions. However, no company or personnel has admitted legal responsibility for these.

4.2 The Change of Market for Corporate Control

In general, corporate control is the main governance mechanism between shareholders and managers. If private benefits of control exist, the transfer of control means the loss of controlling shareholders' private benefits of control. Entrepreneurial activities are affected by their preferences. Entrepreneurs who prefer tunnelling will not place all their efforts and resources into management and marketing. Therefore, affected companies cannot take full advantage of company resources and potentials, which can result in the reduced value of the company. Tunnelling behaviour also reduces the value of a company directly and leads to share price decrease. Under full circulation, the falling share price offers opportunities for the

purchasers. The majority shareholders may restrain their tunnelling behaviour because they worry about losing the privacy benefits of control. The governance mechanism of tunnelling behaviour needs a developed market for corporate control.

Before the reform of equity division, non-tradable shares transact only through auction. The low level of equity liquidity limits the level of activity on market for corporate control. After the reform of equity division, non-tradable shares became tradable. Theoretically, liquidity of equity becomes better and the possibility of transfer control increases. The market for cooperate control should be more active than before. Therefore, the control of tunnelling behaviour should be stricter.

The statistics on the change of the largest shareholders in Chinese listed companies from 2003 to 2010 are presented in Table 4-2. These statistics are unable to rule out the situation that same majority shareholders possess control before and after changes. An overestimation on the rate may explain the change of actual controller. Nevertheless, the statistics can still reflect the status of Chinese listed companies in the market for cooperate control. In Table 4-2, the total count of Chinese listed companies increased from 1,210 to 2,122 from 2003 to 2010. Meanwhile, the number of companies with change in the annual largest shareholders only increased from 60 to 71, and the rate of annual change of the largest shareholders declined from 4.96% to 3.35%. Hence, instead of expansion, the market for corporate control of Chinese listed companies is in an atrophy condition compared to that before the reform of equity division.

Considering the situation of the change of largest shareholders, the most active era of market for corporate control began in 2006 and 2007, referred to as the high tide of reform of equity division. This is chiefly because listed companies with difficulties in management carry out assets reorganisation hastily to finish the reform of equity division, leading to the substantial change of the largest shareholders.

Table 4- 2 Status of control right change from 2003 to 2010

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Number of companies with the change of the largest shareholders	60	68	52	100	94	68	77	71
Total number of listed companies	1210	1308	1329	1428	1546	1607	1798	2122
Rate of the largest shareholders change	4.96%	5.20%	3.91%	7.00%	6.08%	4.23%	4.28%	3.35%

Two major causes exist why there was no market boom for corporate control after the reform of equity division. First, the scheme of reform of equity division led to difficulties in

transferring control rights in a short duration. Second, the regulation on stock-selling against the state-owned shares after the reform of equity division limits the transformation of control rights.

Article 27 of the Administrative Regulation on the Chinese Spilt-share Structures Reform of Listed Company, which was issued in 2005, states that, '(1) The original non-tradable shares will not be listed and traded or transferred for a period of at least 12 months from the date on which the reform scheme goes into affect. (2) Shareholders, who take more than 5% original non-tradable shares of listed company, could sell the original non-tradable shares through listed transaction in the Stock Exchange. The rate of transactions against the total shares of the company should not exceed 5% for a period of at least 12 months, and should not exceed 10% for a period of at least 24 months'. Article 28 of the same Regulation provides that, 'The shareholders of original non-tradable shares could adopt methods of allocation to target investors if the number of shares they hold is too large'. Many listed companies even promised not to reduce the original non-tradable shares for a period of at least three years to ensure that the reform of equity division scheme is adopted by holders of tradable shares. If a company executes the reform of equity division by the end of 2006, the promise not to reduce for a period of at least three years will not allow transfers on a large scale until 2010.

Moreover, given that most Chinese listed companies are state-owned, the government does not want to lose the shareholding authority of listed companies at present. The other realistic reason is, for the large number of released shares in reform of equity-division, the government was worried that the wave of selling stock caused by the alternation of control right will hurt the stability of the stock market and even lead to stock disaster. The Administrative Regulation on the Alternation of State-owned Shares of Listed Companies issued by the Committee of State-owned Property Management in 2007 provided that state-owned holding companies should not lose state-owned holding authority. For the companies with a share capital of less than 1 billion shares, the reduction autonomy authority of enterprise states that 'the reduction of shares should not exceed 5% of total shares for a period at least 3 years'. For companies with a share capital of more than 1 billion shares, the reduction autonomy authority of enterprise states that it 'should not exceed 50 million shares for one reduction. For such companies the reduction of shares should not exceed 3% of total shares for a period at least 3 years'. The stock transformation of state-owned shareholding companies is also less strict. It follows a one-year period instead of a three-year period. The

reduction of state-owned shares out of the above conditions needs the approval of the state property department. It places heavier shackles on large-scale stock transformation than the Administrative Regulation on the Chinese Spilt-share Structure Reform of Listed Company and makes the market for corporate control of the Chinese stock market difficult to develop several years after 2010, which is detrimental to the control of tunnelling behaviour.

4.3 Changes of Ownership Structure

The managerial function of the ownership structure is mainly about the influences on management by the shareholding ratio of the largest shareholder and the ownership concentration. Under the circumstance of imperfect internal and external corporate governance, tunnelling ability becomes the key factor determining the implementation of tunnelling behaviour. Tunnelling ability is determined by the shareholding ratio of the first largest shareholder; the counterbalance function of other majority shareholders can effectively restrict such tunnelling behaviour. One of the purposes of share reform is simply to make the equity structure more reasonable, indicating its importance. The following part further analyses the change of the largest shareholder's shareholding ratio and ownership concentration.

4.3.1 Changes of Ownership Structure after Stock Market Reform

In stock market reform, the consideration scheme is that non-tradable shares should pay the tradable ones so that the shareholding ratio of dominant shareholders and ownership concentration will decrease[①]. Moreover, the reduction of non-traders after stock market reform will further reduce the ownership concentration to a larger degree. The results of applying the statistic from CSMAR database to testify the ownership structure of 2004 and 2010 in paired T-test are presented in Table 4-3.

In Table 4-3, the results for 2004 and 2010 correspond to the ownership structure before and after the share reform respectively. The results in Table 4-3 indicate that the shareholding ratios of the largest, the top two largest, the top three largest and the top four largest shareholders all decrease after share reform. These decreases are all significant at the

[①]Generally, the share reform sets the bonus stock at 30%. We can infer that the shareholding ratio of circulation stocks is 30% more than that before the reform. For example, the shareholding ratio of circulation stocks of one company is 40%, and under the new policy, it should be 40%* (1+30%)=42%. Meanwhile, the shareholding ratio of non-tradable stocks changes from 60% to 58% because of the share reform. Shareholding ratio and ownership concentration will decrease accordingly with the change of policy.

confidence level of 1%. Such a finding suggests that the ownership structure displays an obvious trend of decentralisation. In 2004, the shareholding ratio of the largest shareholder was 43.0%, but became 23.6% in 2010 with a decrease of nearly 50%. Similarly, the sum of the shareholding ratios of the top two, the top three and the top four largest shareholders also decreased by nearly 50%.

Table 4- 3 Paired T-test of ownership structure in 2004 and 2010

		Mean value	**Paired mean difference**	**t**	**Sig. (2-tailed)**
Pair 1	Shareholdings of the first majority shareholder (2004)	43.0218	19.4600	35.569	0.0000
	Shareholdings of the first majority shareholder (2010)	23.5618			
Pair 2	Shareholdings of the first two majority shareholders (2004)	55.9440	25.8524	45.750	0.0000
	Shareholdings of the first two majority shareholders (2010)	30.0916			
Pair 3	Shareholdings of the first three majority shareholders (2004)	59.0589	26.8241	47.152	0.0000
	Shareholdings of the first three majority shareholders (2010)	32.2347			
Pair 4	Shareholdings of the first four majority shareholders (2004)	61.4900	26.4302	45.694	0.0000
	Shareholdings of the first four majority shareholders (2010)	35.0598			

In Table 4-3, the results for 2004 and 2010 correspond to the ownership structure before and after the share reform respectively. The results in Table 4-3 indicate that the shareholding ratios of the largest, the top two largest, the top three largest and the top four largest shareholders all decrease after share reform. These decreases are all significant at the confidence level of 1%. Such a finding suggests that the ownership structure displays an obvious trend of decentralisation. In 2004, the shareholding ratio of the largest shareholder was 43.0%, but became 23.6% in 2010 with a decrease of nearly 50%. Similarly, the sum of the shareholding ratios of the top two, the top three and the top four largest shareholders also decreased by nearly 50%.

Figure 4-1 shows the yearly shareholding ratios of the largest shareholder, the top two largest, the top three largest and the top four largest shareholders before and after the share reform. The shareholding ratios of majority shareholders decrease every year, especially in the upsurge of share reform (2006 and 2007); the decreasing ranges are the largest. This is because in these two years, the number of passed share reform cases is the largest, and thus, the shareholding ratios of majority shareholders decrease due to their stock donation.

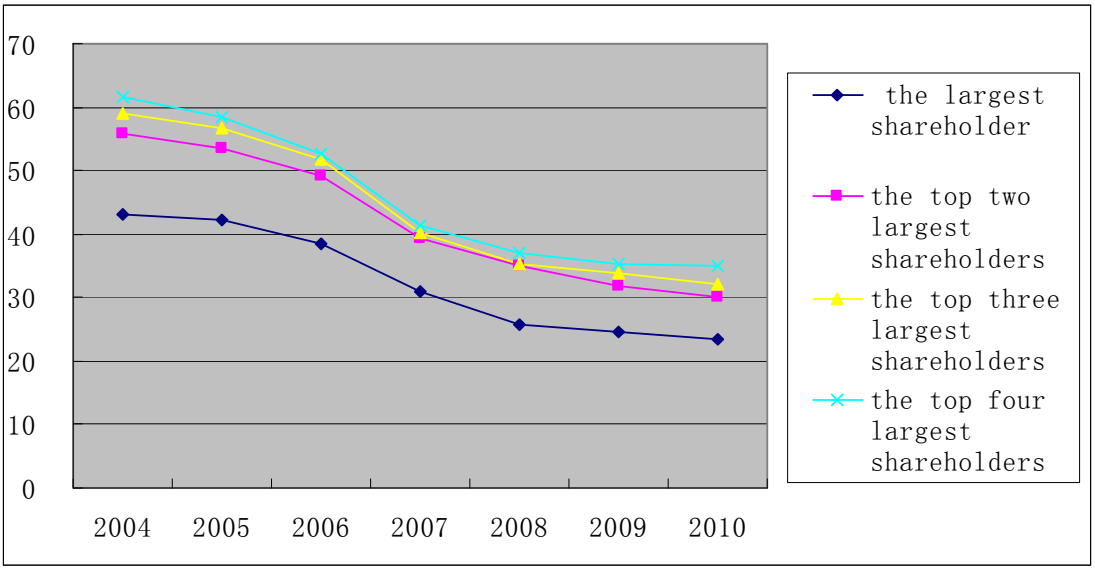

Figure 4- 1 Changes in the shareholding ratios of majority shareholders from 2004 to 2010

The gap of the shareholding ratios among the top largest shareholders indicates a reducing trend. Taking the difference between the largest and the second largest shareholders as an example, in 2004, the average shareholding ratio of the largest shareholder is 43.0218%, whereas that of the second, third and fourth largest shareholders is 18.4682%, a difference of 24.5536%. However, in 2010, this difference decreased to 12.0638%, implying that the ability of other majority shareholders to counterbalance the largest shareholder is enhanced.

4.3.2 Change in Ownership Concentration Before and After the Share Reform

Herfindah Index is the sum of the squares of the shareholding ratios. A higher Herfindah Index corresponds to a more concentrated ownership and weaker counterbalance ability. Consistent with the change in ownership structure, the Herfindah Index also significantly decreases after share reform, implying that the ownership counterbalance mechanism is improved. The results in Table 4-4 show that in 2004, the Herfindah Index of the top three largest shareholders is 0.2323, which decreases to 0.094 in 2010. The Herfindah Indices of the top five and the top ten shareholders also decrease with similar degree.

Table 4- 4 Results of the T-test on ownership concentration for pair-sample from 2004 to 2010

		Mean value	Paired mean difference	t	Sig. (2-tailed)
Pair 1	Herfindahl_3 index (2004)	0.23234920	0.138849158	36.928	0.0000
	Herfindahl_3 index (2010)	0.09350004			
Pair 2	Herfindahl_5 index (2004)	0.23361269	0.139684837	37.359	0.0000
	Herfindahl_5 index (2010)	0.09392785			
Pair 3	Herfindahl_10 index (2004)	0.23393269	0.139729420	37.411	0.0000
	Herfindahl_10 index (2010)	0.09420327			

4.4 Changes on Institutional Investors

Institutional investors, whose shareholding ratios are higher than medium and small shareholders, have more initiatives to monitor the behaviour of majority shareholders. Moreover, the shareholding ratios of institutional investors are higher and their voting power is stronger. Institutional investors also have more information channels and research abilities, and are thus able to accurately identify whether their benefit is occupied and to decide the proper strategy. Therefore, institutional investors have more sufficient motivations and conditions to prevent tunnelling behaviours.

4.4.1 Development of Chinese Institutional Investors

When the Chinese stock market was first established, it was composed mainly of individual investors and hardly any institutional investors[①]. After 1996, a large amount of security, trust and investment companies were established, and institutional investors began to appear. A series of policies and laws supporting the institutional investors has been implemented by the government since then. In 1997, the Provisional Measures on Administration of Securities Investment Funds was promulgated by the Securities Committee of the State Council. In 2000, China Securities Regulatory Commission (CSRC) adopted extra-regular and creative means as an important policy to cultivate and develop institutional investors to promote the development of the Chinese securities market. In 2001, the Trust Law and the Provisional Measures on Administration of Social Security Fund Investment were promulgated. In 2002, the Insurance Law was modified and the Provisional Measures on Administration of Domestic Securities Investments of Qualified Foreign Institutional Investors was promulgated. In 2003, the Law of Chinese Security Investment Funds and the Provisional Measures on Administration of Domestic Securities Investments in Foreign Exchange of Qualified Foreign Institutional Investors were promulgated to support the development of institutional investors through policies and laws. On October 25, 2004, the China Insurance Supervisory Committee (CISC) with the CSRC officially issued the Provisional Measures on Administration of Stock Investment of Institutional Investors of

[①]The term ‘institutional investor’ has a narrow and a wide definition. Generally, an institutional investor, in a wide definition, includes not only all kinds of securities intermediate agencies, securities investment funds (investment companies), pension funds, social security funds and insurance companies, but also all kinds of private donation funds, social charities and even churches or religious organisations. An institutional investor, in a narrow definition, includes securities intermediate agencies, securities investment funds (investment companies), pension funds, social security funds and insurance companies. In this study, the narrow definition of institutional investor is used.

Insurance by the authorisation of the State Council, which allowed insurance institutional investors to invest directly in the stock market under strict supervision. On February 16, 2005, the CISC and CSRC issued 'Announcement on stock investment and exchange of insurance institutional investors' and 'Business guide for registering and settling of stock investment of insurance institutional Investors'; the direct entrance of insurance fund into the market was in the practical procession. On September 1, 2006, the Provisional Measures on Administration of Domestic Securities Investments of Qualified Foreign Institutional Investors was implemented. Considering such system changes, Chinese institutional investors experienced a rapid development period before the share reform.

4.4.2 Development of Chinese Institutional Investors Before and After the Share Reform

With the relaxing of entry policy, institutional investors in Chinese stock markets continuously increase. Table 4-5 chooses broker, trust and investment companies, as well as qualified foreign institutional investors (QFII) and financial firms as the delegates of the increasing institutional investors. The results in Table 4-5 show that the speed of increase of QFII and financial firms are the largest. The rapid increase of QFII is attributable to the fact that in China, the QFII policies became effective in 2003; at the beginning, only 13 QFII existed. The number of financial firms increased from 33 to 103, which is mainly due to the rapid economic development in China; thus, the sizes of many firms became larger and their financial sense improved, which generated an increasing number of financial firms. The change in the number of insurance companies is in the median, that is, an increase from 76 to 156. The increases of broker, trust and investment companies are relatively smaller, though the actual investment ability of broker companies is highly strengthened and their number does not change considerably.

Table 4- 5 Changes in the number of institutional investors from 2004 to 2010

	Broker	**QFII**	**Trust and investment company**	**Financial firm**	**Insurance company**
2004	86	12	60	33	76
2010	106	106	71	103	156
speed of increase	23.26%	783.33%	18.33%	212.12%	105.26%

Data resource: Wan-de Database

As seen from the share proportion of institutional investors in Table 4-6, the sizes of institutional investors of listed companies in China increased every year from 2004 to 2010, and the average share proportion rose from 8.44% in 2004 to 41.53% in 2010, an approximate

increase of four times in six years. Institutional investors developed faster than this statistic, considering the change of stock price and equity expansion[①].

Table 4- 6 Average Share Proportion of Institutional Investors 2004–2010 (Unit: %)

Year	2004	2005	2006	2007	2008	2009	2010
Average share proportion of institutional investors	8.44	9.93	13.70	21.26	25.48	37.58	41.53

From: Wan-de Database

Given that the shareholding ratio of institutional investors is relatively larger, their voting by feet will bring stronger shock to stock prices and their voting by hands will have more voting power. When their benefits are occupied, the attitude and behaviour of institutional investors can bring greater influence on majority shareholders. Thus, institutional investors, as the representatives of median and small shareholders, have more obvious restricting function on the tunnelling behaviour of majority shareholders. The rapid development of institutional investors after share reform also has a positive effect on the restriction of tunnelling behaviour.

4.5 Changes in Board Governance Before and After the Share Reform

The governance function of the board of directors is mainly determined by its structure and the enthusiasm of the independent directors who take part in the decision making. The structure of the board of directors has two features: the number of directors in the board of directors and the ratio of independent directors. The enthusiasm of independent directors mainly includes their initiative to attend conferences and to make decisions. In this study, the former is measured by the ratio of entrust attendance and absent ratios, and the latter is evaluated based on the information of independent directors who give their independent advice.

4.5.1 Changes in Structure of the Board of Directors

Changes in the board structure are shown in Figure 4-2. In 2004, the average number of members in a board for Chinese listed companies was 9.705. This number consistently dropped since then. It was down to 9.078 by 2010. Generally, as Lipton and Lorsch (1992) assert, the ideal number of board members is eight or nine, and the maximum is ten. When the number of board members is more than 10, the costs resulting from coordination and

① On December 31, 2004, the Shanghai stock index was 1266.05, whereas on December 31, 2010, it was 2808.08. Meanwhile, many sample companies adopted allotment of shares or issuance of new stock and such equity expansions.

communication will be greater than the benefits from the increasing number; thus, the board will be less efficient and will be easily controlled by insiders. By contrast, Jensen (1993) reports that if the number of board members is more than seven or eight, the board cannot work well. Although the number of board members in Chinese listed companies has not reached the standards proposed by Jensen (1993), it shows that the trend before and after the share reform is closer to the optimal number limit posed by Lipton and Lorsch (1992). Taking the establishment of their conclusions as the prerequisite, we can deduce that the changing trend of board size will benefit the coordination and communication among board members, and strengthen the control of insiders, thus controlling tunnelling behaviour.

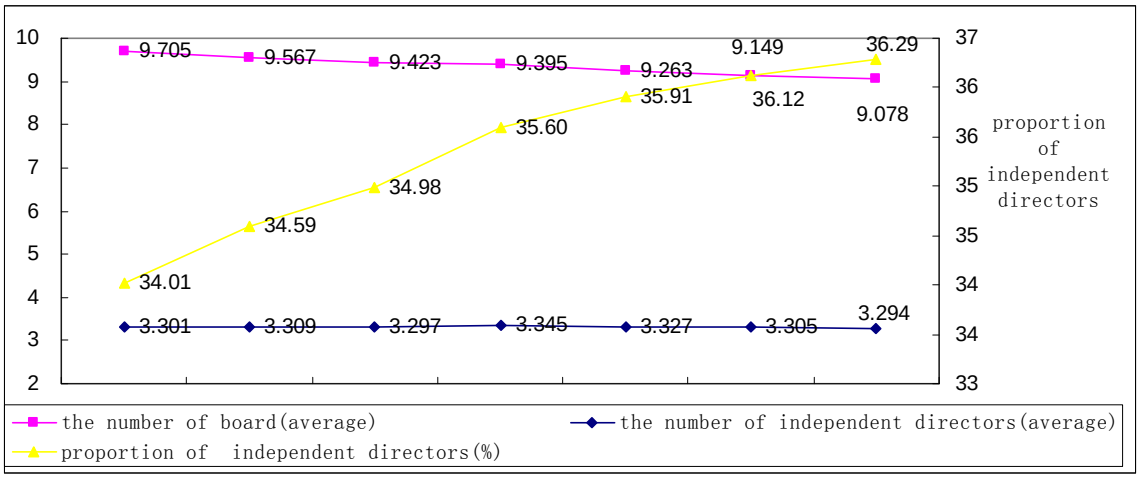

Figure 4- 2 Changes in board structure from 2004 to 2010

The trend of proportion of independent directors in the board of directors continuously increases every year[①]. The ratio rose from 34.01% in 2004 to 36.29% in 2010. Independent directors played a constructive supervision role (Fama, 1980; Fama and Jensen, 1983; Byrd and Hickman, 1992; Fields and Key, 2003). The present study regards the rising share of independent directors as a positive signal to control tunnelling behaviour.

The ratio of independent directors increases, but the ratio is still too low. Although the ratio of independent directors reaches 36.29% in 2010, it is far lower than that in the USA.

① The average number of independent directors has dropped from 2004 to 2010. One main cause could be the existence of a large number of small- and medium-sized listed companies, which appeared after the launch of the small and medium plate in 2005 and the Growth Enterprise Market in 2009. For small- and medium-sized companies, the size of the board does not need to be large; meeting the bottom line requirements of three independent directors is sufficient. Thus, the average number of independent directors naturally dropped. The total number of the board has also reduced; hence, the share of independent directors in the board can reflect the changes of company governance for the better.

The governance function of independent directors is much better in the USA, where the ratio of independent directors reaches 62%. However, in Chinese listed companies, the low ratios of independent directors in the board of directors imply that the advice of independent directors cannot bring significant function. Although the independent directors keep their independence and actively take part in decision making, their restriction to majority shareholders is still limited.

4.5.2 Changes in Independent Director Participation

Based on Figure 4-3, in 2004, the proportion of entrusting others to attend the board meeting is 7.9% and the absenteeism rate is 3.42%. Summing up the two figures, the attendance rate of independent directors is less than 90%. The in-person-attendance rate of independent directors has increased year by year. In 2010, the proportion of entrusting attendance declined to 3.33% and the absenteeism rate declined to 0.29%, indicating that the attendance rate of independent directors increased to 96.38%. This means that an independent director can acquire more related information and promptly express more binding opinions about proposals concerned with tunnelling behaviours. This is an important representation of the improvement of participating enthusiasm of independent directors.

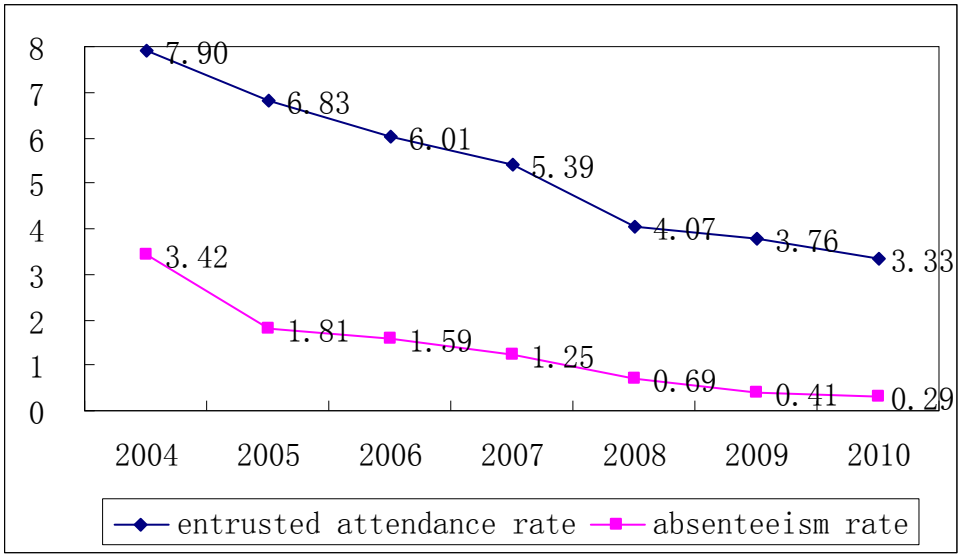

Figure 4- 3 Absenteeism rate of independent directors (2004 to 2010)

As shown in Table 4-7, in the early time of the independent director system (2004), few proposals were independently made by independent directors. However, things have changed since 2005. Independent directors have started to make more independent proposals concerning the listed company. Nevertheless, most of these proposals are approvals. The highest proportion of disagreement never reaches 2%. Owing to the impact of stock right

division, more disagreements aroused, contributing to a relatively higher proportion in 2006 and 2007. If this special factor is not taken into consideration, the proportion sharply drops below 0.2%, manifesting the inadequate independence of independent directors in Chinese listed companies. This reflects that the independence of independent directors in Chinese listed companies is insufficient, despite the higher attendance ratio, and their advices are usually in adhesion. The features of 'vase director' are relatively obvious; they hardly actually give the voices of their own as an independent third-party. Although independent directors are becoming more active in attending the meeting, their independence and right of supervision are not fully achieved.

Aside from their low ratio in the board of directors, the insufficient enthusiasm of independent directors who take part in decision making is caused by their lack of independence. In China, independent directors are usually recommended by majority shareholders, and thus have tight relation with the latter. In China, human relationship is so important all over the society that disagreement with the suggestion of the majority shareholders may be considered as non-benevolence; thus, independent directors face great pressure. More importantly, in China, being an independent director is always viewed as a chance to earn, which is given by majority shareholders. Considering the related benefit, an independent director will not give advice that is inconsistent with that of the majority shareholders; hence, they lack independence and become the vassal of majority shareholders.

Table 4- 7 Proposals independently made by independent directors (2004 to 2010)

	Times of board meeting	**Times of casting proposal**	**Times of disagreement**	**Proportion of casting proposal**	**Proportion of disagreement**
2004	10096	156	1	1.545%	0.010%
2005	10299	1477	38	14.341%	0.369%
2006	11695	3205	177	27.405%	1.513%
2007	15042	3450	261	22.936%	1.735%
2008	15609	4443	15	28.464%	0.096%
2009	14775	4579	16	30.992%	0.108%
2010	18590	4287	36	23.061%	0.194%

Changes caused by the implementation of the stock market reform show that the scale of the board of directors has been properly readjusted. The proportion of independent directors has increased and their participating enthusiasm has been aroused, but their independence has not been fully gained. Generally, the management of the board of directors is on a more effective trend, which may relate to the altered motivation of principal shareholders. After the

improvement of better-performance motivation, majority shareholders initiatively strive to readjust the scale of the board of directors and look forward to a greater participation from the independent directors in the decision-making process to guarantee its quality. When the entire management environment is deficient, ensuring that the independent directors can be fully independent while expressing their own views is difficult.

4.6 Chapter Conclusion

The stock market reform will contribute to control tunnelling behaviours. Based on this prerequisite and the research conducted, the present study finds that related laws and regulations on tunnelling behaviours are improved but not effectively enforced. The market for corporate control is not well developed. Moreover, the altered ownership structure is favourable towards tunnelling control, the rapid development of institutional investors will contribute to tunnelling control and the board of directors is more inclined to control the tunnelling behaviours. In the altered management mechanism, the modification of the ownership structure is closely related to stock market reform; the readjustment of the board of directors is related to motivation stirred by the reform. However, the increasing number of institutional investors and the improvement of laws and regulations are irrelevant to the reform. The market of corporate control does not maintain a good momentum of development as expected. As a result, we should control the influences of these obvious changed factors in the following examination of the effect of share reform on tunnelling.

Chapter 5: Changes in Related Transactions of Chinese Listed Companies Before and After the Share Reform

Measuring tunnelling behaviour is an important research question for this study to understand the influence of share reform on tunnelling behaviour exhibited by majority shareholders. Based on the classification of Cheung et al. (2006), direct and indirect methods can be used to measure tunnelling behaviour. Indirect methods such as separation of control right and cash flow premium of large equity trading are often used in research related to developed countries. However, both direct and indirect methods are used by Chinese academicians, especially the direct method of tunnelling behaviour characterised by related transactions. Related transactions always go with serious tunnelling behaviour. However, domestic studies often use only one kind of related transactions to reflect tunnelling behaviour. To provide a complete study of the change of tunnelling behaviour before and after the situation, the analysis of this study focuses on several factors, including the types of transactions and resources expropriated by related parties.

5.1 Implications of Related transactions

5.1.1 Concept and Classification of Related transactions

Related transactions refer to the transfer of resources, services, or obligations among related parties, regardless of whether a price is charged or not[①]. In this study, related parties means 'in the corporate financial and operational decision-making strategies, one party with strong ability would be in charge, jointly controlling or exerting a significant influence on another party; or two or more parties under the control of the same party'[②].

In China, a detailed listing mode is commonly used to define the related party of listed companies. The related parties of listed companies include related legal parties, related natural parties and potential related parties. A provision in Shenzhen Stock Exchange Listing Rules (2006 Amendment) states that related parties include: (1) a legal party who directly or

① Accounting principle No.36—related parties disclosure, 2006.2
② The disclosure of enterprise accounting principle—related parties relationship and transaction release, 1997, Finance Ministry of P.R.C

indirectly controls listed companies, as well as controlled by an enterprise with the listed companies (including but not limited to parent companies, subsidiaries and subsidiaries controlled by the same parent company with the listed companies); (2) companies controlled by the related party–natural party directly or indirectly. The related natural party includes: (a) individual shareholders who hold more than 5% of listed company shares; (b) directors, supervisors and senior management of listed companies; and (c) relatives of people listed above, including their parents, spouses, siblings, children aged 18 years and above and spouse's parents, children, spouse and the spouse's brothers and sisters. A potential related party refers to the party who signed an agreement or made arrangements with the listed company as well as fits the conditions of related party–legal party and related party–natural party after the agreement comes into effect.

The related party decides the subject range of related transactions, and the transaction specifies the object range of related transactions, which refers to the matters concerning related transactions. Related party transaction behaviours in listed companies vary. These behaviours include the transformation of resources and the arrangement for obligation matters, that is, both paid and free trade transactions, and both reciprocal and unilateral behaviours. Chinese Accounting Standards of Enterprises-Related Party Relationships and Transactions Disclosure released on May 22, 1997 and the Accounting Standards of Enterprises No. 36-Related Party Disclosures introduced in 2006 provided as many as 11 categories of related transactions, such as the purchase or sale of goods, purchase or sale of other assets excluding goods, warranties and financing.[①]

Given that related transactions are of many types, current studies generally analyse the primary type of related transactions. According to the statistics of related transactions in 2003 for Shenzhen, Zou (2004) identifies 5 categories of related transactions, related party sales, related party procurement, related party capital impropriation, related party guarantee, related party purchase and sale of assets (non-routine). These are the transactions that happen most frequently and involve the largest transaction amounts among 11 categories of related transactions.

Zhao (2005) uses related party procurement, related party sales, related party sale of assets (non-routine), related party investment and capital occupation to analyse the propping and tunnelling behaviour of listed companies. Additionally, the possibility of benefit transfer

[①] Specific 11 items include: provide or accept labour, guarantee, provide funds (loan or equity), lease, agent, research and development of a transformation, license agreement, on behalf of the enterprise or enterprise on behalf of the other party by enterprise for debt settlement and key management personnel salary.

also exists in the share transactions with related party. For example, Baek et al. (2006) finds that family-controlled business group companies will use the private placement to transfer benefit through pricing, dilution of minority shareholder rights and other means. Referring to the study mentioned above, the present study chooses six types of related transactions as the proxies of tunnelling, namely, related party purchases, related party sales, related party asset buying or selling, related party equity buying or selling, related party investment and capital occupation. Although related party guarantee may lead to great losses to the company, it is not involved in the issue of transferring resources of listed companies and will not be discussed in this work.

5.1.2 Properties of Related transactions

Fair and unfair related transactions are present when taking the fairness of the transaction as the judging standard. Unfair related transactions can be classified into tunnelling-type and support-type transactions. The main criteria of related transactions nature is fair trade pricing. Fair related party transaction prices are mainly based on fair pricing, whereas unfair related transactions are deliberately raised or depressed by the price of the underlying transactions.

Fair related transactions occur when the related parties follow the principles of market and trading activities to conduct transaction activities fairly and equitably. This is the way of conducting transactions when the related party is in the ordinary course of business. This includes the activities on goods, labour services, assets restructuring and capital operation to achieve efficient allocation of resources. Although the price of fair related transactions is fair, they can save transaction costs in information gathering, negotiation, supervision and so on because of the affiliation of two parties. Therefore, this transaction is efficient and can improve the efficiency of resource allocation. Related transactions may have a positive impact on company performance and value formation, that is, these transactions can enhance company performance and value. The study of Fisman and Khanna (1998) shows that related transactions reduce transaction costs and improve the role of economic efficiency. Khanna and Palepu (2000) find that related transactions will help allocate resources when the external market is immature, which leads to higher marketing costs.

Tunnelling-type related transactions happen when the minority shareholders and creditor lose their partial interest. This occurs when one party does not obey the market principle in the transaction course of transferring resource. An enterprise is a set of contractual and legal fiction links. The incompleteness of a contract can happen because of the bounded rationality,

information asymmetry and difficulties of third-party certification (Grossman and Hart, 1986). Under an incomplete contract, the residual control rights in the company become active. Incomplete contracts require companies to give a certain party (or certain parties) the residual control rights, so that he or she can dispose of the use and possession of assets that were not written into the contract without paying compensation to others (Grossman and Hart, 1986; Hart and Moore, 1990). The owners of residual control rights (refers to shareholders in this study, but the condition is more complex in reality) and other shareholders are not entirely consistent. When a conflict of interest is present, the owners will harm the interest of other shareholders by using their control rights because the other shareholders cannot monitor the owners completely due to the incompleteness of contract. When the occupation activity happens through related transactions, this can be considered as a tunnelling-type related transaction.

The tunnelling and support from controlling shareholders to an enterprise are symmetrical. Shareholders have the motives to transfer resources out of a company. They also have motives to provide support to the enterprise. Supporting this type of related transaction is the reverse behaviour of tunnelling-type related transaction. If the value of listed companies decreases continuously and significantly, no other investors will be willing to invest in the company and the controlling shareholder will lose the benefit of sustainability. At this point, related transactions can also be used by the controlling shareholder as a supporting means for the listed companies. This is particularly prominent in developing countries (Friedman et al., 2003). In China, if the performance of listed companies continues to decline, they may lose the ability to refinance or be delisted. Hence, they have motives to provide support to maintain the qualifications for listing or refinancing[①]. Zhang and Zeng (2006) assert that

[①] The system of listed company refinancing in China considers profitability ability as the core. Allotment of shares is one of the most popular patterns of equity financing in China. The 'Announcement on listed companies allotment of shares' publicised by CSRC in December 1994 changed the essential condition of 'two years profits continuously' into 'recent three years profits continuously, and the net assets after-tax profit margins of three years is over 10%, while the ratio can be less than 10% for the resource, raw material and the infrastructure enterprises'. The 'Announcement of listed company allotment of shares in 1996' confirmed that 'the net assets after-tax profit margins of three years should be over 10% continuously, while resource, raw material and infrastructure enterprises can be lower but not lower than 9%'. In 1999, the principle of allotment of shares was changed into 'the average asset return rate should be not lower than 10%, the net asset return rate per year should not be lower than 6%'. In 2001, the average asset return rate should not be lower than 6%. The additional financing did not include the regulation on profitability ability; however, 'the provisional temporary regulation of listed company to raise funds from social enterprises' made the regulation that the listed company that will make additional financing needs to be profitable for three years continuously, and the year net asset return rate should not be lower than the bank deposit interest rate in the same term. The 'Announcement of managing the work of issuing new stocks' and 'management method of listed company issuing new stocks' issued on April 2001, raised the requirements to 'the weighting first-three-year net asset return rate should be over 6%, and the first year after issuing new stocks would be in the same return rate; if the weighting first-three-year net asset return rate is lower than 6%, there should be a positive development vision for the company and the net asset

although supporting and tunnelling behaviours are related to majority shareholders to transfer interests with a different direction, they both target to maximise their own interests. The data of Chinese listed companies from 1998 to 2002 used by Ye and Wong (2010) show that the interest transformation activity usually follows the support behaviour.

5.2 Related Transaction Scale Changes

5.2.1 Absolute Scale Changes

As presented in Table 5-1, from 2004 to 2010, the related transactions volume of the Sample Company grew year by year, from 806.881 billion yuan to 1,693.537 billion yuan, and the geometric annual growth rate reached 11.17%.

Table 5- 1 2004 to 2010 connected transaction absolute scale, Unit: hundred million yuan

Year	Related purchasing	Related sales	Related capital purchasing	Related capital selling	Related capital replacement	Related stock rights buying	Related stock rights selling	Related investment	Capital occupation	Annual summary
2004	3729.66	3224.74	180.92	24.87	69.44	112.09	36.22	74.95	615.91	8068.81
2005	4693.08	3579.78	290.67	16.48	75.64	48.62	38.09	156.37	631.37	9530.11
2006	5391.17	4212.37	312.84	57.38	748.06	59.69	82.62	127.81	388.48	11380.41
2007	4915.75	4451.77	368.85	50.57	1175.33	85.82	392.68	199.45	499.12	12139.35
2008	5880.51	6046.79	450.35	52.99	885.72	100.95	191.35	226.38	421.18	14256.21
2009	7491.60	4926.24	225.52	863.74	1060.87	29.82	117.59	150.04	432.00	15297.41
2010	7765.93	7107.24	605.74	219.01	557.92	0.38	36.87	154.83	487.45	16935.37
Growth Rate (Geometry)	11.05%	11.95%	18.84%	36.45%	34.67%	-55.59%	0.26%	10.92%	-3.29%	11.17%

The most increased related capital transactions include related capital buying, selling and replacement. The annual geometric growth rate is over 34%. The increasing peak time of

return rate should not lower than that before the last year'. The regulation on additional new stocks of listed company publicised on July 2002, raised the entry conditions that the weighting net asset return rate in an accounting year should not lower than 10% and the latest year weighting net asset return rate should not be lower than 10%.

Several standards were set regarding the process of delisting companies in China. Chapter 10 section 11 of 'The new listing rules' implemented on May 1, 2000 confirmed that listed companies are facing losses for three years. The 157th and 158th rules in the 'China Company Law' regulated that a company should be delisted if it is faced with losses for three years and cannot be dismissed within the time limit.

related capital replacement appeared in 2007, which is possibly related to reducing the price transaction when the share reform was approved by circulation share holders. Note that most listed companies promise and carry out the policy and put prime capital into company activities[1]. At the same time, this movement has gained support from policies such as the September 2005 release of 'split share structure reform of listed companies' management approach'. This reform requires 'split share structure reform combined with the company's capital restructuring, reside by injecting quality capital and the assumption of debt'. To achieve profitability or financial condition and improve the price arrangement support, such as a takeover bid caused by the implementation of the reform, listed companies can be exempted from takeover bid obligations after application.

Related stock rights buying and selling declined as a whole. Related stock rights buying substantially declined, with the annual geometric increase rate of -55.59%, and related rights selling was the same as the annual geometric growth of 0.26%. No significant change existed in buying and selling because of the low base.

Related purchasing and sales had the greatest absolute growth number. However, the growth rate, which is only approximately 11%, was obviously lacking because of the high base. From 2004 to 2010, the average economic growth rate of China reached 11.07%; this growth rate shows that the growth of related purchasing and sales may be attributable to the expansion of business and is without obvious abnormalities. The average annual increase of connected investment is 10.92% with the same characteristics.

Capital occupation experienced a downturn with the annual geometric growth rate of -3.29%. Considering the increased size of Chinese economic growth and listed companies, the decline of capital occupation is due to effective relevant governance. In the past, majority shareholders occupying the capital of medium and small shareholders were always the stubborn illness of the Chinese market. The CSRC issued a document in 2005 to enhance capital occupation clean-up, which specifically states that majority shareholders should commit to debt settlement as a condition under stock rights replacement reform. The CSRC also issued a series of rules and norms related to capital occupation problems. In November 2005, the state council approved the commission on improving the quality of the opinions of listed companies. 'Listed companies capital occupation is forbidden. For the occupied capital, the controlling shareholders especially state-owned controlling shareholders or actual controllers should take cash settlement, dividend swaps, debt-equity swaps and repaying debts with non-cash assets, and according to different circumstance to speed up repayment rate and

make sure these are finished by the end of 2006'. In 2005, the revised company law put forward constraints against the abuse of shareholder rights on behaviours through which controlling shareholders exploit the independent status of a legal person and of shareholders' limited liability to escape malicious debts or tunnelling. After the company law was revised in 2005, capital occupational duty officers of listed companies, such as ST Longchang, Shanghai Science and Technology and ST Three-dimensional Rural, were extorted or arrested because of suspected appropriation of funds and occupation of listed company funds[②]. 'The criminal law amendment VI' enacted in 2006 has cleared the punishment standards of controlling shareholders or actual controllers who invade the interests of listed companies and has increase punishment. On May 26, 2006, the announcement of 'circular on further accelerating clear up defaults' issued by the CSRC stated that non-tradable capital occupation companies should combine share reform and clear up defaults together. The SSE further requires companies to 'clear up defaults first and share reform second'. The companies should clear up defaults before share reform or majority shareholders put forward practical clear up default schemes and commitments. On November 2006, seven ministries, including the joint public security ministry of CSRC, released an announcement, 'on further clearing majority shareholders capital occupation problems', which includes severe punishments on majority shareholders capital occupation, opening the case of investigation of public security department, keeping bank credit records of the People's Bank of China and starting investigation by CSRC of suspected criminal related person who was handed over to the public security department and state-owned sector of communication. In 2008, the SSE revised listing rules so as to take special treatment to non-clear up defaults and seriously added capital occupation companies (ST). Under severe punishment and reform incentives, many hidden capital occupations were exposed and a rebound transpired in 2007. However, such trend declined in 2008 with the practice of cleanup work.

The changes of absolute scale show that the growth of related purchasing, sales and investment is associated with an economic growth without abnormalities. The remarkable growth appeared in related capital transactions; capital occupancy and stock rights buying and selling showed a downturn trend. In addition, the changes of related capital replacement and capital occupation directly related to non-tradable share reform.

② From China stock net, 'the third capital occupation exposure of Shanghai and Shenzhen stock exchange', http://www.cs.com.cn

As discussed in the trend above, what we need to pay attention to is not completely stable yet. Related capital buying and capital occupation, especially the former, was more apparent in 2010 because an inverse trend existed, that is, a rebound or a sudden skyrocket under the long-term decline. The related capital buying scale in 2009 was actually close to that in 2004; however, it showed an annual average growth rate of 18.84%. The main reason was the sudden skyrocket in 2010, from 225.52 of the previous year to 605.74 billion Yuan, a single increase annual growth rate that reached 168.6%. Connected capital replacement also appeared in the point of inflection in 2009.

5.2.2 Relative Scale Changes

Chinese economic growth is good and the listed companies are also in a high-growth process. As a result, the changes of related transactions in absolute scale are influenced by the growth of listed companies. This study sums up all related transactions, capital, main business income, business costs, cash and cash equivalent of the sample companies, and then calculates the percentage of various kinds of related transactions for each year. These calculations include related purchasing, which is equal to the sum of related transactions of all sample companies divided by the sum of operating cost. We also compute the weighted related transactions comparative scale for every year (Table 5-2).

Table 5- 2 2004 to 2010 related transactions comparative scale, Unit: %

Year	Related purchasing	Related sales	Related capital buying	Related capital selling	Related capital replacement	Related stock rights buying	Related stock rights selling	Related investment	Capital occupation balance
2004	9.6954	7.6082	0.3733	0.0513	0.1433	0.2313	0.0747	0.1546	14.0933
2005	9.2765	6.5793	0.5198	0.0295	0.1353	0.0869	0.0681	0.2796	14.3904
2006	8.3685	6.1204	0.4741	0.0870	1.1337	0.0905	0.1252	0.1937	7.6632
2007	6.3748	5.3848	0.4429	0.0607	1.4113	0.1030	0.4715	0.2395	7.4865
2008	6.0775	6.1957	0.4803	0.0565	0.9446	0.1077	0.2041	0.2414	5.5896
2009	8.3529	5.2062	0.2050	0.7851	0.9643	0.0271	0.1069	0.1364	4.3073
2010	6.2414	5.4102	0.4602	0.1664	0.4239	0.0003	0.0280	0.1176	3.8771

Note: Relative size is calculated as follows. Related purchasing is divided by operating costs. Related sales are divided by the total operating revenues. Related capital transactions, related capital replacement, related stock rights transactions and related investment are divided by total assets. Capital occupation is divided by cash and cash equivalents.

As shown in Table 5-2, a downturn trend can be observed in the related transactions comparative scale. For example, the related purchasing and sales are declining in most of the years. The results in Tables 5-1 and 5-2 for related purchasing and sales indicate that the scale of listed companies increased, with the measurement of main business income; it grows faster than related sales and purchasing.

Based on the combination of comparative and absolute scales, connections exist between the increase of related transactions comparative scale and the high growth of listed companies. The connections include related purchasing and related sales. Changes in the comparative scale show that a downturn trend transpired before and after the share reform. However, instabilities are present in several parts. The peak of related stock rights transaction and capital replacement comparative scale appeared in 2007, with the same characteristics as those in the absolute scale, which was directly related with the non-tradable share reform.

5.3 Related Transaction Structure Changes

To show the changes of related transactions, we use the annual amount of all kinds of related transactions divided by the total amount of annual related transactions. Afterward, we obtain the related percentage in each year. In Table 5-3, the change points refer to the balance between the percentage of the total related transactions in 2004 and 2010. Percentage changes refer to the ratio between change points and the percentage in 2004.

Table 5- 3 2004 to 2010 related transactions structures, Unit: %

Year	Related purchasing	Related sales	Related capital buying	Related capital selling	Related capital replacement	Related stock rights buying	Related stock rights selling	Related investment	Capital occupation balance
2004	46.22	39.97	2.24	0.31	0.86	1.39	0.45	0.93	7.63
2005	49.24	37.56	3.05	0.17	0.79	0.51	0.40	1.64	6.63
2006	47.37	37.01	2.75	0.50	6.57	0.52	0.73	1.12	3.41
2007	40.49	36.67	3.04	0.42	9.68	0.71	3.23	1.64	4.11
2008	41.25	42.42	3.16	0.37	6.21	0.71	1.34	1.59	2.95
2009	48.97	32.20	1.47	5.65	6.93	0.19	0.77	0.98	2.82
2010	45.86	41.97	3.58	1.29	3.29	0.00	0.22	0.91	2.88
Change points	-0.37	2.00	1.33	0.99	2.43	-1.39	-0.23	-0.01	-4.75
Percentage changes	-0.79	5.01	59.52	319.61	282.79	-99.84	-51.50	-1.57	-62.29

The major forms of related transactions stayed the same before and after the share reform. However, the proportion of subordinate related transaction forms significantly changed. In 2004, related purchasing and sales accounted for 46.22% and 39.97% respectively, ranking first and second among all transactions. After 2004, purchasing fluctuated between 40% and 50% each year and sales between 32% and 43%. In 2010, purchasing accounted for 45.86%, and sales 41.97%. The changes in proportion were marginal (<6%), still ranking first and second.

Related capital buying, selling and replacement significantly increased, and the changes in proportion were over 50% for all three. The sum of these three items rose from 3.14% in 2004 to 8.16% in 2010. Related capital buying ranked fourth in 2004 but rose to third in 2010; related capital replacement from eighth in 2004 to fourth in 2010; and related capital selling from ninth in 2004 to sixth in 2010.

Capital occupation significantly declined from 7.63% in 2004 to 2.88% in 2010, a drop of 62.29%. Capital occupation also fell from third to fifth in the importance ranking of related transactions.

The proportion of the purchase and sale of related stock rights also declined. The purchase of related stock rights declined by only 1.39%. However, given the low base in 2004, the decline rate was 99.84%. The decline rate of the sale of related stock rights was 51.50% for the same reason.

From the perspective of tunnelling behaviour, the major forms (i.e. related purchasing and related sales) changed only marginally. The direct tunnelling behaviour (i.e. capital occupation) declined, whereas hidden tunnelling behaviour (i.e. related capital transaction) increased. Capital occupation reached its peak (4.11%) in 2007, and capital replacement (9.68%) in 2007. Related capital buying and occupation rebounded in 2010 and had the same changes according to the absolute and comparative scales. Instability was observed in some parts.

After the reform in non-tradable shares, shares became tradable, which may have caused speculations in share price, resulting in greater damage to investors. Jilin Pharmaceutical is used as an example to show the changes before and after the non-tradable share reform.

The main product of Jilin Pharmaceutical (*ST JY Stock Code 000545) is medicine. Established in 1961, the former Jilin Henghe Pharmaceutical was listed on the SZSE on December 15, 1993, and started a share reform on July 26, 2006. By the end of September

2012, the total capital stock of Jilin was 116.0111 million shares.

On July 6, 2005, Jilin Pharmaceutical signed a swap agreement with its largest shareholder, Jilin Jinquan Baoshan Pharmaceutical (hereafter referred to as Jilin Jinquan), which held 25.51% of total shares. Jilin Pharmaceutical swapped RMB 10.84 million of current assets for 99% equity of Jilin Jinquan Baoshan Group Medicine (hereafter referred to as Jinquan Pharmaceutical) held by Jilin Jinquan. Zhang Shoubin was the largest shareholder of Jilin Jinquan, holding 40.46% (his son Zhang Kongyang held 17.33%; thus, Zhang's total shareholding was 57.79%, far higher than that of the second-largest shareholder at 21.38%). Thus, Zhang Shoubin held Jilin Jinquan. However, Jinquan Pharmaceutical stocks depreciated in one year. On October 16, 2006, the board of directors of Jilin Pharmaceutical agreed to transfer the 99% equity of Jinquan Pharmaceutical to Meihekou Jindi Printing Plant at a price of RMB 1.5 million. Zhang Kongshu, the corporate lawyer of Jinquan Pharmaceutical, is Zhang Shoubin's nephew. Jindi Printing Plant and Jinquan Pharmaceutical shared the same address, and Zhang Shoubin made up a company that did not exist and embezzled RMB 9.34 million from Jilin Pharmaceutical through one related party transaction.

Meanwhile, many drug approval numbers and main products of Jilin Pharmaceutical were written off and transferred to Dalian Jinquan. For instance, the approval number GYZZ B20020779 of Jilin Pharmaceutical (Yihuang Tongluo Capsule) was written off on August 1, 2005. On the same day, this product was suddenly approved for Dalian Jinquan Baoshan Bio-engineering Pharmaceutical, with an approval number of GYZZ B20050054 and Zhang Shoubin as its president.

Mingri Industry was the second-largest shareholder of Jilin Pharmaceutical. The supervisor of Mingri Industry, Chen Zhijie, contributed RMB 26 million (52% of Mingri Industry shares) on September 18, 2006, as the Supply Department Head of Jilin Jinquan, the major shareholder of Jilin Pharmaceutical, and subsequently assumed the leadership of the Purchasing Department of Jilin Pharmaceutical. Chen Zhijie is Zhang Shoubin's former subordinate. Chai Xingguo, the corporate lawyer of Mingri Industry, participated in the trademark infringement case between Jilin Pharmaceutical and Xi'nan Pharmaceutical on September 12, 2005. Thus, the second-largest shareholder was closely connected with the largest one.

On September 14, 2007, Jilin Pharmaceutical declared that Jilin Jinquan intended to transfer its 20.83% equity (i.e. 32.9625 million shares) of Jilin Pharmaceutical at a price lower than RMB 160 million to Longkou Mining, who would restructure the company. If the

transfer succeeded, Jilin Pharmaceutical would have become a mining enterprise, but it lost to the low bidding by Longkou. On November 26, 2007, Jilin Pharmaceutical announced again that they were negotiating with potential restructuring partners, including Futong Real Estate, and its share price surged to RMB 12.3. However, the Futong Group was not confident in real estate; thus, this restructuring attempt also failed. After two failures, the company's share price went down to RMB 7.5. On July 16, 2008, when potash fertilizer concept stocks caused surging share prices in consecutive days, the company announced that they were planning to sell RMB 900 million private shares to purchase 100% equity of Bindi Potash Fertilizer. As soon as this announcement was made, the company's share price surged to RMB 14.2, but failure came again because of Bindi's valuation issues and the media's doubts.

From August 10, 2007, to December 26, 2008, the shares of Mingri Industry decreased by 14.4754 million shares, with a reference market value of RMB 125 million (calculated at an average share price during the underweight). The shareholding ratio of Mingri decreased from 13.41% in the middle of 2007 to 4.20% by the end of 2008, whereas its second-largest shareholder stayed at almost the same ratio. In only one and a half years, when the restructurings were hyped, Mingri Industry's accumulated underweight was 9.21%, resulting from the listed company's hypes about restructuring and from the second-largest shareholder's underweight. Although the three restructurings failed, they all caught up the industrial trends from mining, real estate and potash fertilizer asset hype. After the third failure, the share price of Jilin Pharmaceutical went down to RMB 6.3, 125.4% lower than its highest price. Thus, shareholders conspired to hype share prices and to take advantage of insider trading to sell off their shares, which were completely exposed in the share price hypes of Jilin Pharmaceutical.

This case shows that listed companies controlled by majority shareholders can be easily emptied out by shareholders, and their share prices may be hyped in coordination with majority shareholders' underweight, all of which seriously infringe on investor interests.

5.4 Assets, Liabilities and Net Asset Changes Formed by Related Transactions after the Share Reform

Following Wang and Xiao (2005), we divided the data into two types to better reflect the conditions of a company's occupied assets. In the first type, listed companies' assets are occupied by other companies and form the assets in the company's balance sheet, including

affiliate deposits, short-term investment, accounts receivable, notes receivable, prepayment, other receivables, dividends receivable, interests receivable, other long-term assets and bond investment. The sum of these items (recorded as RP_AST) reflects the extent of listed company's assets occupied by the affiliate's party. In the second type, listed companies occupy other company's assets and form liabilities in the company's balance sheet, including related party short-term loans, accounts payable, notes payable, deposits received, other payables, wages payable, accrued expenses, dividends payable, mature long-term liability, long-term payables and long-term loans. The sum of these items (recorded as RP_LIAB) reflects the extent of listed companies occupying the affiliated companies' assets. The balance between listed company's assets occupied by affiliates and affiliate's assets occupied by the company is defined as the net amount of listed company's assets occupied by affiliates (recorded as RP-NET). We also use relative comparison, with RP_AST, RP_LIAB and RP_NET divided by total assets. These comparisons result in variables called RP_ASTR, RP_LIABR and RP_NETR. The absolute scale of total assets formed by related transactions rises, but the relative scale falls from 2004 to 2010 (Table 5-4). That is, the relative scale of occupied listed company assets falls, and the absolute scale of total liability formed by related transactions goes up except in 2006. The related scale increases step by step from 2004 to 2008, but decreases from 2009 to 2010. The net assets formed by related transactions are negative except in 2004. The net proportion of the affiliate assets occupied by the listed company shows that from 2004 to 2006, the listed company's assets are occupied by the affiliated company, but the proportion is reduced year by year. After 2007, listed company-occupied affiliate assets and the proportion increase year by year. The above proportion data only decrease in 2010.

Table 5- 4 Total assets, liabilities and net assets formed by related transactions from 2004 to 2010

Year	Total Assets	Proportion of Total Assets RP_ASTR	Total Liabilities RP_LIAB	Proportion of Total Liabilities RP_LIABR	Net Assets RP_NET	Proportion of Net Assets RP_NETR
2004	106903318.3	0.0523	77121405.8	0.0230	29781912.47	0.0294
2005	114274862.6	0.0525	144956434.8	0.0262	-30681572.24	0.0262
2006	86295943.47	0.0365	129291122.9	0.0279	-42995179.4	0.0086
2007	132288139.9	0.0305	155311008.5	0.0313	-23022868.64	-0.0008
2008	139691741.3	0.0259	251076496.5	0.0345	-111384755.1	-0.0086
2009	144567016.2	0.0213	307696034.2	0.0318	-163129018	-0.0105
2010	180414109.8	0.0203	310370983.7	0.0300	-129956873.8	-0.0097

The asset items formed by transactions include accounts receivables at the end of the year, notes receivable, other receivables and prepayment. The sum of these items takes a variable name, TREC. The liability items formed by transactions include accounts payable, notes payable, other payables and prepayments. The sum of these items takes a variable name, TPAY. The difference between TREC and TPAY is the net assets formed by transactions, TNET. The above variables divided by total assets reflects the relative scale, for which we use the variable names TRECR, TPAYR and TNETR. From 2004 to 2010, the absolute scale of assets formed by transactions increases year by year, but declines from 2005 to 2006 (Table 5-5). However the relative scale decreases year by year. The liability scale formed by transactions increases year by year and falls in 2006 compared with 2005, but the relative scale increases year by year from 2004 to 2008 and decreases from 2009 to 2010. The net assets formed by transactions in 2004 and 2005 are positive, reflecting that net assets are occupied before the share reform. From 2006 to 2010, however, the net asset is negative, showing that the listed companies occupied other companies' assets. According to the relative scale, from 2004 to 2007, the period before the share reform is completed, the assets of listed companies are occupied by other companies, although the proportion decreases. After the share reform is completed, from 2008 to 2010, the listed companies occupy other companies' assets and the proportion increases year by year. All the above data only decrease in 2010.

Table 5- 5 Total assets, liabilities and net assets formed by related transactions from 2004 to 2010

Year	Total Assets TREC	Proportion of Total Assets TRECR	Total Liability TPAY	Proportion of Total Liability TPAYR	Net Assets TNET	Proportion of Net Assets TNETR
2004	103146213.2000	0.0515	71941282.7405	0.0223	31204930.51	0.0292
2005	110758582.7000	0.0520	99061573.9369	0.0250	11697008.75	0.0270
2006	85199236.1700	0.0362	89375990.5853	0.0263	-4176754.419	0.0100
2007	129838123.5000	0.0303	144377977.7447	0.0295	-14539854.2	0.0009
2008	137350227.1000	0.0258	191941118.7079	0.0324	-54590891.61	-0.0066
2009	139953417.7000	0.0211	235228669.4039	0.0302	-95275251.71	-0.0091
2010	174817881.7000	0.0202	279866552.6486	0.0287	-105048670.9	-0.0085

In general, the absolute scales increase but the relative scales decrease regardless of the total assets formed by related transactions or trading assets. The total liability formed by total related transactions and trading-type related transactions also increase year by year. The relative scale meets a turning point in 2008, that is, it rises before the completion of the share

reform and starts to drop after the completion. In general, the net assets formed by related transactions and trading transactions show that the listed company's assets are occupied before the share reform, but the proportion decreases, and that after the share reform, the listed companies occupy other companies' assets and the proportion increases. All of the above proportion data only decrease in 2010.

5.5 Chapter Conclusion

The absolute scale, comparative scale and structural change of related transactions were definitely related with the share reform. The changes in comparative scales clearly showed that related transactions declined after the share reform. The most reprehensive tunnelling behaviour, capital occupation, also had the same trend. Structural changes reflected that tunnelling behaviour transferred to a more hidden method (mainly to assets related with transactions). According to the net assets formed by related transactions and trading transactions, listed companies' assets were occupied before the share reform, but the proportion decreased; after the share reform, the listed companies occupied other companies' assets and the proportion increased.

Chapter 6: Empirical Research on the Impact of Share Reform on Tunnelling

The share reform produces new channels to achieve benefits for majority shareholders and allows for share transfer so majority shareholders will care more about the stock prices. If this is the case, can related transactions still be used as the proxy variable for tunnelling? This question needs to be further empirically tested. By analysing the impact of related transactions on firm returns, this thesis examines the property of related transactions and its changes before and after the share reform. Related transactions can be used as the proxy variable for tunnelling only if related transactions indeed have the function of tunnelling . In the following chapter, the unified effect of share reform and corporate governance on related transactions is further investigated.

6.1 Research Hypothesis

The majority shareholders have favourable conditions and motivation to implement tunnelling behaviour if such behaviour of the controlling shareholders cannot be constrained in advance, or because of deficiencies for corporate governance, they do not have to pay the cost of tunnelling behaviour or the costs are smaller than the benefits. Governance problems in Chinese listed companies have been quite serious. The Chinese Academy of Social Sciences Center for Corporate Governance (2006) concluded that the average score of the top 100 Chinese listed companies in corporate governance is 56.1 in 2005, slightly higher than the 53.8 in 2004. Thus, the overall corporate governance of listed companies in China does not pass minimum standards. In 2010, the corporate governance evaluation of the top 100 Chinese listed companies showed historic progress. The corporate governance level of the top 100 Chinese listed companies reached 61.6 points, the first time the average score crossed the 60-point mark. Although the situation has slightly improved, the outlook is not very optimistic (Academy of Social Sciences Center for Corporate Governance and Consulting Firm of Protiviti, 2010).

The governance of listed companies in China has serious problems, providing a broad space for tunnelling behaviour by the majority shareholders (Jiang, 2004). The prevalence of

related transactions between listed companies in China is attributed to tunnelling behaviour (Liu et al., 2004; Chen and Wang, 2005; Liu et al., 2008; Jiang et al., 2009; Zhang and Zeng, 2010). However, the selected research period of these research samples is generally before 2005. The samples of existing research are also mainly individual enterprises. In addition, these researchers generally focus on certain types of related transactions, such as capital occupation. No comprehensive analysis of tunnelling behaviour that exists has been conducted on related transactions. Therefore, this study expands the sample size and period and tests the major types of related transactions to characterise related transactions for listed companies in China. Based on existing research on governance and the related transactions of listed companies in China, we put forward our first hypothesis.

Hypothesis 1: Before the share reform, the related transactions of listed companies have tunnelling attributes. In other words, the related transactions and performance are negatively correlated.

Non-tradable shares can only get dividends without capital gain before the share reform. After the share reform, the non-tradable shares of majority shareholders gain circulating rights. The award of majority shareholders changes from only dividends to dividends and capital gain. Capital gain depends on share price changes. Thus, majority shareholders' behaviour should balance the capital gain loss from reduced performance by tunnelling behaviour and the capital gain from increased share price by reducing tunnelling behaviour. Stock liquidity is stronger, and the stock price is more sensitive to the changes in company conditions in the full circulation market. Compared with a non-full-circulation market, the impact on tunnelling through investors' buying and selling behaviour increases in scale and the pressure on tunnelling increases. The market governance effects also increase, which is good for controlling tunnelling behaviour. Liao and Zhang (2008) find that full circulation reduces the motivation of tunnelling for family companies. The derivation of the mathematic model in Liu et al. (2010) also suggests that full circulation reduces tunnelling behaviour. Based on the above reasons, the second hypothesis is put forward.

Hypothesis 2: The tunnelling impact of listed companies' related transactions weakens after the share reform.

Share reform is a gradually implemented process. The schedule and amount of non-tradable shares becoming tradable are restricted by related provisions such as 'Listed Companies' Equity Separation Reform Management Measures' and 'Listed Companies' State-Owned Equity Transfer Management Measures'. Wu (2007) shows that under full

circulation, majority shareholders can still choose to tunnel listed companies' resources. The lower the majority shareholders' shareholding ratio, the higher the benefits obtained by occupying the resources and, thus, the stronger the possibility and degree of majority shareholders occupying firms' assets through related transactions. By building a controlled shareholder behaviour model with the background of transferable property rights, Liu et al. (2010) conclude that after share reform, controlling shareholders can earn income from property. However, if the returns of new investment projects are relatively low, controlling shareholders prefer to lower the sale prices of their equity to obtain more benefits from listed companies sooner. Huang (2006) asserts that, even if full circulation is realised, majority shareholders of tradable shares still have a strong motivation to occupy the resources of listed companies under the condition of extremely decentralised ownership. Therefore, the motivation of tunnelling will still exist after share reform. Research Hypothesis 3 is given as follows:

Hypothesis 3: After the share reform, related transactions in listed companies still have the function of tunnelling.

6.2 Models, Variable Definition and Specification

We construct the following model to test our research hypothesis:

$$\begin{aligned} ROE_{adj} = a &+ \beta_1 RPT + \beta_2 IFREF + \beta_3 RPT * IFREF + \beta_4 INSHOLDER \\ &+ \beta_5 INDDR + \beta_6 FIRST + \beta_7 TOP_{2-5} + \beta_8 SOE + \beta_9 LEV \\ &+ \beta_{10} SIZE + \beta_{11} PB + \delta \end{aligned} \quad (6\text{-}1)$$

ROE_{adj} refers to the company's operating performance indicator after industry adjustment in *t* period. *RPT* refers to the variables of related transactions. If the coefficient β1 is positive, the related transactions have supportive effects on company performance before the share reform. If the coefficient β1 is negative, the related transactions have a tunnelling effect on company performance before the share reform. In model 1a to model 1f, we use variables as defined in Chapter 4. These variables define RPT: RP_ASTR, RP_LIABR, RP_NETR, TRECR, TPAYR and TNETR[①]. IFREF is the dummy variable that equals one if the listed

[①] Referring to Wang and Xiao (2005), in order to better reflect the conditions of company's occupied assets, we divided the data into two types. In the first type, the listed companies' asset is occupied by other companies and forms the asset in the company's balance sheet, which includes affiliates deposit, short-term investment, accounts receivable, notes receivable, prepayment, other receivables, dividends receivable, interest receivable, other long-term assets and bond investment. The sum of these items (recorded as RP_AST) reflects the extent of

company has completed share reform before the current year, and zero otherwise. RPT*IFREF is the intersection item of related transactions and the dummy variable for share reform. It is intended to test the edge effect. The related transactions have an increased effect on performance after the share reform compared with before. If β3 is negative, the tunnelling effect of related transactions after share reform is stronger. If the indicator is positive, the tunnelling effect of related transactions after the share reform is weakened. The sum of β1 and β3 reflects the influence on performance by related transactions after the share reform. If the sum of coefficients is negative, the related transactions have a tunnelling effect after the share reform. If the sum of coefficients is positive, the related transactions have supportive effect after the share reform. The others are control variables for company governance and company characteristics. INSHOLDR is the institutional shareholding proportion, FIRST is the first largest shareholder shareholding proportion and TOP2_5 is the sum of shareholding proportions from the second to the fifth largest shareholders, and describes the effect of external positive shareholders. INDDR is the independent director proportion. SOE is the dummy variable for the first largest shareholder's share right nature. If the first largest shareholder is of a state-owned nature, the dummy variable takes a value of one; if not, then zero. LEV is the asset–liability ratio, SIZE is the company scale, total assets take logarithm and PB is the price value ratio (i.e. market price per share divided by net book value per share). For a summary of variable definitions, see Table 6-1.

the listed company's assets occupied by the affiliates' party. In the second type, the listed company occupies the other company's assets and form liabilities in the company's balance sheet, which includes related party short-term loans, accounts payable, notes payable, deposit received, other payables, wages payable, accrued expenses, dividends payable, a maturity of long-term liability, long-term payable and long-term loan. The sum of these items (recorded as RP_LIAB) reflects the extent of listed companies occupying affiliated companies' assets. The balance between the listed company's assets occupied by affiliates and the affiliate's assets occupied by the company is defined as the net amount of listed company's assets occupied by affiliates. This is recorded as RP-NET. In addition to the above, we also use relative comparison, with RP_AST, RP_LIAB and RP_NET divided by total assets. These result in variables named RP_ASTR, RP_LIABR and RP_NETR.

Table 6- 1 Definition and specification of variables

Variable code	Variable name	Variable definition
ROE_{adj}	net asset yield rate through industry adjusted median	net profit after tax divided by net asset minus the median of the same industry index
RP_ASTR	Total assets formed by related transactions measure the extent of the listed company's assets occupied by the affiliates' party	Sum of savings, short-term investment, accounts receivables, notes receivables, prepayment, other receivables, dividends receivables, interest receivables, other long-term assets and long-term bond investment formed by related transactions and then divided by total assets
RP_LIABR	Total liability formed by related transactions measures the extent of listed companies occupying affiliated companies' assets	Sum of short-term loans, accounts receivable, notes payable, deposit received, other payables, wages payable, provisions for expenses, dividends payable, mature long-term liability, long-term accounts payable and long-term loans formed by related transactions and then divided by total assets
RP_NETR	Net assets formed by related transactions measure the extent of of net occupied assets excluding occupying affiliated companies' assets	Difference between total assets RP_ASTR formed by related transactions and total liability RP_LIABR
TRECR	Assets formed by trading related transactions	Sum of accounts receivable, notes receivable, other receivables and prepayment formed by related transactions and then divided by total assets
TPAYR	Liability formed by trading related transactions	Sum of accounts payable, notes payable, other payables and deposit received formed by related transactions divided by total assets
TNETR	Net assets formed by trading related transactions	Difference between assets TRECR formed by trading related transactions and liability TPAYR
IFREF	Share reform dummy variable	Confirm the year that share rights registration day is in during share reform plan implementation; samples after the share reform take the value of one; otherwise, they take zero.
INSHOLDR	Institutional shareholding proportion	Institutional equity shares divided by total equity share
INDDR	Independent director proportion	Number of independent directors divided by total directors
FIRST	The first largest shareholder share ratio	The first largest shareholder shareholding number divided by total share number
TOP2-5	The sum of shareholding proportion from the second largest shareholder to the fifth largest shareholder	The shareholding number from the second largest shareholder to the fifth largest shareholder divided by total share number
SOE	Dummy variable for the first largest shareholder's equity nature	If the first largest shareholder is of stated-owned nature, it takes a value of one; if not, it takes zero.
LEV	Asset–liability ratio	Total liability divided by total assets
SIZE	Company size	Total assets take logarithm
PB	Price value ratio	Market price per share divided by net book value per share

6.3 Sample Selection and Data Sources

Our sample consists of companies listed in the Shanghai and Shenzhen stock markets. To make a comparison over time, the time range of the samples is from 2004 to 2010. Sample companies must be listed before 1 January 2004 and have finished equity division between 2005 and 2007. This study eliminates listed financial companies and companies with negative net assets, since in this case, the related transactions have possibly supportive behaviour and the company has no resource for tunnelling. The sample of companies with supportive motivation is also eliminated. These include companies such as ST or PT, which continuously had losses in the recent two years and were refinanced in the same or following year. Companies with a net asset yield rate over and under 100% and related assets proportion or occupation formed by trading over 1 are also eliminated. Considering the different governance requirements for companies that issue both A-shares and B-shares or both A-shares and H-shares, these companies should be eliminated. After eliminating companies with missing data (mainly on institutional shareholding proportion), we obtain 5638 samples in total. From 2004 to 2010, the sample data count is 803, 817, 828, 789, 796, 789 and 816. Apart from institutional shareholding data sourced from the Wind database, the data on related transactions are collected from the CSMAR database. The rest of the data are collected from the Taiwan TEJ database.

6.4 Empirical Results and Analysis

6.4.1 Descriptive Statistics

The average value of net assets formed by related transactions is 0.0016 and the median is 0.0000; the average value of net assets formed by trading related transactions is 0.0025 and the median is 0.0000 (Table 6-2). The average shareholding ratio of the largest shareholder is 0.3834, the median is 0.3628 and the maximum reaches 0.8523. The average shareholding ratio from the second to the fifth largest shareholder is 0.1396, the median is 0.1101 and the maximum is 0.5882.

Table 6- 2 Descriptive statistics of variables

Variable	Average value	Variance	Median	Minimum	Maximum
RP_ASTR	0.0248	0.0483	0.0056	0.0000	0.4537
RP_LIABR	0.0232	0.0462	0.0054	-0.0208	0.4530
RP_NETR	0.0016	0.0624	0.0000	-0.4530	0.4403
TRECR	0.0245	0.0482	0.0055	0.0000	0.4537
TPAYR	0.0220	0.0624	0.0051	-0.0175	0.4530
TNETR	0.0025	0.0614	0.0000	-0.4530	0.4403
ROEADJ	-0.0442	0.1141	-0.0482	- 0.9618	0.8712
IFREF	0.7380	0.4397	1.0000	0.0000	1.0000
INSHOLDR	0.1633	0.1966	0.0805	0.0000	0.9254
INDDR	0.3541	0.0493	0.3333	0.0000	0.6667
FIRST	0.3834	0.1570	0.3628	0.0449	0.8523
TOP2-5	0.1396	0.1099	0.1101	0.0023	0.5882
SOE	0.5490	0.4976	1.0000	0.0000	1.0000
LEV	0.5022	0.1771	0.5172	0.1771	0.9731
SIZE	14.6486	1.0366	14.5683	11.2636	19.9101
PB	3.3113	2.9106	2.4112	0.2574	44.0828

6.4.2 Regression Results and Analysis

Regardless of the variable of related transactions used (total assets RP_ASTR, total liability RP_LIABR, net assets RP_NETR formed by related transactions, assets TRECR, liability TPAYR, or net asset TNETR formed by trading related transactions), the relationship between related transactions and performance is negative and significant at 1% (Table 6-3). Other than refinancing needs and avoiding withdrawal from the market, the related transactions of Chinese listed companies before the share reform have a tunnelling effect as a whole, which supports Research hypothesis 1. β3 is significantly positive, which indicates that listed companies have stronger support motivation compared with before the share reform. Research hypothesis 2 also has empirical support. The sum of β1 and β3 tested by Wald inspection shows that formed liability does not pass the significance test. However, formed assets and net assets pass the significance tests. Thus, after the share reform, the assets and net assets formed by listed companies' related transactions have significant tunnelling effects. The coefficient β2 of the share reform dummy variable is positive; thus, company performance improves significantly after the share reform.

Among the control variables, the proportion of independent directors has no influence on performance. All other variables have significant influence on company performance. The possible reason for this lack of effect is the minimum requirement on the proportion of independent directors. The power of independent directors is also limited (Johnson et al.,1996); thus, the governance effect is not obvious.

The institutional shareholding ratio has a positive effect on performance in control variables. The conclusion is consistent with Jarrell and Poulsen (1987) and Tang (2004), who conclude that effective opposition of institutional investors reduces the tunnelling behaviour of controllable shareholders. Xiao and Wang (2005) find that if institution investors come from securities companies and security investment funds are found in the top 10 shareholders of the listed company, then the capital occupation of associated parties is significantly lower than those of other companies. Thus, institutional investors have a certain supervision impact on the listed company's operation.

The largest proportion of shareholding and performance is positively related. The largest shareholder has two effects on company performance. One effect is that the concentration of ownership controls the manager's agent behaviour and thus improves performance (Jensen and Meckling, 1976). Another effect is it increases the emptying capability of the controlling shareholder or enhances the manager's 'barrier' (Fama and Jensen, 1983), so it has a negative effect on performance. This study supports the first effect. In other words, the first effect surpasses the second effect in the Chinese market.

The sum of the shareholding ratio from the second largest to the fifth largest shareholder has a positive effect on performance, which reflects the effect of governance and balance. Governance and balance helps to monitor tunnelling behaviour (Pangno and Roee, 1999), improve corporate governance and, finally, enhance corporate performance.

The performance of first majority shareholders in state-owned companies is worse than that of other kinds of companies. State-ownership of controllable shareholders has a negative impact on company performance. Li (2007) and Xia and Fang (2005) show that state-controlled shares increase agent cost. Bai (2005) argues that the extension of state-owned enterprises' principal–agent chain results in the omission of owners.

Debt–asset ratio has a negative effect on performance, in contrast to the observation that debt has a tax shield effect (Modigliani and Miller, 1963) and helps to improve company performance. The trade-off theory holds that debt financing has costs, and that the relationship between debt and performance should be an inverted U-shape (Kraus, 1973). Wu et al. (1999)

also argue that increased debt affects the company's long-term growth. This thesis speculates that this negative effect is from the following factors.

Company size (SIZE) has a positive effect on performance, consistent with Chen et al. (2001).

PB measures company growth, that is, company development potential. The higher the growth value, the better the prospects.

Even the dependent variable is substituted by returns on equity instead of the return of returns adjusted by the industrial medians, and the industrial variable is controlled. Our research conclusion will not change.

Table 6- 3 Regression results

	Coefficient	**Model 1a**	**Model 1b**	**Model 1c**	**Model 1d**	**Model 1e**	**Model 1f**
RP_ASTR	β1	-0.3926*** (-8.4784)					
RP_LIABR	β1		-0.2709*** (-3.9577)				
RP_NETR	β1			-0.2158*** (-5.1610)			
TRECR	β1				-0.3912*** (-8.4372)		
TPAYR	β1					-0.2782*** (-3.9888)	
TNETR	β1						-0.2188*** (-5.1854)
IFREF	β2	0.0408*** (5.1233)	0.0467*** (5.8622)	0.0488*** (6.2598)	0.0409 *** (5.1355)	0.0469 *** (5.8995)	0.0485*** (6.2163)
IFREF* RP_ASTR	β3	0.2285*** (3.8443)					
IFREF* RP_LIABR	β3		0.2377*** (3.1141)				
IFREF* RP_NETR	β3			0.1489*** (2.9889)			
IFREF* TRECR	β3				0.2259*** (3.7933)		
IFREF* TPAYR	β3					0.2485*** (3.1802)	
IFREF* TNETR	β3						0.1460*** (2.8952)
INSHOLDR	β4	0.0799*** (7.7696)	0.0813*** (7.8465)	0.0818*** (7.9177)	0.0800*** (7.7749)	0.0814*** (7.8533)	0.0819*** (7.9233)
INDDR	β5	-0.0047 (-0.1619)	0.0028 (0.0977)	0.0045 (0.1566)	-0.0048 (-0.1676)	0.0031 (0.1072)	0.0039 (0.1368)
FIRST	β6	0.0619*** (5.4672)	0.0616*** (5.3561)	0.0568*** (4.9733)	0.0619*** (5.4652)	0.0611*** (5.3207)	0.0572 *** (5.0125)

TOP2-5	β7	0.0812*** (5.2372)	0.0838*** (5.3727)	0.0825*** (5.2971)	0.0809*** (5.2211)	0.0838*** (5.3723)	0.0823*** (5.2863)
SOE	β8	-0.0089*** (-2.8120)	-0.0095*** (-2.9736)	-0.0094*** (-2.9305)	-0.0089*** (-2.7962)	-0.0095*** (-2.9698)	-0.0094*** (-2.9293)
LEV	β9	-0.1194*** (-13.8924)	-0.1181*** (-13.4923)	-0.1243*** (-14.3206)	-0.1192*** (-13.8652)	-0.1183*** (-13.5267)	-0.1242*** (-14.3164)
SIZE	β10	0.0284*** (16.4848)	0.0288*** (16.5721)	0.0289*** (16.7071)	0.0283*** (16.4501)	0.0288*** (16.5816)	0.0289*** (16.6892)
PB	β11	0.0095*** (15.9636)	0.0095*** (15.7940)	0.0093*** (15.5904)	0.0095*** (15.9629)	0.0095*** (15.7771)	0.0093*** (15.5767)
Intercept	α	-0.4971*** (-18.9929)	-0.5144*** (-19.5767)	-0.5144*** (-19.6253)	-0.4965*** (-18.9627)	-0.5146*** (-19.5883)	-0.5136*** (-19.5901)
	β1+β3	-0.1641*** (-19.3039)	-0.0332 (-0.9095)	-0.0669** (-6.0704)	-0.1653*** (-19.5080)	-0.0298 (-0.6766)	-0.0729*** (-6.9474)
F value		67.4167***	62.2158***	63.3455***	67.3808***	62.2186***	63.4248***
Adjusted R-squared		0.1669	0.1558	0.1583	0.1668	0.1558	0.1584

Notes: The superscripts *** and ** represent the test results reached at 1% and 5% significance level under the two-tailed test respectively. The content in the parentheses of ($\beta_{1+}\beta_3$) line is for F statistics; other contents inside the parentheses are for T statistics.

6.5 Further Analysis

6.5.1 Empirical Test on Related Transactions between Majority Shareholders and Listed Company

To inspect the changes in controllable shareholders' tunnelling behaviour, we take the controllable shareholders' related transactions. Assets, liabilities and net assets formed by related transactions with controllable shareholders are shown as DRP_ASTR, DRP_LIABR and DRP_NETR, respectively. Assets, liabilities and net assets formed by trading related transactions with controllable shareholders are shown as DTRECR, DTPAYR and DTNETR, respectively. Research variables in the previous mode are replaced RP_ASTR, RP_LIABR, RP_NETR, TRECR, TPAYR and TNETR by DRP_ASTR, DRP_LIABR, DRP_NETR, DTRECR, DTPAYR and DTNETR. The empirical results are shown in Table 6-4. The coefficient β1 of DRP_LIABR and DTPAYR in models 1b and 1e are not significant (Table 6-4), which indicates that the liabilities formed by related transactions with controllable shareholders before the share reform and by trading related transactions have no negative influence on performance without tunnelling behaviour. These results are different from those in Table 6-3. However, in models 1a, 1c, 1d and 1f, the sums of β1 and β3 are all significantly negative, consistent with those in Table 6-3. This finding indicates that after the share reform,

the asset and net asset generated by the related transactions with majority shareholders and by business-class-related transactions have the function of tunnelling. Generally, the related transactions with majority shareholders have tunnelling function, and our conclusion supports the tunnelling hypothesis.

Table 6- 4 Regression results of controllable shareholders' tunnelling effect changes

	Coefficient	**Model 1a**	**Model 1b**	**Model 1c**	**Model 1d**	**Model 1e**	**Model 1f**
DRP_ASTR	β_1	-0.3576*** (-5.9816)					
DRP_LIABR	β_1		-0.0266 (-0.3071)				
DRP_NETR	β_1			-0.2588*** (-4.9724)			
DTRECR	β_1				-0.3560*** (-5.9565)		
DTPAYR	β_1					-0.0541 (-0.6072)	
DTNETR	β_1						-0.2531*** (-4.8194)
IFREF	β_2	0.0473*** (6.0030)	0.0521*** (6.5782)	0.0502*** (6.4497)	0.0474*** (6.0081)	0.0517*** (6.5411)	0.0500*** (6.4111)
IFREF* DRP_ASTR	β_3	0.1453* (1.8612)					
IFREF* DRP_LIABR	β_3		0.0021 (0.0225)				
IFREF* DRP_NETR	β_3			0.1870*** (3.0260)			
IFREF* DTRECR	β_3				0.1432* (1.8346)		
IFREF* DPAYR	β_3					0.0335 (0.3443)	
IFREF* DTNETR	β_3						0.1728*** (2.7565)
INSHOLDR	β_4	0.0818*** (7.9274)	0.0816*** (7.8649)	0.0825*** (7.9735)	0.0818*** (7.9274)	0.0816*** (7.8679)	0.0826*** (7.9856)
INDDR	β_5	-0.0011 (-0.0388)	0.0064 (0.2217)	0.0052 (0.1797)	-0.0011 (0.0367)	0.0064 (0.2206)	0.0049 (0.1695)
FIRST	β_6	0.0668*** (5.8512)	0.0605*** (5.2274)	0.0578*** (5.0621)	0.0668*** (5.8500)	0.0604*** (5.2307)	0.0582*** (5.1014)
TOP_{2-5}	β_7	0.0809*** (5.1967)	0.0846*** (5.4124)	0.0818*** (5.2486)	0.0809*** (5.1959)	0.0844*** (5.4052)	0.0816*** (5.2385)
SOE	β_8	-0.0085*** (-2.6775)	-0.0094*** (-2.9469)	-0.0092*** (-2.8826)	-0.0085*** (2.6796)	-0.0095*** (-2.9535)	-0.0092*** (-2.8890)
LEV	β_9	-0.1205*** (-13.9748)	-0.1205*** (-13.7864)	-0.1240*** (-14.2770)	-0.1204*** (13.9716)	-0.1205*** (-13.7931)	-0.1240*** (-14.2863)
SIZE	β_{10}	0.0285*** (16.4713)	0.0288*** (16.6066)	0.0289*** (16.7109)	0.0284*** (16.4681)	0.0288*** (16.6060)	0.0289*** (16.7070)
PB	β_{11}	0.0095*** (15.8940)	0.0094*** (15.7026)	0.0093*** (15.5823)	0.0095*** (15.8945)	0.0094*** (15.6934)	0.0093*** (15.5655)

Intercept	σ	-0.5086*** (-19.4036)	-0.5209*** (-19.8009)	-0.5172*** (-19.7386)	-0.5086*** (-19.4031)	-0.5204*** (-19.7887)	-0.5169*** (-19.7226)
	$\beta_{1+}\beta_3$	-0.2123*** (-17.4519)	-0.0245 (-0.3890)	-0.0718** (-4.6539)	0.2128*** (-17.5315)	-0.0206 (-0.2528)	-0.0803** (-5.5210)
F value		64.7425***	61.1018***	63.1167***	64.7273***	61.1112***	63.0726***
Adjusted R-squared		0.1612	0.1534	0.1578	0.1612	0.1535	0.1577

Notes: The superscripts '***', '**' and '*' represent the corresponding coefficients or statistics significant at the 1%, 5% and 10% levels, respectively. The content in the parentheses of ($\beta_{1+}\beta_3$) line is for F statistics; other contents inside the parentheses are for T statistics.

6.5.2 Comparison between Tunnelling Functions of Related Transactions with Large Shareholders and of Other Related Transactions

The above analysis verifies that the related transactions between majority shareholders and listed companies have a tunnelling function. Now, do other related transactions also have the tunnelling function? How are the tunnelling functions of these two groups of transactions different? The answer to these questions will help regulatory authorities to determine the key point of regulation. In the following study, the tunnelling functions of related transactions with majority shareholders and other related transactions are compared.

Since majority shareholders master the pivotal resources and have more disclosure power, the tunnelling function of the related transactions of majority shareholders should be stronger. Therefore, Research Hypothesis 4 is given.

Hypothesis 4: Compared with related transactions with other related parties, related transactions with majority shareholders have stronger tunnelling function.

Based on Model (1), all related transactions (RPT) are divided into related transactions with majority shareholders (DRPT) and related transactions with other related parties (RPT-DRPT). The cross term of the dummy variable identifying whether share reform has finished (IFREF) and the related transactions (RPT) are also decomposed into two parts: one is the cross term of the dummy variable identifying whether share reform has finished and the related transactions with majority shareholders, denoted by DRPT*IFREF; the other is the cross term of the dummy variable identifying whether share reform has finished and other related transactions, denoted by (RPT-DRPT)*IFREF. The dependent and controlling variables remain unchanged, forming Model (6-2). In model 2a to model 2f, we use RP_ASTR, RP_LIABR, RP_NETR, TRECR, TPAYR and TNETR to substitute RPT, and DRPT is substituted by DRP_ASTR, DRP_LIABR, DRP_NETR, DTRECR, DTPAYR and DTNETR.

$$ROE_{adj} = \alpha + \beta_1 DRPT + \beta_2 (RPT - DRPT) + \beta_3 IFREF + \alpha_1 DRPT * IFREF + \alpha_2 (RPT - DRPT) * IFREF + \beta_4 INSHOLDER + \beta_5 INDDR + \beta_6 FIRST + \beta_7 TOP_{2-5} + \beta_8 SOE + \beta_9 LEV + \beta_{10} SIZE + \beta_{11} PB + \delta \quad (6\text{-}2)$$

In Model (6-2), the coefficients β1 and β2 represent the effects of majority shareholders' related transactions and other related transactions on performance before share reform. If these coefficients are negative, tunnelling function exists. If these coefficients are positive, supporting function exists. If these coefficients are zero, neither tunnelling nor supporting function exists. If both β1 and β2 are negative, and β1 is smaller than β2, the tunnelling function of related transactions with majority shareholders is stronger than that of other related transactions. DRPT*IFREF denotes the cross term of the dummy variable identifying whether share reform has finished and the related transactions with majority shareholders. It is used to explore the marginal effect of share reform, that is, the incremental effect of majority shareholders' related transactions on performance after share reform compared with that before reform. If α_1 (or α_2) is negative, the tunnelling function of the related transactions with majority shareholders (or other related transactions) after share reform is stronger than before share reform. Conversely, if these coefficients are positive, the tunnelling function of the related transactions with majority shareholders (other related transactions) after share reform weakens. The sum of β1 and α_1 suggests the effect of the related transactions with majority shareholders on performance. If this sum is negative, the related transactions with majority shareholders have tunnelling function after share reform. If this sum is positive, the related transactions with majority shareholders have supporting function after share reform. If this sum is zero, the related transactions with majority shareholders have neither tunnelling nor supporting function after share reform. The sum of β2 and α_2 suggests the effect of other related transactions on performance. If this sum is negative, other related transactions have tunnelling function after share reform. If this sum is positive, other related transactions have supporting function after share reform. If this sum is zero, other related transactions have neither tunnelling nor supporting function after share reform. If the sum of β1 and α_1 is negative, and the sum of β2 and α_2 is also negative, the tunnelling functions of the related transactions with majority shareholders and other related transactions can be compared through these two sums. If the sum of β1 and α_1 is smaller than the sum of β2 and α_2, the tunnelling function of the related transactions with majority shareholders is stronger, and vice versa. If no significant difference exists between the sum of β1 and α_1 and the sum of β2 and

α_2, the two tunnelling functions are neutral.

The empirical results are shown in Table 6-5. In the six models, we should pay close attention to the capital occupation of listed companies by related parties (models 2a and 2d) and the net occupation (models 2c and 2f). Except for models 2b and 2e, the coefficients β1 are all significantly negative. The coefficients β2 are all significantly negative in the six models, implying that other related transactions have tunnelling function before the share reform. Except for models 2b and 2e, no significant difference exists between β1 and β2 in all the other models. Thus, the tunnelling functions of the related transactions with majority shareholders and other related transactions are neutral before share reform. No significant difference also exists between the sum of β1 and α_1 and the sum of β2 and α_2, which implies that the tunnelling functions of the related transactions with majority shareholders and other related transactions are neutral after share reform. The possible reason for such finding is that the related parties share benefits through related transactions and conspire to infringe the benefits of median and small shareholders.

Table 6- 5 Regression results of comparison between tunnelling functions of related transactions with majority shareholders and other related transactions

	Coefficient	**Model 2a**	**Model 2b**	**Model 2c**	**Model 2d**	**Model 2e**	**Model 2f**
DRP_ASTR	β1	-0.3630*** (-6.0918)					
DRP_LIABR	β1		-0.0362 （-0.4190）				
DRP_NETR	β1			-0.2562*** （-4.9220）			
DTRECR	β1				-0.3610*** (-6.0604)		
DTPAYR	β1					-0.0628 (-0.7075)	
DTNETR	β1						-0.2503*** (-4.7674)
RP_ASTR-DRP_ASTR	β2	-0.4370*** (-6.0638)					
RP_LIABR-DRP_LIABR	β2		-0.6479*** （-5.9394）				
RP_NETR-DRP_NETR	β2			-0.1382* （-1.8985）			
TRECR-DTRECR	β2				-0.4368*** (-6.0328)		
TPAYR-DTPAYR	β2					-0.4086*** (-5.8008)	
TNETR-DTNETR	β2						-0.1584** (-2.1604)
IFREF	β3	0.0408*** (5.1221)	0.0470*** （5.9057）	0.0492*** （6.3002）	0.0409*** (5.1349)	0.0518*** (6.5733)	0.0488*** (6.2398)

IFREF* DRP_ASTR	α1	0.1513* (1.9453)					
IFREF* DRP_LIABR	α1		0.0117 （0.1242）				
IFREF* DRP_NETR	α1			0.1844*** （2.9832）			
IFREF* DTRECR	α1				0.1488* (1.9124)		
IFREF* DPAYR	α1					-0.1861* (-1.7645)	
IFREF* DTNETR	α1						0.1704*** (2.7191)
IFREF* （RP_ASTR-DRP_ASTR）	α2	0.3285*** (3.6399)					
IFREF* （RP_LIABR-DRP_LIABR）	α2		0.5924*** （4.5178）				
IFREF* （RP_NETR-DRP_NETR）	α2			0.0816 （0.9411）			

Table 6-5 Regression results of comparison between tunnelling functions of related transactions with majority shareholders and other related transactions

	Coefficient	**Model 2a**	**Model 2b**	**Model 2c**	**Model 2d**	**Model 2e**	**Model 2f**
IFREF* （TRECR-DTRECR）	α2				0.3268*** (3.6044)		
IFREF* （TPAYR-DTPAYR）	α2					0.2548*** (5.3424)	0.0996 (1.13780)
IFREF* （TNETR-DTNETR）	α2						
INSHOLDR	β4	0.0801*** (7.7896)	0.0809*** （7.8204）	0.0820*** （7.9293）	0.0802*** (7.7960)	0.0815*** (7.8846)	0.0821*** (7.9361)
INDDR	β5	-0.0058 (-0.2019)	0.0022 （0.0756）	0.0046 (0.1600)	-0.0059 (-0.2058)	0.0017 (0.0587)	0.0040 (0.1399)
FIRST	β6	0.0626*** （5.4885）	0.0572*** （4.9534）	0.0570*** (4.9918)	0.0625*** (5.4849)	0.0616*** (5.3410)	0.0574*** (5.0279)
TOP2-5	β7	0.0819*** （5.2818）	0.0846*** （5.4314）	0.0820*** (5.2589)	0.0817*** (5.2664)	0.0851*** (5.4693)	0.0819*** (5.2548)
SOE	β8	-0.0087*** （-2.7486）	-0.0095*** （-2.9792）	-0.0093*** (-2.9095)	-0.0087*** (-2.7343)	-0.0089*** (-2.7898)	-0.0093*** (-2.9122)
LEV	β9	-0.1193*** （-13.8853）	-0.1180*** （-13.4998）	-0.1245*** (-14.3259)	-0.1191*** (-13.8587)	-0.1186*** (-13.5816)	-0.1244*** (-14.3249)
SIZE	β10	0.0284*** （16.5057）	0.0290*** （16.7158）	0.0289*** (16.7076)	0.0284*** (16.4730)	0.0286*** （16.5430）	0.0289*** (16.6917)
PB	β11	0.0095*** （15.9700）	0.0095*** （15.7936）	0.0093*** (15.5773)	0.0095*** (15.9692)	0.0096*** （16.0347）	0.0093*** (15.5595)
Intercept	σ	-0.4979*** （-19.0208）	-0.5161*** （-19.6644）	-0.5149*** (-19.6420)	-0.4973*** (-18.9916)	-0.5152*** （-19.6474 ）	-0.5140*** (-19.6031)
	β1-β2	0.0740 （0.6376）	0.6116*** （19.6712）	-0.1180 (1.6976)	0.0758 (0.6635)	0.3458*** (9.4462)	-0.0919 （1.0153）

	β1+α1	-0.2116*** （17.4583）	-0.0245 （0.3922）	-0.0719** （4.6617）	-0.2122*** （17.5545）	-0.2489*** （17.8911）	-0.0799** （5.4707）
	β2+α2	-0.1085** （3.9438）	-0.0555 （0.5741）	-0.0566 （1.4348）	-0.1100** （4.0145）	-0.1538** （5.7946）	-0.0588 （1.5084）
	β1+α1 -β2-α2	-0.1032 （1.9399）	0.0309 （0.1410）	-0.0153 (0.0697)	-0.1023 (1.8970)	-0.0951 (1.0353)	-0.0211 （0.1271）
F value		60.4639***	56.8842***	56.7682***	60.4307***	57.3061***	56.7999***
Adjusted R-squared		0.1670	0.1585	0.1582	0.1669	0.1595	0.1583

Note: The superscripts '***', '**' and '*' represent the corresponding coefficients or statistics significant at the 1%, 5% and 10% levels, respectively. Except for the numbers in the parentheses of the row denoted by (β1-β2), (β1+α1), (β2+α2) and (β1+α1-β2-α2), which are F statistics, all the numbers in parentheses are T statistics.

6.6 Chapter Conclusion

According to our empirical analysis, before the share reform, other than refinancing needs and avoiding withdrawing conditions, related transactions of Chinese listed companies had a significant negative influence on company performance. In other words, tunnelling effects exist. After the share reform, related transactions had a relatively significant positive influence on company performance, which supports the effect after the share reform compared with before the share reform. However, the total influence of related transactions on company performance after the share reform is still significantly negative, which means that the related transactions after the share reform still have tunnelling effect. No difference exists between the tunnelling functions of the related transactions with majority shareholders and other related transactions both before and after the share reform. Therefore, after the share reform, the negative influence of related transactions should still be supervised and the supervision for the related transactions with other related parties should not be neglected.

Chapter 7: Empirical Research on Joint Effect of Share Reform and Corporate Governance on Tunnelling

In the previous chapter, empirical evidence on the effect of related transactions on firm returns reflects that after share reform, related transactions still have tunnelling function. Therefore, this chapter uses related transactions as the proxy variable for tunnelling behaviour to investigate the joint influence of share reform and corporate governance on the tunnelling behavior of majority shareholders.

7.1 Research Hypotheses

After the share reform, the majority shareholders' own benefits in listed companies become directly related to the stock prices of these companies. The tunnelling behaviour of majority shareholders through related transactions is ultimately reflected in stock prices, and thus, capital occupation without cost, which existed before the share reform, now disappears. Although share reform cannot completely prevent majority shareholders from occupying small shareholders' benefits by related transactions, the analysis above shows that given the enhanced supervision of related transactions and the restriction on stock prices in the secondary market, the degree of capital occupation caused by majority shareholders' related transactions will decrease significantly. Therefore, Hypothesis 1 is proposed as follows.

Hypothesis 1: After the share reform, the degree of related transactions in listed companies weakens compared with that before the share reform.

After the share reform, corporate governance level is significantly improved. How then are the effects of these governance factors on restricting related transactions significantly changed? The first issue is about equity property; the inchoate state-owned enterprise reform and listing system arrangement lead to the extensive existence of related transactions in listed companies. Therefore, before the share reform, related transactions in state-owned enterprises are larger in number than in other companies. Moreover, after the share reform, with the gradual increase of entirely listed companies, the degree of related transactions in state-owned enterprises significantly decreases. Based on this fact, Hypothesis 2 is proposed.

Hypothesis 2: Before the share reform, the degree of related transactions in

state-owned enterprises is higher than in private enterprises. After the share reform, the degree of related transactions in state-owned enterprises significantly decreases compared with that before the share reform.

The second issue is about the shareholding ratio of the largest shareholder: the influence of majority shareholders' shareholding ratio on tunnelling behaviour has a dual character. On the one hand, the increased shareholding ratio of controlling shareholders leads controlling shareholders to manipulate companies more, and thus, majority shareholders occupy other shareholders' benefits more (Burkart et al., 1997; Rajan, 1992). On the other hand, the higher the ratio of ownership the majority shareholders hold, the more benefits of majority shareholders are offset by firm damage brought by tunnelling behaviour. Thus, increased shareholding ratio weakens the tunnelling motivation of majority shareholders. After the share reform, majority shareholders have common benefit foundations with the holders of tradable shares and care more about stock prices. Therefore, we expect that in listed companies with a higher shareholding ratio of majority shareholders, the behaviour of occupying small shareholders' resources by related transactions is less prevalent after the share reform. Considering this, Hypothesis 3 is proposed.

Hypothesis 3: Before the share reform, the higher the shareholding ratio of majority shareholders, the more related transactions created. After the share reform, the higher the shareholding ratio of majority shareholders, the greater the reduction in related transactions.

The third issue is about the ownership's counterbalancing function. Before the share reform, the overwhelming problem of state-owned shares was very serious, and the ownership's counterbalancing function could hardly be effective. After the share reform, the decreased shareholding ratio of the largest shareholder reduced ownership concentration. We expect that the ownership's counterbalancing function helps to reduce related transactions, and thus, Hypothesis 4 is proposed.

Hypothesis 4: Before the share reform, ownership concentration has no effect on related transactions. After the share reform, the lower the ownership concentration, the fewer the related transactions.

As important active shareholders, institutional investors develop rapidly after the share reform and play more roles in corporate governance, which has more restrictive functions on related transactions. Based on this phenomenon, Hypothesis 5 is proposed.

Hypothesis 5: Before the share reform, the higher the shareholding ratio of institutional investors, the fewer the related transactions. After the share reform, the higher the shareholding ratio of institutional investors, the greater the decline in related transactions.

Fama (1980) and Fama and Jensen (1993) assert that the supervision of outside directors is more effective than that of inside directors. However, outside directors may be harmful to firm performance (Agrawa and Knoeber, 1996) or unrelated to it (Johnson et al., 1996). The empirical results in Chapter 6 also show that independent directors do not significantly influence firm performance. Therefore, we expect that independent directors do not affect related transactions before and after share reform, and propose Hypothesis 6.

Hypothesis 6: Both before and after the share reform, the ratio of independent directors does not affect related transactions.

7.2 Model, Definition of Variables and Illustration

To verify the research hypotheses above, we construct the following model.

$$\begin{aligned} RPT = {} & \alpha + \beta_1 IFREF + \beta_2 SOE + \beta_3 FIRST + \beta_4 TOP_{2-5} + \beta_5 INSHOLDR \\ & + \beta_6 INDDR + \beta_7 SOE * IFREF + \beta_8 FIRST * IFREF + \beta_9 TOP_{2-5} * IFREF \\ & + \beta_{10} INSHOLDR * IFREF + \beta_{11} INDDR * IFREF + \beta_{12} LEV + \beta_{13} SIZE + \delta \end{aligned} \tag{7-1}$$

The definitions of the variables in the above equation are similar to those in Chapter 6. RPT is the variable representing related transactions. If it is substituted by the variables defined in Chapter 5, that is, RP_ASTR, RP_LIABR, RP_NETR, TRECR, TPAYR and TNETR, the generated models are Models 1a, 1b, 1c, 1d, 1e and 1f, respectively. IFREF is the dummy variable for share reform completion (if the listed company has finished share reform before the corresponding year, its value is 1; otherwise, 0); SOE is the dummy variable for the ownership property of the largest shareholder (if the largest shareholder is state-owned, its value is 1; otherwise, 0); FIRST is the shareholding ratio of the largest shareholders; TOP_{2_5} denotes the sum of the shareholding ratios of the second to fifth largest shareholders, used to describe the roles of outside active shareholders; INSHOLDR is the shareholding ratio of institutional investors; INDDR is the shareholding ratio of independent directors; LEV is the debt-to-asset ratio; and SIZE represents firm size, calculated as the logarithm of total assets. The cross-terms of IFREF with various governance variables are used to examine its marginal effect, that is, the incremental effects of various governance variables on related transactions

after the share reform compared with before.

7.3 Sample Choice and Data Resources

The sample choice and data resources are also the same as in Chapter 6 of this thesis. Our sample includes listed companies in the Shanghai and Shenzhen stock markets. The sample covers 2004 to 2010, but the collected companies' share reform must have been finished during 2005 to 2007. Listed financial companies and companies with negative net assets are excluded. Observations with supporting motivation are deleted, such as the companies signed by 'ST' and 'PT', or companies with continuous losses for two years and refinancing in the same or following year. Companies with returns on equity exceeding 100% or lower than -100% and abnormal companies whose occupation ratio of related assets or related assets generated by trades exceeds 1 are also excluded. Considering that companies issuing both A-shares and B- or H-shares face different governance demand, such observations are deleted. Finally, 5,638 observations are obtained, with 803, 817, 828, 789, 796, 789 and 816 observations in each year from 2004 to 2010. The data on institutional shareholding are obtained from the Wind database, and the data on related transactions from the CSMAR database. The remaining data come from the Taiwan TEJ database.

7.4 Empirical Results and Analysis

Since the sample used in this section is the same as before, the descriptive statistics are not analysed here again. In Models 1a, 1b, 1d and 1e, the coefficients β1 of the dummy variable IFREF are significantly negative (Table 7-1), suggesting that share reform has a negative effect on the total asset and total debt generated by related transactions. That is, share reform significantly reduces the total amount of related transactions, thus confirming Hypothesis 1. However, in Models 1c and 1f, β1 is not significantly different from zero, suggesting that share reform does not significantly affect net asset occupation.

The results of Models 1a and 1d show that the coefficients β2 of the dummy variable SOE are significantly positive, indicating that more related transactions occupy capital in state-owned listed companies. The coefficients β7 of SOE*IFREF are significantly negative in Models 1c and 1f, indicating that net asset occupation in state-owned listed companies significantly decreases after the share reform compared with before.

The coefficients β3 of FIRST are only significantly positive in Models 1b and 1e. This suggests that before the share reform, related transactions where listed companies occupy the capital of related parties are more frequent when listed company's largest shareholder have higher shareholding ratio. However, the shareholding ratio of the largest shareholder does not significantly influence related transactions where list company's capital are occupied by related parties and net capital occupation (Models 1a, 1c, 1d and 1f.) The coefficients β8 of the cross-terms of FIRST and IFREF are significantly negative in Models 1c and if, which suggests that after the share reform, the higher the shareholding ratio of majority shareholders, the greater the reduction in net capital occupation compared with before. The coefficients β8 are also significantly positive in Models 1b and 1e, which suggests that after the share reform, the higher the shareholding ratio of majority shareholders, the greater the increase in related transactions occupying the capital of related parties in listed companies.

The coefficients β4 of TOP_{2_5} and the coefficients β9 of the cross-terms of top2_5 and IFREF are all non-significant in the six models, which indicate that the ownership's counterbalance function on restricting related transactions is ineffective.

The coefficients β5 of INSHOLD are all significantly negative in Models 1a, 1c, 1d and 1f, implying that before the share reform, the higher the institutional shareholding ratio, the fewer the related transactions occupying capital in listed companies and net capital occupation. That is, institutional shareholding can have a restricting function on related transactions before the share reform. In the above models, however, the coefficients β10 of INSHOLDR*IFREF are significantly positive, implying that institutional shareholding has a positive incremental effect on related transactions, although as a whole, institutional shareholding does not significantly affect related transactions after the share reform compared with before (the sum of β5 and β10 is non-significant).

The coefficients β6 of INDDR are all significantly negative in Models 1a, 1b, 1d and 1e. That is, the higher the ratio of independent directors, the smaller the total assets and total debt generated by related transactions, implying that independent directors have a restricting function on related transactions before the share reform. In Models 1a, 1d and 1e, the coefficients β11 of INDDR*IFREF are significantly positive, implying that the ratio of independent directors has a positive incremental effect on related transactions, although as a whole, independent directors do not significantly affect related transactions (the sum of β6 and β11 is non-significant).

In summary, share reform has a significantly adverse effect on the total asset and total debt generated by related transactions. Before the share reform, more related transactions occupy capital in state-owned listed companies; after the share reform, the net capital occupation in state-owned listed companies is significantly lower than before. Before the share reform, the higher the shareholding ratio of the largest shareholder, the more related transactions occupying the capital of related parties in listed companies; after the share reform, the higher the shareholding ratio of majority shareholders, the greater the decrease in net capital occupation. Whether before or after the share reform, the ownership's counterbalance function on restricting related transactions is ineffective. Before the share reform, the higher the institutional shareholding ratio, the fewer the related transactions occupying capital in listed companies and net capital occupation. That is, institutional shareholding has active supervising function before the share reform. After the share reform, the function of institutional shareholding on restricting related transactions is marginal. Before the share reform, the higher the ratio of independent directors, the lower the total asset and total debt generated by related transactions, implying that independent directors have a restricting function on related transactions before the share reform. However, after the share reform, the ratio of independent directors has no effect on related transactions. That is, the function of independent directors in controlling related transactions is marginal after the share reform.

Table 7- 1 Regression Results

	Coefficients	**(RP_ASTR) (Model 1a)**	**(RP_LIABR) (Model 1b)**	**(RP_NETR) (Model 1c)**	**(TRECR) (Model 1d)**	**(TPAYR) (Model 1e)**	**(TNETR) (Model 1f)**
IFREF	β1	-0.0557*** (-4.2423)	-0.0379*** (-3.0679)	-0.0178 (-1.0574)	-0.0563*** (-4.2972)	-0.0365*** (-3.0480)	-0.0198 (-1.1963)
SOE	β2	0.0047* (1.6625)	-0.0010 (-0.3604)	0.0057 (1.5615)	0.0050* (1.7530)	-0.0006 (-0.2195)	0.0056 (1.5434)
FIRST	β3	0.0127 (1.1368)	0.0208* (1.9838)	-0.0081 (-0.5695)	0.0117 (1.0516)	0.0171* (1.6832)	-0.0054 (-0.3834)
TOP2-5	β4	-0.0190 (-1.4067)	-0.0056 (-0.4359)	-0.0135 (-0.7774)	-0.0212 (-1.5722)	-0.0058 (-0.4720)	-0.0154 (-0.9017)
INSHOLDR	β5	-0.1309*** (-5.3736)	0.0206 (0.8997)	-0.1515*** (-4.8523)	-0.1289*** (-5.3021)	0.0214 (0.9643)	-0.1503*** (-4.8848)
INDDR	β6	-0.0982*** (-3.8929)	-0.0582** (-2.4515)	-0.0400 (-1.2373)	-0.0988*** (-3.9245)	-0.0551*** (-2.3948)	-0.0438 (-1.3731)
SOE*IFREF	β7	-0.0034 (-1.0381)	0.0057* (1.8472)	-0.0092** (-2.1658)	-0.0035 (-1.0715)	0.0051* (1.6879)	-0.0086** (-2.0642)
FIRST*IFREF	β8	0.0006 (0.0487)	0.0381*** (3.2307)	-0.0374** (-2.3336)	0.0017 (0.1341)	0.0343*** (3.0040)	-0.0326** (-2.0612)
TOP2-5*IFREF	β9	0.0220 (1.3756)	0.0170 (1.1289)	0.0050 (0.2444)	0.0241 (1.5076)	0.0165 (1.1276)	0.0076 (0.3777)

INSHOLDR* IFREF	β10	0.1280*** （5.1857）	-0.0277 （-1.1915）	0.1557*** （4.9199）	0.1259*** （5.1097）	-0.0285 (-1.2679)	0.1544*** （4.9517）
INDDR*IFREF	β11	0.0927*** （3.1362）	0.0429 （1.5414）	0.0498 （1.3150）	0.0923*** （3.1274）	0.0458* (1.7006)	0.0465 （1.2441）
LEV	β12	0.0077** （1.9930）	0.0475*** (12.9763）	-0.0397*** （-7.9707）	0.0086** （2.2047）	0.0451*** (12.7237)	-0.0365*** （-7.4369）
SIZE	β13	-0.002*** （-3.7769）	-0.0051*** (-7.2186）	0.0022** （2.3525）	0.0030*** （-4.0545）	-0.0049*** (-7.2225)	0.0019** （2.0068）
Intercept α	α	0.1091*** （7.2137）	0.0910*** （6.3945）	0.0181 （0.9335）	0.1123*** （7.4408）	0.0884*** (6.4128)	0.0239 （1.2528）
	β5+ β10	-0.0029 （0.3712）	-0.0071 （2.4798）	0.0042 （0.4633）	-0.0030 （0.4071）	-0.0071 （2.6905）	0.0041 （0.4613）
	β6+ β11	-0.0055 （0.1291）	-0.0153 （1.1225）	0.0098 （0.2474）	(0.0066) （0.1833）	-0.0093 （0.4363）	0.0027 （0.0191）
F-value		9.9013***	19.0142***	14.3589***	10.0168***	17.0523***	13.0364***
Adjusted R-squared		0.0291	0.0572	0.0431	0.0295	0.0513	0.0390

Note: The superscripts '***', '**' and '*' represent the corresponding coefficients or statistics significant at the 1%, 5% and 10% levels, respectively. Except for the numbers in the parentheses of the row denoted by (β5+β10) and (β6+β11), which are F statistics, all the numbers in parentheses are T statistics.

7.5 Further Analysis

If the dependent variable in Model 7-1 is changed to related transactions with majority shareholders (not the entire related transactions anymore), and the remaining variables remain unchanged, the regression results will be modified (Table 7-2). In contrast to the results in Table 7-1, the coefficients β3 of FIRST are significantly positive not only in Models 1b and 1e, but also in Models 1a and 1d. Thus, before the share reform, the higher the shareholding ratio of the largest shareholder, the more related transactions with majority shareholders in listed companies. The coefficients β8 of FIRST*IFREF are all significantly negative in Models 1a, 1c, 1d and 1f, which suggests that after the share reform, the total assets and net assets occupied by related transactions in companies with a higher shareholding ratio of majority shareholders are more significantly reduced compared with those before the share reform. That is, the related transactions of tunnelling type are significantly reduced. The empirical results here support the hypothesis that share reform reduces the tunnelling behaviour of majority shareholders. The effects of other governance variables on the related transactions with majority shareholders are similar to their effects on all related transactions.

Table 7- 2 Regression results for related transactions with majority shareholders

	Coefficients	Model 1a(DRP_ASTR)	Model 1b(DRP_LIABR)	Model 1c(DRP_NETR)	Model 1d (DTRECR)	Model 1e (DTPAYR)	Model 1f (DTNETR)
IFREF	β1	-0.0160 (-1.6288)	-0.0127 (1.1813)	-0.0034 (-0.2478)	-0.0164* （-1.6669）	-0.0122 (-1.1853)	-0.0042 （-0.3129）
SOE	β2	0.0034 (1.5746)	-0.0017 (-0.7160)	0.0050* (1.6950)	0.0033 （1.5511）	-0.0014 (-0.6414)	0.0048 （1.6350）
FIRST	β3	0.0454*** (5.4239)	0.0415*** （4.5527）	0.0040 (0.3402)	0.0450*** （5.3748）	0.0377*** （4.2990）	0.0073 （0.6414）
TOP2-5	β4	-0.0110 (-1.0823)	0.0054 （0.4911）	-0.0164 (-1.1642)	-0.0116 （-1.1435）	0.0057 （0.5402）	-0.0174 （-1.2572）
INSHOLDR	β5	-0.0735*** (-4.0233)	0.0324 （1.6305）	-0.1060*** (-4.1751)	-0.0728*** （-3.9820）	0.0328* （1.7148）	-0.1056*** （-4.2499）
INDDR	β6	-0.0510*** (-2.6926)	-0.0316 (1.5359)	-0.0194 (-0.7362)	-0.0509*** （-2.6860）	-0.0302 (-1.5249)	-0.0206 （-0.8008）
SOE* IFREF	β7	0.0006 (0.2413)	0.0069** （2.5555）	-0.0063* (-1.8280)	0.0006 （0.2562）	0.0064** （2.4780）	-0.0058* （-1.7205）
FIRST* IFREF	β8	-0.0215** (-2.2910)	0.0189* （1.8489）	-0.0404*** (-3.0984)	-0.0210** （-2.2319）	0.0159 （1.6149）	-0.0368*** （-2.8857）
TOP2-5* IFREF	β9	0.0111 (0.9201)	-0.0019 (-0.1428)	0.0129 (0.7745)	0.0118 （0.9830）	-0.0015 (-0.1195)	0.0133 （0.8151）
INSHOLDR *IFREF	β10	0.0767*** (4.1389)	-0.0385* (-1.9128)	0.1152*** (4.4795)	0.0759*** （4.0955）	-0.0394** (-2.0325)	0.1153*** （4.5781）
INDDR* IFREF	β11	0.0329 (1.4856)	0.0089 （0.3699）	0.0240 (0.7802)	0.0330 （1.4893）	0.0130 （0.5608）	0.0200 （0.6634）
LEV	β12	0.0036 (1.2500)	0.0361*** （11.3652）	-0.0324*** (-8.0027)	0.0037 （1.2794）	0.0347*** （11.3472）	-0.0309*** （-7.8004）
SIZE	β13	-0.0018*** (-3.1348)	(-0.0040) *** (-6.5547)	0.0022*** (2.8768)	-0.0018*** （-3.1789）	-0.0039*** (-6.6813)	0.0021*** （2.8089）
Intercept	α	0.0447*** (3.9371)	0.0525*** （4.2547）	-0.0078 (-0.4972)	0.0452*** （3.9843）	0.0516*** （4.3419）	-0.0064 （-0.4143）
F-value		13.4484***	22.5187***	14.0360***	13.3854***	20.3270***	13.0999***
Adjusted R-squared		0.0403	0.0676	0.0421	0.0401	0.0612	0.0392

Note: The superscripts '***', '**' and '*' represent the corresponding coefficients or statistics significant at the 1%, 5% and 10% levels, respectively. The numbers in the parentheses are T statistics.

7.6 Chapter Conclusion

The results in Chapter 4 show us that the corporate governance structure is improved after the share reform. Based on this chapter, however, ownership counterbalance, institutional shareholding and independent directors do not have effective functions in restricting related transactions after the share reform. Only the effects of the share reform (an external governance factor), the equity property of the largest shareholder and the shareholding ratio of the largest shareholder on related transactions are changed. In particular,

after the share reform, the related transactions of net capital occupation in state-owned listed companies, the net capital occupation generated by related transactions in companies with a higher shareholding ratio of the largest shareholder and the related transactions with the largest shareholder (which occupies capital in listed companies) are all significantly reduced compared with before the share reform. As the tunnelling function of related transactions is reduced after the share reform (Chapter 6), this chapter verifies from the perspective of related transactions that share reform can restrict the tunnelling behaviour of majority shareholders.

Chapter 8: Conclusions

8.1 Main Conclusions of this Thesis

Shares reform has a positive effect on controlling the tunnelling behaviour of Chinese listed companies; tunnelling behaviour decreases after shares reform, as the relative scale of related transactions in Chinese listed companies diminishes. This positive change is commonly a result of incentives offered to the listed company by shares reform and of changes in the share rights structure and non-shares reform governance factor, such as the fast development of institutional investors. The main conclusions of the study are summarised as follows.

First, in analysing the changes in the tunnelling governance mechanism in Chinese listed companies before and after shares reform, we find that related regulations on tunnelling governance have improved, but the actual executive strength has not changed significantly. With the shares reform plan limiting the easy transfer of controlling rights in the short term, and the reduced provisions on state-owned shares after shares reform bringing more limits on the transfer of controlling rights, the controlling rights market is still not fully developed. The decreased equity concentration, strengthened balance ability, and a quickly developing institutional investor after the shares reform help control tunnelling behaviour. Reasonable adjustments in the size of the board of directors and the increased proportion of independent directors lead to higher participation. The capacity to express different ideas has remained weak because of the defects in the whole governance environment and the limited autonomy among independent directors.

Second, this thesis analyses the relationship between shares reform and other factors, such as absolute scale, relative scale, and structural changes in related transactions, using related transactions as proxy variables for tunnelling. The relative scale changes in related transactions clearly reflect the declining pattern in related transactions after shares reform. The most direct tunnelling behaviour, that is, capital occupation, also shows the same trend. The structural changes reflect the transfer of tunnelling behaviour to a more concealable method (mainly to asset-related transactions). Based on the analysis of the net assets formed by related transactions and assets, we find that the capital of listed companies is occupied

prior to shares reform but decreases in proportion annually. The capital of related companies is occupied by listed companies after shares reform, gradually increasing in proportion as a whole after shares reform.

Furthermore, through empirical research on the effects of shares reform on tunnelling behaviour, we find that related transactions in Chinese listed companies bring an obvious negative effect on company performance prior to shares reform, indicating the adverse effects of related transactions on the performance of these companies before the non-tradable share reform. Related transactions after share reform brought a relatively significant positive influence on company performance compared with those prior to shares reform. Nevertheless, the overall influence of related transactions on company performance after shares reform remains significantly negative, indicating the tunnelling effect of these transactions after shares reform. To investigate further the changes in the majority shareholders' tunnelling behaviour, the sum of the related transactions, with both the parent company and other enterprises under the control of the same parent company, is taken as that made with the majority shareholders. The empirical test shows that the related transactions made with the majority shareholders of the listed company produce the same effect as the tunnelling behaviour. Other related transactions are not different from those made with the majority shareholders. Therefore, the supervision of the negative influence of related transactions, as well as the supervision of related transactions with other related parties, should continue after shares reform.

Finally, through empirical research on the joint effect of shares reform and corporate governance on tunnelling, we find that ownership counterbalance, institutional shareholding, and independent directors do not have effective functions in restricting related transactions after shares reform. Only the shares reform (an outside governance factor), the equity property of the largest shareholder, and the shareholding ratio of the largest shareholder's effects on related transactions can change. In particular, after shares reform, the related transactions of net capital occupation significantly decrease in state-owned listed companies, the net capital occupation generated by related transactions decreases more in companies with higher shareholding ratio of the largest shareholder, and the related transactions with the largest shareholder, which occupies capital in listed companies, also decrease significantly compared with those prior to shares reform.

In general, this study finds evidence of the results of shares reform. As for tunnelling behaviour, more system defects must be remedied. For instance, the executive strength of

regulations does not improve before and after the shares reform, and the capacity of independent directors to express autonomous views remains weak.

8.2 Policies and suggestions

The non-tradable shares reform has removed the barrier between tradable shares and non-tradable shares, achieving full circulation of equity and entitlement of all shares to the same rights. When the period of commitment to the non-tradable shares reform expires, the shares held by the majority shareholders may become public and tradable, showing that share price directly influences the values of their shares. In this case, it is impossible for the majority shareholders to have no scruples about increasing or depressing the share price to tunnel listed companies as they did before the non-tradable shares reform. The previous empirical results confirm that the majority shareholders are unlikely to harm the company after the reform, but risk still exists. A study on the consequences of these detailed measures is important to further standardise the related transactions and restrict the role of the majority shareholders with respect to company management, accounting regulation, and correction of their behaviour.

8.2.1 Corporate Governance Improvement

Under full circulation, the governance of a listed company should be improved and related transactions should be standardised to adapt to market changes. Some targeted advice will be provided to improve the corporate governance structure and the exertion of influence by the independent directors.

8.2.1.1 Corporate Governance Structure Improvement

Ownership structure is the foundation of governance structure in listed companies, indicating that a sound ownership structure enables whole-interest-based policymaking to restrict the role of all shareholders. In China, a weak ownership structure is the most adverse factor hindering the listed company from establishing a sound and effective corporate governance structure and, even worse, is one of the reasons causing unfair related transactions. Although the non-tradable shares reform has been implemented throughout the country, and even if the majority shareholders have paid tradable shareholders for parts of equities through consideration, the situation of “sole majority shareholder” has not completely changed to some extent. Under the circumstances, investors such as legal persons, organisations, and

individuals may be introduced in the listed company to achieve a relatively spread ownership structure, serving as a weight that balances the majority shareholders therein. Furthermore, these investors may diversify the ownership structure to play a key role in reducing related transactions.

Different measures can be taken to reduce the shares held by the state-owned or non-state-owned majority shareholders and to introduce investors in various fields, particularly the institutional investors in the security market. On one hand, the institutional investors possess abundant funds and monitoring skills with which individual investors cannot compete. They can increase or decrease their shareholding with a listed company in the security market to influence company operations. On the other hand, their unique advantages of rich investment and management experience enable them to supervise company operations and even join company management with the objective of bringing efficient management. Finally, with the increase in the shares held by the investors, a long-term investment strategy can be taken by the institutional investors to supervise company operations for their long-term interests. In summary, deeper commitment from institutional investors in a listed company may enhance the long-run efficiency of the listed company.

8.2.1.2 Fully Exerting the Influences of Independent Directors

Currently, many corporate governance weaknesses, such as low independence of the board of directors and the board of supervisors as well as lack of effective supervision, exist in Chinese listed companies. The operation of the board of directors and the board of supervisors must be standardised, and the influence of the independent directors must be fully exerted to improve the quality of corporate governance. The realisation of this goal can restrict the opportunistic behaviour that harms the listed company and protect the legal interests of shareholders. Therefore, the following measures are recommended to allow independent directors to fully exert their influence.

First, the selection of independent directors should be undertaken by senior executives or professional managers. As celebrities, scholars, and experts can hardly find time to fully perform the duties of an independent director, they are excluded from applying to such position. A qualified independent director is one who is knowledgeable in accounting, management, and law and is required to participate in the operations of the board of directors. An individual with much practical experience in enterprise management, as well as the capacity to offer feasible and constructive advice on the company strategy and operations, can be more effective as an independent director. Based on the experience of foreign mature

markets, an independent director who can raise different and independent views for the board of directors in decision making and possesses relevant skills and experience in positive effects on policy and strategic decisions is likely to contribute to improving the performance of the listed company. An excellent senior executive or professional manager with large management experience is more likely to benefit the company by helping identify potential risks, thus bringing the supervision function of an independent director into full play.

Second, the autonomy of the independent director must be strengthened in several aspects. (1) The interests of a truly independent director must be independent from the listed company. At present, although an independent director exists in many listed companies, this position is held mostly by professors from universities or colleges, or senior consultants from consulting companies who have close interest relations with the listed companies. These private interests bind their capacity to become effective independent directors. (2) The qualification of independent directors should be verified to ensure their independence. The position of an independent director in most listed companies is currently held by social celebrities who possess no knowledge of enterprise operations and management. Therefore, senior executives from related fields should be appointed as independent directors. (3) The nomination system needs to be improved. In most listed companies, the independent directors are appointed directly by the majority or controlling shareholders. However, this system may harm the interests of minority shareholders and reduce the autonomy of the independent director. Therefore, the nomination system for an independent director should be completed to enable minority shareholders to recommend independent directors who break the monopoly of the majority or controlling shareholders in the board of directors, thus balancing the control of these shareholders in the board.

Third, an incentive mechanism for the independent director should be established and completed as soon as possible to bring the independent director’s potential influence into full play, which shows that a sound independent director mechanism is viable. Therefore, a complete compensation system and evaluation standard must first be established for the effective implementation of a mechanism that connects the income of independent directors with evaluation standards, ultimately protecting the interests of minority shareholders. However, the independent director is not a solution to every problem that the listed company encounters. In these companies, the independent director is only a key variable in corporate governance, as many other influencing factors exist such as ownership structure, mechanism structure, corporate external, and internal governance. Although the independent director is

not a magic cure-all for problems, he/she is indispensable to a listed company because the independent director is important to its internal governance. An independent director should not assume all the regulating responsibilities; a sound incentive mechanism should be established for the independent director to play a better role in the company.

8.2.2 Enhancing Accounting Regulation on Related transactions

The majority or controlling shareholders have the power to decide in the related transactions of Chinese listed companies. Therefore, they can use accounting policies for their own interests and manipulate interests through these transactions, damaging the profits of the minority shareholders. Therefore, the system relevant to related transactions should be improved further to enhance the fairness of such transactions in the listed companies. The interests of the investors in these companies are balanced, and the timely, complete, genuine, and transparent disclosure of information on these transactions is ensured.

8.2.2.1 Specifying Fair Pricing Principles and Complete Disclosure of Pricing Policies

Pricing is the core of information disclosure, showing the rationality and legality of related transactions. Currently, the regulations set by accounting standards and accounting systems on the pricing of related transactions are ambiguous. Despite the many regulations, no fair guiding principle governs these pricing transactions. Furthermore, no rule assesses the fairness of pricing so listed companies are allowed to price by themselves. Research and statistics reveal many pricing methods on the related transactions of listed companies in China and different specific regulations corresponding to different kinds of related transactions with different natures. Enterprises can choose one from among these methods and disclose it in accounting statements. Therefore, the country can learn from foreign experience to create and improve the pricing regulations for the related transactions of listed companies according to the principle of market competition. These pricing policies should be specified in the information disclosure of listed companies. Clear explanations should be made on related transactions above or below the normal market price. Detailed explanations and instructions should be made in particular circumstances. Finally, the disclosure of the influences on enterprise operations must be given attention.

For now, pricing disclosure concerns should not be limited to setting a price for a related party transaction but should include timely and effective disclosure to prevent financial fraud in enterprises. In certain cases, the pricing method of a related party transaction is not very important, but whether the fixed price of this transaction is suitable to the market and close to

the market price should be considered. It is accepted by the public if it is very close to the market price and is rejected otherwise. Therefore, pricing principles must be complete to prevent listed companies from adjusting operation interests through related transactions, consequently protecting the interests of many investors.

8.2.2.2 Improving the Accounting Framework and System on Financial Fraud

Currently, no accounting framework or system on financial fraud in Chinese listed companies is perfect. A wide range of complex financial fraud usually occurs among senior executives engaged in inside trading within these companies. Therefore, the accounting framework and system on financial fraud should be improved in the following aspects to prevent such fraud and protect company interests. (1) Senior executives of listed companies must be fully responsible for the authenticity and integrity of the data in quarterly, semi-annual, and annual financial reports of listed companies. Heavy penalties must be made on senior executives or responsible persons found to have made false accounts. (2) Detailed regulations must be made on relevant accounting matters to prevent senior executives from making false accounts. Clear handling methods must be specified for flexible accounting matters such as depreciation and loss provision. (3) The rights of senior executives must be properly controlled. An audit department can be set up in a listed company, and the staff of the department can represent the interests of the minority shareholders. The department must be controlled and managed by the directors or independent directors representing the interests of the minority investors and be responsible for the internal audit and supervision of the authenticity of company financial data. (4) The individual responsibilities of senior executives must be specified. The senior executives must be responsible for the authenticity, accuracy, and integrity of financial reports. Administrative, civil, and criminal penalties must be increased on financial fraud.

8.2.3 Standardising the Behaviour of Majority Shareholders

The behaviour of majority shareholders improved after the non-tradable shares reform because of the huge effects of the latter on their behavioural changes. Their positive behavioural changes mainly focus on improving the performance of the listed company and the corporate governance structure, but several negative influences are also caused by these behavioural changes. For example, great influence can be brought to the secondary market by the majority shareholders who reduce their holdings. The majority shareholders and powerful organizations manipulate the share price of the secondary market and then inject unreasonable

assets that damage the interests of the listed company. Therefore, stronger supervision of shareholder behaviour is needed to protect the interests of the listed company after non-tradable shares reform.

8.2.3.1 Formulating Various Regulatory Measures based on the Behavioural Characteristics of the Different Majority Shareholders

Shareholders in listed companies in China can be classified into controlling shareholders and non-controlling shareholders based on their control power and the classifications of listed companies. Controlling shareholders refer to those whose contributions account for over 50% of shares in a joint stock company or investors whose contributions are less than 50% of the holdings yet they hold the voting right of the share and wield great influence on the resolutions from shareholders' meetings. Shareholders in listed companies can also be classified into state-owned shareholders and private shareholders based on the nature of ownership. State-owned shareholders refer to state-owned enterprises and institutions that hold the shares of listed companies. Private shareholders refer to non-state-owned organisations, enterprises, and individuals. Different types of shareholders have different behaviour characteristics so they should be regulated by classification according to these specific characteristics.

In regulating the controlling shareholders, the following aspects must be given attention. (1) The interest of the minority shareholders must be guaranteed by limiting the misuse of control right. The behaviour of controlling shareholders of using their control power to damage the interest of the minority shareholders must be strictly regulated. (2) The share price of the secondary market must be monitored closely to determine the current development trends. Whether controlling shareholders can obtain personal gains is closely related to the share price of the secondary market. Therefore, the motive of the actual controlling shareholders should be fully considered after the change in share price. (3) Controlling shareholders must be regulated or effective actions for punishment must be taken to prevent them from interfering with or disturbing the governance of listed companies.

The regulatory responsibilities of state-owned shareholders are jointly fulfilled by state-owned asset regulation organisations and securities regulatory institutions. State-owned shareholders should focus on whether the value of state-owned assets is preserved or increased as well as prevent the senior executives of state-owned enterprises from undercutting listed companies through related transactions, effectively preventing the losses of state-owned assets. Attention should be paid to whether the state-owned shareholders

provide false statements, inadequately disclosed information, and unfair plans in the overall listing and asset injection, which should be effectively prevented.

Private shareholders must be regulated in following aspects. (1) The direct shareholder of a listed company must be a natural person who helps to clarify the ownership structures of listed companies. The governance of listed companies must be improved by changing irrational phenomena such as unclear ownership structure, complicating the level of several private-listed companies. (2) Strict methods for managing the changes in the ownership of controlling shareholders and information disclosure must be formulated, and the management and quality of information disclosure must be improved.

8.2.3.2 Encouraging the Integral Listing and Careful Review of Asset Injection

Common listing modes, such as integral listing and asset injection, continue to be the most popular methods adopted by large enterprises. Integral listing and asset injection are two concepts with differences and connections. Integral listing refers to the process in which a group company securitises all its assets or the main business assets until it finally becomes an integrated listed company. Asset injection mainly refers to the situation in which the majority shareholder of a listed holding company sells its assets to the listed company to achieve group listing. The assets of integral listing and asset injection should comply with the principles of high quality and strong profitability as well as have a close business relationship with the listed company, through which the performance of the listed company can be enhanced. Integral listing is well known in foreign security markets because competition within the same industry is prohibited in overseas exchanges. Compared with non-integral listing, integral listing not only avoid improper related transactions in the same industry but also enables the standardisation of the management and operation of listed companies. However, the injection of various funds must be identified carefully, and the injection process must be standardised to protect company interests.

Once-off integral listing should be adopted by many listed companies to avoid multiple capital injections. Investors believe that asset injection for integral listing is a good choice. Most majority shareholders choose multiple capital injections to adjust the share price of the secondary market for obtaining illegitimate interests in the case of once-off asset injection. Therefore, the once-off integral listing should be adopted to avoid information manipulation and improve the efficiency of the integral listing. Moreover, the capital quality injected by the majority shareholders should be reviewed to avoid the injection of fictitious and unfair assets. A strict review system that considers the following should be established: (1) the rationality of

the price of injected assets and other conditions and the effects of injected assets on the performance of the listed company; (2) the business correlation of the injected assets and the listed company and the legitimacy of the injection process; (3) the rationality, fairness, and authenticity of the report when asset appraisal is carried out by an intermediary company.

While injected capital is undergoing review, its source and usage must also be kept confidential and a reasonable, legal confidentiality system must be established to prevent illegal operators from benefiting from it. Generally, the beginning of capital injection until the time the listed company publishes its announcement is quite sensitive because numerous subjective and objective factors may leak all kinds of information during this period. Under such circumstances, some controlling shareholders or majority shareholders harboring malicious intentions may exploit such information. Therefore, the supervising organization should make quick responses and take effective measures to decrease losses once any abnormal phenomenon is discovered.

8.2.3.3 Strengthening the Interaction Management among Majority Shareholders, Senior Executives, and Related Parties

The senior executives, majority shareholders, and related parties of listed companies play a major role in the Chinese security market after the non-tradable share reform. Therefore, interaction management is necessary because very negative influences may take a toll on the company should some of these parties collude with one another for their common interests. First, since majority shareholders are most concerned with the share price after the full circulation of stocks, they either increase or decrease the share price by controlling the share price of the secondary market. Therefore, an indispensible interaction management will play an active role in preventing majority shareholders from cashing out while they control the secondary market. Second, a sound and powerful secure database on related parts of the company must be built, the trends of majority shareholders in the primary and secondary markets must be unveiled in time, and the information of personnel at all levels and in all trading activities must be supervised and paid attention to. Third, a sound accountability system must be built aiming at the related parts and those who own the stock-controlling right of the listed company. Moreover, we will draw lessons from the supervisory experience and maturity of foreign laws in the securities market field so as to prevent majority shareholders from colluding with one another. If the supervising organization is not careful enough to watch its personnel and collect evidence, unveiling the illegal actions of the shareholders will be more difficult once the related parts or controlling shareholders hide their transfer of

company assets or their increase of their own stock proportion by illegally binding together. Such actions will harm the company's interests. Hence, a detailed supervision system must be established and the responsibilities of the supervision department must be completely fulfilled so that quick and active measures can be taken to protect the interests of the listed company once illegal actions are found.

8.3 Limitations of the Thesis

Many improvements have been made in this study in terms of the rationality of variable design, scientificness of the research method, and comprehensiveness of the research perspective, greatly increasing the reliability and acceptance of the research conclusion. However, similar to other thesiss on related transactions and tunnelling behaviours of majority shareholders, this thesis has objective limitations brought about by the availability of several special factors and data on related transactions. The limitations are as follows:

(1) Limitation on Variable Selection and Measurement Research

Accounting performance, a generally accepted method, is adopted to reflect the consequences of related transactions in all aspects. However, in this method, the most frequently used index ROA may be affected by the business cycle. Therefore, it cannot reflect the systematic risk and it has no perspective. Tobin's Q solves these two problems. However, reflecting the actual value of the listed company compared with ROA is difficult in most emerging market countries. In sum, both the accounting performance index and the market performance index have their own defects.

The majority shareholders of the listed company can find another method to avoid the restrictions imposed by relevant laws. They usually establish a shell company, transform its related party transaction into non-related party transaction, or divide one transaction into two transactions or transact with the future related party. Particularly, when the management of a listed company transacts with its family members, outsiders will have difficulty judging whether the transacting parties are related because of the complicated social relations. These factors certainly affect the accuracy of the related party measurement.

(2) No In-depth Research has been made on Endogenous Variables

Handling the problems caused by the endogenous variables in financial and accounting research and the influence brought by endogenous variables in related party transaction research is generally difficult. This study examines the economic consequences of the related

party transaction and its relation to non-tradable share reform, assuming that the related transactions are exogenous in most studies. Even in the research on the mechanism formed for related transactions, such transactions are assumed to take place simultaneously with the establishment of corporate governance, which both helps and restricts the occurrence of the former. Despite the improvements in statistical method, completely coping with these problems is still impossible.

This thesis only analyses important internal and external governance factors. Several factors are not mentioned, such as the effect of management by the board of supervisors on the tunnelling behaviour governance mechanism, ownership property in ownership structure, and so on. Although these factors do not influence the thesis conclusion, they are highly important to the research and should be supplemented later.

8.4 Further Research

In China, related transactions, corporate governance, and tunnelling behaviours of the majority shareholders are an important subject in capital markets. This study only discusses certain basic problems in the share reform. In what follows, we offer additional topics worth studying in the future.

In the post-equity division and in the entire circulation eras, the majority shareholders are more motivated to manipulate the market. This study does not directly study the tunnelling behaviours of the majority shareholders in stock manipulation but instead reflects the changes in such behaviours caused by the related transactions in accounting performance. Further studies can be made on the private placement of the majority shareholders, management acquisition, stock reduction, and earnings management after the entire circulation.

The final goal of the share reform is to improve the corporate governance and business performance of the listed company. Corporate governance is worthy of thorough study, particularly the influence on corporate governance and business caused by the majority shareholders' behaviour, control power market, equity incentive scheme, and so on. An example is how the active control power market affects or even changes the behaviour of the majority shareholders and management in corporate governance, and what the influences are on the operations and values of the company.

Aside from related transactions, the other interest output measures of the majority shareholders are high camp and shareholders' right transfer and assurance, among others.

Majority shareholders may control earnings management in listed companies to conceal and protect their private interest. Therefore, conducting a systematic research on the interest output measures and earning management tools can improve the quality and medium of accounting information in listed companies and the interest protection of small investors.

Bibliography

Armando, G. and Walter, N. (1999) "Multiple Large Shareholders in Corporate Governance, University of Pennsylvania", *Working Paper*: http://finance.wharton.upenn.edu/~rlwctr.

Baek, J. and Kang, J. (2006) Business Groups and Tunneling: Evidence from Private Securities Offerings by Korean Chaebols, *Journal of Finance,* 61, pp 2415-2449.

Bai Yunxia (2004) Impact of Asset Acquisition and Control Right Transfer on Performance, *Economic Research*, 12, pp 35-44.

Barelay, M.J., Holderness, C.G. and Sheehan, D.P. (2007) Private Placements and Managerial Entrenchment, *Journal of Corporate Finance*, 13, pp 461-484.

Barnhart, S.W. and Rosenstein, S. (1998) Board Composition, Managerial Ownership, and Firm Performance: An Empirical Analysis, *Financial Review*, 22, pp 1-16.

Baysinger, B.D. and Butler, H.N. (1985) *Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition*, 1(01), pp 101-124.

Bengt, H. and Steven, N.K. (2001) "Corporate Governance and Merger Activity in the U.S.: Making Sense of the 1980's and 1990's", *Working Paper*, National Bureau of Economic Research, Cambridge, MA, April.

Benjamin, M. and Anete, P. (2005) Multiple Large Shareholders and Firm Value, *Journal of Banking and Finance,* 29(7), pp 1813~1834.

Berle, A. and Means, G. (1932) *Modern Corporation and Private Property*, World, New York.

Bhagat, S. and Black, B. (1999) The Uncertain Relationship between Board Composition and Firm Performance, *Business Lawyer*, 54, pp 921-963.

Blair, M.M. (1995) *Ownership and Control*, Brookings Institution, Washington D.C.

Borokhovich, K.A., Parrino, P. and Trapani, T. (1996) Outside Directors and CEO Selection, *Journal of Financial Quantitative Analysis*, 31, pp 337-355.

Byrd, J. and Hickman, A. (1992) Do Outside Firectors Monitor Managers? Evidence from Tender Offer Bids, *Journal of Financial Economics,* 32, pp 195-221.

Chen Chunhui and Li Zhenghui (2005) The Application of Rescaled Range in Shanghai Stock Market Effectiveness Analysis, *Statistics and Decision*, 4, pp 140 – 143.

Chen Zheng (2009) *Study on Large Shareholders' Private Benefits of Control and Earnings Management* (Ph.D. Dissertation), Xiamen University, Xiamen.

Cheng Xiao, Wang Kun (2005) Related transactions, Corporate Governance and State Ownership Reform, *Economic Research Journal,* 4, pp 77-86.

Cheung, Y., Rau, P.R. and Stouraitis, A. (2006) Tunneling Propping and Expropriation: Evidence from Connected Party Transactions in Hong Kong, *Journal of Financial Economics*, 82, pp 343-386.

Cheung, Y., Rau, P.R. and Stouraitis, A. (2006) Tunneling, Propping and Expropriation: Evidence from Connected Party Transactions in Hong Kong, *Journal of Financial Economics,*

82, pp 343-386.

Claessens, S., Djankov, S., Fan, J.P.H. and Lang, L.H.P. (2002) Disentangling the Incentive and Entrenchment Effects of Large Shareholdings, *The Journal of Finance*，57, pp 2741-2771.

Corporate Governance Research Center of Chinese Academy of Social Sciences (2006) Corporate Governance Evaluation of 2006 Top 100 Chinese Listed Companies, *International Economic Review* 3, pp 52-57.

Corporate Governance Research Center of Chinese Academy of Social Sciences and Puhan Consulting Firm (2010) "Corporate Governance Evaluation of 2010 Top 100 Chinese Listed Companies", *Working Paper*.

Cosh, A. and Hughes, A. (1997) Executive Remuneration, Executive Dismissal and Institutional Shareholdings, *International Journal of Industrial Organization,* 15，pp 469-492.

Cronqvist, H. and Nilsson, M. (2003) Agency Costs of Controlling Minority Shareholders, *Journal of Financial and Quantitative Analysis*, 2003, 38(4), pp 695-719.

Daily, C.M. and Dalton, D.R. (1993) Board of Directors' Leadership and Structure: Control and Performance Implications, Entrepreneurship, *Theory and Practice,* 01, pp 65-81.

Dalton, D.R., Daily, C.M., Ellstrand, A.E. and Johnson, J.L. (1998) Meta-Analytic Reviews of Board Composition, *Leadership Structure and Financial Performance,* 19, pp 269-290.

Dang Hong (2008) Empirical Study on Impacting Factors on Cash Dividends before and after the Reform of Share Rights Splitting, *Accounting Research*, (6), pp 63-17.

Darin, G.C. (2000) "The Effects of Institutional Investment on CEO Compensation", *Working Paper*, University of Southern California, Los Angeles.

David, P., Kochhar, R. and Levitas, E. (1998) The Effect of Institutional Investors on the Level and Mix of CEO Compensation, *Academy of Management Journal*, 2, pp 200-208.

Deng Jiangping and Zheng Yong (2005) Listed Company of Family Control and Dividend Decisions, *Management World,* 7, pp 139-147.

Ding Shouhai (2006) The Tobin-q Effect of Reformation of Stock Separation in Different Phases, *Nankai Economic Studies*, 5, pp 73-80.

Eric, F., Simon, J. and Todd, M. (2003) Tunneling and Propping, *Journal of Comparative Economics,* 31(4), pp 732-750.

Faccio, M., Lang, L.H.P. and Young (2001) Dividends and Expropriation, *American Economic Review*, 91, pp 54-78.

Fama, E. (1980) Agency Problems and the Theory of the Firm, *Journal of Political Economy*, 88(2), pp 287-307.

Fama, E. and Jensen, M. (1983) Agency Problems and Residual Claims, *Journal of Law and Economics*, 26, pp 327-349.

Fama, E.F. (1970) Efficient Capital Markets: A Review of Theory and Empirical Work, *Journal of Finance,* 25, pp 383-417.

Feng Gengfu, Ma Yajun and Yao Sujie (2005) A Positive Analysis of Guarantee Behavior of Chinese Listed Companies, *China Industrial Economics*, 3, pp 13-22.

Feng Yanchao, Yuan Zipeng (2007) New Change of Related Partners Transaction in All-circulation Time, *Finance and Accounting*, 1, pp 10-13.

Fields, M. and Keys, P. (2003) The Emergence of Corporate Governance from Wall St. to Main St.: Outside Directors, Board Directors, Board Diversity, Earnings Management, and Managerial Incentives to Bear Risk, *Financial Review,* 38, pp 1-24.

Francis, B. and Ulrich, H. (2001) "Multiple Shareholders and Control Contests", *Working Papers*, www.ssrn.com.

Gao Le and Shong Sunling (2007) Tunneling Wealth Effect and Investor Protection: Empirical Evidence from the Related Party Security of Chinese Listed Firms, *China Accounting Review*, l, pp 21-42.

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

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

Gu Qi, Deng Deqiang and Lu Qian (2006) Corporate Value of Separating Cash-Flow Rights From Control: Empirical Study on Family Owned Public Firms in China, *Accounting research,* 4, pp 30-36.

Gugler, K., Mueller, D. and Yurtoglu, B. (2003) The Impact of Corporate Governance on Investment Returns In Developed and Developing Countries, *Economic Journal* , 113 (491), pp 511 —539.

Hail, L. and Leuz, C. (2005) International Difference in the Cost of Equity Capital: Do Legal Institutions and Securities Regulation Matter? , *Journal of Accounting Research*, 44, pp 1-47.

Hart O. and Moore (1990) Property Rights and the Nature of the Firm, *Journal of Political Economy*, 98, pp 1119-1158.

Hart, O. and Moore (1990) Property Rights and the Nature of the Firm, *Journal of Political Economy,* 98, pp 1119-1158.

Hartzell, J. and Starks, L. (2003) Institutional Investors and Executive Compensation, *Journal of Finance,* 6, pp 2351-2373.

He Chengying and Li Xiang (2007) An Empirical Study on the Shares Reform of Shareholder s Structure of Listed Company, Expectation of Stock Supply Expansion and Market Reaction, *Journal of Financial Research,* 4, pp 157-170.

He Jun (1998) Empirical Analysis on Corporate Governance Structure of Listed Companies, *Economic Research Journal,* 5, pp 50-57.

Hou Xiaohong, Li Qi and Luo Wei (2008) A Study on Relationship between Strong Stockholder Occupying Fund and Profitability of Listed Companies, *Accounting Research*, 6, pp 77-84.

Huang Jianhuan and Yin Zhujia (2008) A Theoretical and Empirical Study on No-public Offering, Asset Injection and Balanced Shareholder Interests. *Securities Market Herald,* 5, pp 26-32.

Huang Lei, Lan Huixuan and Ye Yong (2010) The Influence and Measurement Study of Shares reform on Listed Companies Governance and Capital Market, *Economic Reform*, 2, pp 64-67.

Huang Zhizong (2006) Share-holding Ratio, Tunneling Strategy and Totally Circulating, *Nankai Business Review*, 9(1), pp 58-65.

Jayne, W.B. (1992) Who is Minding Your Business? Prelim-nary Observations on Data and

Anecdotes Collected on the Role of Institutional Investors in Corporate Governance, *Hofstra Labor LJ,* 45, pp 23.

Jensen，M.C. and William, H.M. (1976) Theory of the Firm: Managerial Behavior, Agency Cost and Capital Structure, *Journal of Financial Economics*, 3, pp 305-360.

Jian, M. and Wong, T.J. (2004) "Earnings Management and Tunneling through Related transactions: Evidence from Chinese Corporate Group", *EFA 2003 Annual Conference*, June.

Jiang Fu (2004) *Corporate Governance in China*, University of Auckland, Auckland. (Ph.D. Dissertation)

Jone, C.C.J. (1991) Liquidity versus Control: The Institutional Investor as Corporate Monitor. *Columbia Law Review*, 91(6), pp 1277-1368.

Li Jia and Wang Xiao (2010) Empirical Research on Efficiency of Stock Market in China - based on the Test Method of Variance Ratio, *Economic Survey*, 1, pp 137-140.

Li Shanming and Wang Caiping (2007) The Empirical Study on the Institutional Ownership and Executives′ *Remuneration, Management Review*, 10, pp 41-48.

Li Weian and Li Bin (2008) Empirical Research on Corporate Governance Effect Involved with Institutional Investors - based on Empirical Studies of CCGINK, *Nankai Business Review,* 11(1), pp 4-14.

Li Zenquan, Sun Zheng and Wang Zhiwei (2004) Tunneling and Ownership Structure of a Firm: *Evidence from Controlling Shareholder's Embezzlement of Listed Company's Funds in China,* Accounting Research, 12, pp 3-13.

Li Zenquan, Sun Zheng and Wang Zhiwei (2004) Tunneling and Ownership Structure of a Firm: Evidence from Controlling Shareholder's Embezzlement of Listed Company's Funds in China, *Accounting Research*, 12, pp 3-13.

Liao Li and Zhang Xueyong (2008) Split-Share Structure Reform and Interests of Private Ultimate Controllers--Evidences from China's Public-Trade Firms, *Economic Research Journal,* 8, pp 77-89.

Lipton, M. and Lorsh, J.W. (1992) A Modest Proposal for Improved Corporate Governance, *Business Lawyer*, 48(1), pp 59-77.

Liu Feng and Huo Jiangang (2004) Ownership Structure and Majority Shareholders Choose the Ways of China's Capital Market, a Preliminary Study on Transfer of Benefits, *China Accounting Review*, 2, pp 141-155.

Liu Hao, Li Zenquan and Sun Zeng (2010) Realization Method of Controlling Stockholders' Property Benefits and Direction of Interests Transfer: Discussion on Non-tradable Shares Reform in China, *Accounting Research*, 4, pp 56-67.

Liu Xiaonian and Zheng Renman (2005) Corporate Performance; Capital Structure; Credit Guarantee, *Journal of Financial Research*, 4, pp 155-164.

Liu Yihui and Xing Peng (2005) Equity Separation, Government Regulations and Chinese IPO Underpricing Puzzle, *Economic Research Journal*, 5, pp 85-95.

Lu Yao (2010) The Impact of Activating Markets for Corporate Control on the Valuation of Listed Firms in China, *Finance Research*, pp 144-157.

Luo Duanglun and Tang Qingquan (2007) Market Environment and the Tunneling Behavior of Controlling Shareholders--The Empirical Evidence from Chinese Listed Companies, *Accounting Research,* 4, pp 69-74.

Ma Shuguang, Huang Zhizhong and Xue Yungui (2005) Resource Predation under Deferent Controlling Shareholder and Cash Dividend Policy, *Accounting Research*, 9, pp 45-56.

Mark, R.H., Robert, P. and Laura, T.S. (2001) Internal Monitoring Mechanisms and CEO Turnover: A Long-term Perspective. *Journal of Finance,* (6), pp 2265-2297.

Maug, E. (1998) Large Shareholders as Monitors: Is there a Trade-off between Liquidity and Control, *Journal of Finance,* 53, pp 65-98.

Michael, C.J. (1993) The Modern Industrial Revolution, Exit and the Failure of Internal Control Systems, *Journal of Finance,* 48, pp 831-880.

Michael, C.J. and Richard, S.R. (1983) The Market for Corporate Control: The Scientific Evidence, *Journal of Financial Economics*, 11, pp 5-50.

Mike, B., Denis, G. and Fausto, P. (1997) Large Shareholders, Monitoring, and the Value of the Firm, *Quarterly Journal of Economics,* 112, pp 693-728.

Ming Jian and Wong, T.J. (2010) Propping through related transactions, *Review of Accounting Studies*, 15, pp 70-105.

Olson (1980) *The Logic of Collective Action,* Harvard University Press, Boston.

Pound, J. (1988) Proxy Contest and the Efficiency of Shareholder Oversight, *Journal of Financial Economics,* 20, pp 237-265.

Rafael, L.P., Florencio, L., Andrei, S. (2000) Tunneling. *American Economic Review*, 90, pp 2-27.

Rafael, L.P., Florencio, L., Andrei, S. and Robert, W.V. (1998) Law and Finance, *Journal of Political Economy,* 106, pp 1113-1156.

Rafael, L.P., Florencio, L., Andrei, S. and Robert, W.V. (1999) Corporate Ownership around the World, J*ournal of Finance*, 54, pp 471-517.

Robert, M. and Nell, M. (2006) Supervise the Supervisors--Cooperate Governance in 21st Century, China Renmin University Press, Beijing.

Robert, M. and Nell, M. (2006) Watching the Watchers: Corporate Governance for the 21st Century, China Renmin University Press, Beijing.

Robert, W., Matthias, B. and Roddy, M. (2003) Problems and Limitations of Institutional Investor Participation in Corporate Governance, Institutional Investor Participation, *Corporate Governance*, 11(1), pp 65-70.

Romano, R. (2001) Less is More: Making Shareholder Activism a Valued Mechanism of Corporate Governance, *Yale Journal on Regulation*, 18, pp 174-252.

Sheng Yifeng, Xu Nianxing and Yang Ye (2004) Test on the Law Protection of Minority Investors in Different Stages, *Economic Research Journal*, 9, pp 90-100.

Shi Donghui (2003) Empirical Research on the Value of Control of Listed Companies, *Economic Science*, 6, pp 83-89.

Shleife, A.R. and Wolfenzon, D. (2002) Investor Protection and Equity Markets, *Journal of Financial Economics*, 66(3), pp 27- 59.

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

Shleifer, A.R. and Vishny, R.W. (1986) Large Shareholders and Corporate Control, *Journal of Political Economy,* 94(3), pp 461-468.

Simeon, D., Rafael, L.P., Florencio, L. and Andrei, S. (2008) The Law and Economics of Self-Dealing, *Journal of Financial Economics*, 88, pp 430-465.

Steven, H. (1993) The Effect of a Large Shareholder on Corporate Value, *Management Science,* 39, pp 1407-1421.

Sun Yongxiang (2002) Corporate Governance Structure: *Theoretical and Empirical Research*, The Shanghai Joint Publishing, Shanghai.

Sun Yongxiang and Huang Zhuhui (1999) Ownership structure and Performance of listed companies, *Economic Research Journal,*(12)，pp 23-30

Tang Zhongming and Jang Wei (2002) A Study on the Expropriation Degree of Large Shareholders of China's Listed Companies, *Economic Research Journal*, 4, pp 44-50.

Thomas, H.N. (2002) Institutional Activism and Financial Market Structure, *Review of Financial Studies*, 15, pp 289-319.

Utpal, B. and Hazem, D. (2002) The World Price of Insider Trading, *Journal of Finance*, pp 75-108.

Volpin, F. (2002) Governance with Poor Investor Protection: Evidence from Top Executive Turnover in Italy, *Journal of Financial Economics*, 64 (1), pp 61-90.

Wang Kun and Xiao Xing (2005) The Empirical Study on the Institutional Ownership and Resources Expropriation by the Related party, *Nankai Business Review,* 2, pp 27-33.

Wang Kun and Xiao Xing (2005) The Empirical Study on the Institutional Ownership and Resources Expropriation by the Related Party, *Nankai Business Review,* 2, pp 27-33.

Wu Chaopen (2006) A Theoretical and Empirical Study on What Affect Consideration Ratio For Split Share Structure Reform of Listed Companies in China, *Economic Research Journal*, 8, pp 14-23.

Wu Xiaohui and Jiang Yanfu (2006) Change of the Independent Directors Governing Efficiency under the Influence of Institutional Investor: Empirical Evidence from China's Listed Firms, *China Industrial Economics*, 5, pp 105-111.

Wu Xiaoqiu (2004) Eight Defectivenesses of Splitting Ownership Liquidity--On the Full Marketability of Capital Market in China, *Finance and Trade Economics*, 5, pp 49-54.

Wu Xiaoqiu (2006) *Chinese Capital Market after the Shares reform,* China Renmin University Press, Beijing.

Wu Xiaoqiu,(2004) *Eighty Percents of Problems in Chinese Stock Market Are from Equity Ownership Splitting*, Securities Guide, 40, pp 21-22.

Xavier, V. (2006) Corporate Governance: Theoretical and Empirical Perspectives, *China Renmin University Press,* Beijing.

Xu Dilong and Lv Zhongwei (2003) Statistical Test of the Effectiveness in Shenzhen Securities Market*, Quantitative and Technical Economics Research*, 6, pp 158-161.

Xu Liping, Chen Gongmeng and Xi Yu (2005) Control Right Transfer, Property Right Reform and Corporate Performance Improvement, *Management World*, 3, pp 126-136.

Xu Zhongxing, Huang Zhangkai, Liu ying and Xue Tong(2006) An Empirical Study on The Pricing of Block Shares in China, *Economic Research Journal,* 1, pp 101-108.

Yao Yi, Liu Zhiyuan and Wang Jian (2007) The shares reform of Non-tradable Shares, Institutional Investor and Investor s Protection, *Journal of Financial Research,* 10, pp 41-48.

Ye Kangtao (2003) Recessive Gain Control over the Company from China--the Transfer of Non-tradable Stock Market Research, *Economic Science*, 5, pp 61-69.

Yu Minggui and Xia Xingping (2004) Controlling Shareholder, Agency Problem and Related-Party Transaction: Evidence from China's Listed Companies, *Nankai Business Review*, 7(6), pp 56-61.

Yu Qiao (1994) The efficient market, cycle anomalies and stock price volatility, *Economic Research*, 9, pp 43-50.

Yu Yilong, Li Yongjian and Yu Kui (2005) The Research of Market Effectiveness based on High-frequency Data, *Statistics and Decision,* 18, pp 29-30.

Zhang Bing and Li Xiaoming (2003) Gradual Effectiveness Research on Stock Market in China, *Economic Research*, 1, pp 54-61.

Zhang Guangrong and Zeng Yong (2006) Majority shareholderss Propping and Tunneling: a Study Based on the Case of Top Soft Company, *Management World*, 8, pp 126-135.

Zhang Junxi, Wang Xiaokun and Xia Le (2006) The Policies and Strategies for the Share Merger Reform, *Journal of Financial Research*, 8, pp 1-19.

Zhang Lulu (2007) Statistical Indicator System Construction of Protecting Middle and Small Investors in China, *Journal of Dongbei University of Finance and Economics*, pp 72-74.

Zhao Changwen, Pu Zili and Yang Anhua (2004) the Control be Measurement and Determinants of Private Benefits of Corporate Control–Evidence from Chinese Listed Companies, *China Industrial Economics*, 6, pp 100-106.

Zhao Hailin (2005) *Study of Listed Companies Benefits Transfer Behavior*, Hehai University doctoral thesis

Zheng Jianming, Fan Libo and Zhu Mei (2007) Related Party Guaranty, Tunneling Effect and Corporate Value, *China Industrial Economics*, 5, pp 64-70.

Zheng Jingguo, Liu Bo and Wu Chenghua (2009) Split share structure reform of Earnings Management, *Research on Financial and Economic Issues*, 11, pp 95-102.

Zhou Xianhua, Lu Changjiang (2008) Reform of the Shareholder Structure, High Dividend Payout and Investor Protection, *Accounting Research,* 8, pp 59-68.

Zhu Hongjun, He Xianjie and Chen Xinyuan (2008) Offering Benefit under the Cover of "Giving Grand Banquets"--Directional Private Placement: The Phenomenon, the theory and the Institutional Origin, *Management Sciences in China*, 6, pp 136-147.

Zou Xiong (2004) Shenzhen Stock 2003 Related transactions Statistical Analysis and Policy Recommendations, *Securities Market Herald,* June ,pp 20-24