Does registration status matter for companies´ quest for loan quota in China?

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Abstract: This thesis analysis if company registration plays a significant role when obtaining credit from formal financial institutions in China. It then goes on to explore if obtained credit for the same companies results in higher total profits. The growth of the private sector in China is a unique marvel, the sector has long been discriminated against by the Chinese government and the rapid development since the opening up policy goes against most economic development theories. Using Investment Climate survey from China for the year 2004, two econometric models are presented. The study shows how registration status of companies matters in the quest for formal bank credit in China and despite the lack of formal credit private firms are returning considerably higher total profits. The results indicate that private firms turn to alternative informal sources once in need for credit rather than trying to obtain credit from formal financial institutions in China.

Key words: China, credit, registration status, private sector.
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1. Introduction

1.1 Background

Private entrepreneurs in China are in larger scale registering their companies as limited liability company rather than a private firm. In 2004 approximately 65% of private firms in China were registered as limited liability companies (Nee and Opper, 2012), raising consideration on why entrepreneurs are opting to register their company differently? This thesis aims to find out if companies’ registration status plays a significant role in order to obtain loan quotas from Chinese state owned commercial banks and further explore if there is a significant difference in total profits between differently registered companies.

The emerging private sector in China has been one of the biggest sparks of China’s economic growth in the last decades. The development of the private sector has been remarkable and in 2005 it generated approximately 50% of the country’s Gross National Product. When looking at the development of the private sector in China it is notable how the Chinese government favors State Owned Enterprises (SOE’s) and focuses more on sectors where large SOE’s play critical role. The favoring of SOE’s through policy making, access to resources and access to capital is evident and has been a subject of much research (Allen et al., (2005), Zhou, (2009) and Brandt and Li, (2003)). The importance to have a well-functioning and highly developed capital market along with financial intermediaries is considered vital in order to foster a successful corporate sector (Rajan and Zingales, 1998). When applying this statement to the case of China it is apparent that China does not possess all these vital factors. The Chinese financial market is still underdeveloped, rule of law is unpredictable, property protection is weak and there is always the risk of government interference. Still despite these possible hindrances the private sector in China has developed into a successful sector.

What makes the development of the private sector especially interesting relates to the role of formal financial institutions in China. The role played by formal financial institutions in helping to finance the expansion of the private sector is still an unsolved question. It is assumed that access to capital is one of the foundations for companies in order to grow and develop, however in China most lending from State Owned commercial banks in China seem to be channeled to SOE’s in certain sectors.

Firth et al. (2009), conducted a study in order to gain understanding on how banks and other formal financial institutions made their lending decisions in regards to non-listed
businesses, only to receive mixed results in regards to previous studies. They did not manage to find any pattern in regards to how financial institutions in China value companies credit possibilities. China has often been used as a counter example to the findings of existing literature on institutions, growth, finance and law (Allen et al., 2005) showing no resemblance to other international evidence that are used as a background on conditions needed in order to be successful. Building on Firth et al. (2009) study, the focus of this study is to find if ownership registration status of companies influences their possibilities in obtaining loan quota from formal financial institutions in China and if there is a connection between companies obtained loan quotas and their total profits.

The findings show that ownership registration status is important for companies once obtaining loan quotas from formal financial institutions. Privately registered companies are receiving considerable less loan quotas then state owned companies and limited liability companies. The results also give mixed results in regards to economic development theory, indicating that size and age of firms play a significant role which is in line with the theory and previous studies regarding credit access, while fixed assets have no relevance which is contradicting. The results also show that private companies are returning higher profits then the two previously mentioned registration forms, which is very interesting since it should be expected that companies that have better access to credit should be returning higher total profits. This indicates that privately registered companies seek alternative lending from informal sources in order to finance their development.

1.2 Research objective

Credit plays an important role for companies’ development possibilities, without credit companies run the risk of never being able to fulfill their production potential and since the Chinese economy does not appear to follow the classical economic development theory, access to credit is an interesting subject. The motive for this study comes from when I was traveling through Songyang County in Zhejiang province in China. There I had discussions with entrepreneurs about their companies and the future development of it. The discussion suggested that restrictions to formal credit were too great and that if they sorely needed credit they would rather turn to their family, friends or other informal sources rather than formal institutions. Expanding on these considerations I found suggestions that many private companies are registering their company as a limited liability company rather than a private company in order to improve their possibilities in obtaining loans as well as to increase their
profit possibilities. The motives for this thesis come from the interest of exploring if registration status of companies is having an effect on their possibilities to obtain loans from formal financial institutions and if there is a great difference in profits between these different registration forms. The objective of this thesis is twofold:

- To describe and measure the effect of companies registration status in regards to obtained loan quota from formal financial institutions in China.

- To elaborate on loan quota to find out if there is statistical difference for different company registration forms in regards to total profits, that is if companies that are receiving higher loan quotas are experiencing higher total profits than others.

1.3 Research questions

The thesis aims to explore the relationship between companies registration status and loan quota obtained from formal financial institutions. It then moves into exploring if there is a difference between ownership registration statuses in regards to profits in order to see if loans from formal financial institutions are a decisive feature for Chinese company structure. In order to fulfill the objectives of this thesis the focus is on two specific research questions:

1. Does companies’ registration status play a significant role in order to obtain loan quotas from Chinese formal financial institutions?

2. Are the companies that receive higher loan quotas from formal sources returning higher total profits then other companies with different registration status?

Answers to these questions can have insightful information for policy making if the Chinese government wants to improve access to formal credit for all private companies. In order to help answering these research questions two hypotheses will be put forward. Using data from Investment Climate Survey (ICS) in China for the year 2004 two econometric models will be presented and analyzed in order to answer the hypothesis. The results from the models are then related to the two research questions put forward.
1.4 Disposition

The first introducing chapter gives the fundamentals for understanding the broad context of the thesis with short background information, objectives and research questions. Chapter 2 reviews some previous research of the subject, while chapter 3 shapes the theoretical framework and introduces the hypothesis used in this study. Chapter 4 gives a deeper background of China’s private sector and financial market. Chapter 5 shortly explains the methods used to analyzing the data. Chapter 6 describes the data in use. Chapter 7 presents the empirical analysis and chapter 8 concludes. Bibliography and appendix are then presented at the end.
2. Previous Research

Bank credit is commonly considered an important aspect of economic development. As early as the beginning of the nineteenth century scholars such as Schumpeter (1911; 1931) and Wicksell (1898) explained the growing importance of credit in economic development. The theory of economic development presented by Schumpeter was the idea that bank credit was a prerequisite for entrepreneurs to finance their innovative investment activity.

Much has been discussed regarding the differences of internal and external credit markets and how they benefit companies. Williamson (1975) explained the benefits of having a diverse credit markets, he argued that internal capital markets can help firms to allocate credit more efficiently than external capital markets resulting in companies reducing wasteful investment at lower cost. Myers and Majluf (1984) and Stein (1997) agree to Williamson’s explanation and further explain how information asymmetries in internal capital market are more transparent which helps allocate credit in a more efficient manner. The problem with internal capital markets on the other hand are stressed by Berger and Ofek (1995), Schlingermann et al. (1999) and Shin and Stulz (1998), that internal capital market can result in more under and over investing in comparison to the external capital market.

More recent studies discuss the importance to have credit available to all who are in need of it. Di Patti and Dell’Ariccia (2004) show how competition in the banking industry affects credit supply and can be beneficial for borrowers. A more competitive banking sector results in an increase in companies establishments, while too much market power in hands of the banking sector result in a decrease in companies establishment.

When applying these previous studies to the case of China, it raises some fundamental thoughts. The Chinese financial sector and credit market does not seem to follow the classical structure that theory expects financial markets to possess, making the case of China all the more interesting.

The case of China is often discussed in regards to the previous East Asian miracle countries, especially Japan, South Korea and Taiwan. The World Bank published in 1993, a report called The East Asian miracle where they promote how these miraculous countries (with special focus on Japan) managed to get the basics right\(^1\) in their economy resulting in exceptional growth of their economy. The report discussed how the countries’ benefitted from government led push for export of manufactured goods as well as how selective credit

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\(^1\) The basics meant macroeconomic stability, low inflation, stable and competitive exchange rates, having relative prices of traded goods close to international prices and investment in education and social infrastructure.
programs (lending to certain large companies in special sectors) helped promote the export led growth that was driving the country’s economic development. The success of Japan, South Korea and Taiwan are undisputed, the East Asian model on the other hand is not, scholars are critical in regards to the results of the report. Robert Wade (1990), criticizes the results that promoted sectors grew more and quicker than others because of government interference, showing how other sectors were growing just as quickly as the promoted once. Joseph Stiglitz (1996), discussed the importance of human capital investment along with high savings rate in the countries which allowed the governments to invest in infrastructure.

China shares many characteristics of the East Asian development model including high dependence on export markets, state control over the financial sector and the government direct promotion of SOE’s (Baek, 2005). However China differs from countries such as Japan and South Korea and other South East Asian countries in some important perspectives. The SOE’s in China still possess a large share of the economy and the “opening up policy” was restricted to certain areas within the country (mostly eastern coastal areas) and the financial market is still underdeveloped which keeps transnational capital from moving freely. Along with this domestic savings have developed reserves to supply funds to large SOE’s (Walder, 1996; So and Chiu, 1995). Dic Lo (2006), argues that from the 1990’s China has benefitted from growth paths that are characterized by capital deepening.

An important feature of the Chinese economic development is its trial and error approach of the government, although that explanation is commonly agreed by scholars, Nee and Opper (2012), explain that the success and failure of China’s market transition tends to emphasis on political actors in central or local governments. Important actors in the market such as the private sector have long been discriminated against and play a significant part in Chinese economy today. The way that the private sector has managed to develop despite many hindrances is an interesting subject.

A deeper theoretical background will be discussed in the following chapter.
3. Theory and Hypothesis

When measuring the effects of credit on economic development the measurements of changes in Gross Domestic Production (GDP) are commonly used. However it is important to use clear theoretical approach in order to understand the foundations behind the study. This is done here by relating measures of loan quota and total profits to various independent characteristics in a regression framework. By doing that researchers are able to distinguish the difference behind independent variables chosen for the analysis, which in turn can be used to recognize the main determinant affecting loan quota and total profits for companies and draw conclusions based on them. Before analyzing these measures it is important to have a look at numerous theoretical considerations. That includes to theoretically justifying the dependent and independent variables in the econometric models as well as the estimations methods and interpretation of the results.

3.1 Theoretical considerations

An understandable issue concerns the selection of dependent variables, the decision to use companies’ registration status rather the company’s ownership structure will be further discussed in chapter 6. When choosing which independent variables to include in the two regression analysis it is important to consider the once that are potentially determents of the previously chosen dependent variables. The availability of certain variables in the dataset cannot be considered a sufficient justification for using them. Variables should in general be chosen by outlining a theoretical model for how loan quota and total profits are determent. The structure of the models used is based on the role of credit in economic development theory.

3.2 The role of credit in economic development theory

Economic development theory is commonly used by scholars to explain the complex interdependent problems of economic development. The theory takes on many different aspects and combines analysis of economic, sociological, political, historical and ideological matters (Kurihara, 1957). Joseph Schumpeter’s introduced his Theory of Economic development in 1911, where he emphasizes on the role of private entrepreneurs, innovation and credit. Schumpeter’s approach explains the importance of technology and innovation in economic process and puts immense emphasis on the role of credit in economic development. Schumpeter explained how bank credit played significant role in detaching the needed
productive resource from their established location in the circular flow to the new combinations (Hansen, 1936). It has been shown empirically by many scholars (for example King and Levine, 1993, Love, 2003 and Rajan and Zingales, 1998) that the financial system can promote economic growth. Having access to credit allows companies to borrow against future income and invest in order to further develop. A well operating financial system is vital in channeling funds to the most productive uses and to allocate risk to those who can best bear them, resulting in increased economic growth, improved opportunities, better income distribution and reduced poverty (Kunt et al., 2008).

Economic development theory has throughout the years developed itself into a more holistic look with many different elements making up a healthy society. Hoff and Stiglitz (2001) explained how economic development is no longer seen as primarily the process of credit accumulation but rather a process of organizational change, and Auster et al. (1969) and Mantzavins et al. (2006) explained how increased education and healthcare should result in higher outputs.

The process of investment and its effect on economic development needs to be considered carefully. Although the theory states that increased investment should lead to increased economic growth, Schumpeter (1935) stressed that the theory does not fully grasp the importance and consequences of the investment until more is known about the relative importance of its sources and the actual behavior of lenders and borrowers. He then goes on explaining the importance of knowing what is actually done with the credit obtained. Having access to credit is of limited use if not used in a productive way, if credit for example is only used to cover losses there will be limited development of companies.

3.3 China and economic development theory

China is often used as a counter example of economic development theory, despite having weak (underdeveloped) financial system it has been one of the fastest growing economies in the world. The private sector in China has played an important role in China’s economic transformation, its gradual development has been remarkable despite government’s discrimination on their behalf. Since the early 1990 and up to 2000 the private sector has grown into providing almost one third of China’s industrial outputs (Zhang and Ming, 2001). Despite the rapid growth of the private sector in China, borrowing from state owned commercialized banking sector by private firms is inefficient. Gregory et al. (2000) showed how companies in the private sector in the early 1990 received less than one percent of the
total lending of China’s commercial banks. Lardy (1999) and Zhang and Ming (2001), suggested that most investments and working capital were financed through informal networks, inter firm credit and retained earnings. Along with this Allen et al. (2005), argue that the reason behind the development of the private market in China comes from their reliance on alternative financing channels in informal markets rather than the formal external financial market.

Since the 1990 the Chinese government has been trying to develop their financial environment, the introduction of the company law in 1994 was in theory a positive step in recognizing the private sector. The intent of the law however was not to provide legal framework for the developing private sector rather it aimed at restructuring the poorly performing SOE’s (Nee and Opper, 2012). As a result the registration form of companies needs to be considered. Because of the inferior image of private firms in China, entrepreneurs began to register their companies as limited liability companies or joint stock ventures in order to look more desirable, proper and appropriate for the customers (Suchman, 1995). By doing so entrepreneurs believed that they would have better access to resources such as credit as well as receive more business than if they were registered as private ownership company. By 2004, 65% of private companies in China were formally registered as limited liability companies (Nee and Opper, 2012). These registration findings raise a fundamental question. Does companies’ registration status play a significant role in order to obtain loan quotas from Chinese state owned commercial banks? And do the companies that receive higher loan quotas return higher profits then the others? The aim of this paper is to add to existing literature regarding companies’ access to formal credit and the effects that credit has on companies’ performance. Using data of 12,400 companies in China collected by the World Bank and its associated, the aim is to find out if companies’ registration status plays a significant role in order to obtain formal loan quotas and if these loan quotas result in higher performance of these companies. The following hypotheses are put forward in order to help answering the research questions previously presented.

3.3.1 Hypothesis 1
Companies with private ownership registration receive lower loan quotas than companies registered as limited liability company, collective company or state owned company.

3.3.2 Hypothesis 2
Companies that receive higher loan quotas are returning higher total profits than the companies receiving less loan quotas from formal financial institutions.
4. The private and financial market in China

This chapter is aimed to further explain the development of the private market and the structure of the financial market in China. In order to better understand the results from the regression presented in chapter 7 it is important to familiarize with the emerging private sector in Chinese economy since the opening up policy in 1978 and the development and current conditions of the financial market.

4.1 Emerging private sector in China

The development of the domestic private market in China has since the opening up policy in 1978 been a remarkable story. Despite being discriminated against by the government the private sector has become vital for Chinese economy. Their significance in the national economy became very large before the government adapted privatization policies for SOE’s and township village enterprises in 1995 (Qian, 2000 and Zhou, 2009). The growth of private firms played significant role in keeping unemployment rate low during the restructuring of SOE’s around 1993. During this period employment for SOE’s started to decline because public firms in the cities started to streamline labor force and this happened before the national labor retrenchment program was introduces in 1997.

From 1978-2001 private businesses grew from almost zero to 38 million. The influence of the private sector rose significantly and the sectors contribution in terms of the country’s national industrial output grew rapidly (see graph 1) and today counts for approximately one third of total industrial outputs. In 2004 more than 50% of the country’s GDP was coming from the private sector rising to almost 70% in the year 2009, interestingly the growth rate of the sector has in recent years been higher than the national GDP rate (Zheng and Yang, 2009).
Graph 1. Gross industrial outputs as percentage of total industrial output value.

(Source: Various Chinese Yearbooks)

During the first years of the reform, private companies were restricted by the political elite to only play a marginal stop gap in the economy and although the government supported and even encouraged household business it was restricted to employ a maximum of 8 employers and could only enter certain industries which produced consumer’s goods and service (Nee and Opper, 2012). Along with this private companies were considered inferior to other forms of ownership, people preferred SOE’s lifetime employment and viewed private companies as the last resort for people who were not able to get jobs at SOE’s. What the government did not anticipate was that the large number of startup firms would quickly develop into sizable manufacturing enterprises. Already during these early stages company registration status was being exploited, local politicians allowed large private companies to register themselves legally as a collective enterprise that was owned by the government. Despite this registration all firm operation where not intervened by the government and the founding capital was private. These companies have been described as a “red hat” firms and by registering as a collective enterprise, companies created a more preferential working environment. They became more ideology acceptable and had better access to material and received more favorable taxes. In return of being registered as a collective enterprise the company paid management fee which usually was a percentage of after tax profits (Nee and
Opper, 2012). By paying tax to the government that was connected to the profit of the company incentives were created for the government, the need to create a good business environment became important in order for companies to perform to their full potential and returning higher amounts to the local governments.

Another registration status which entrepreneurs used in order to be acknowledged as a state enterprise was to attach their company to established collective or state units. These entrepreneurs paid a fee to use the name, bank account and stationary of the registered company. These types of companies however often experienced troubles with the government, they needed to pay special taxes (which often were extremely high) and needed to donate to community projects. Along with these fees, poor property rights in the country made it difficult for these kinds of companies to thrive (Nee and Opper, 2012).

It was not until 1988 that private companies were recognized by the government, the government added in their constitution that the state guaranteed the rights and interests of the private economy in conformity with the law. This allowed private companies to have more than eight employers and they had a stronger legal status in the society. However the government still made sure that their strong hold was maintained, certain industries (so called key industries) were out of reach for private companies. The private sector was still reflected as a supplement to the state owned sector. Private firms needed to obtain many different formal approval items and the cost of founding a private firm was much greater than for other ownership forms. Nee and Opper (2012), argue that if the economy of private company would have developed within the institutional framework provided by the government, it would have been restricted to small scale commodity production and false collectives operating as a private business.

It was not until Deng Xioping southern tour in 1992 where the private sector gained a more pragmatic role. On his tour Deng stressed the importance of economic reform and argued that socialism could adopt some elements of capitalism and that capitalism could have socialist elements (Zhao, 1993). Deng’s speeches helped changing the inferior ideology that private firms were facing and resulted in a large amount of private entrepreneurs to establish new firms, which continued to drive China’s economic growth. Individually owned enterprises increased by approximately 20% between 1992 and 1994 and today the Chinese private sector contains considerably higher amount of companies in comparison to other company forms. Graph 2 shows the development of company registration from 1999 until 2010.
Another feature that plays an important role in Chinese economic reform was the introduction of Special Economic Zones (SEZ) in the 1980’s, which opened up new possibilities for companies. The zones offered decent business environment for companies which further allowed them to develop and bring in tax revenue that was used to nurture the zone. The SEZ attracted foreign companies and new technology to the country that helped spur on the Chinese economic development.

China still faces large problems in their economy, one that is commonly discussed is the weak protection of property rights in the country. The introduction of the company law in 1994 was in theory a positive step in recognizing the private sector as previously mentioned, but the government did not hide its intend to keep state owned sector at the center of the reform. The Chinese government has introduced many new laws that are in line with other Western economies, the problem on the other hand is that they are not being fulfilled properly. If a country wants to have effective law enforcement it needs to have independent and effective judicial system and sufficient amount of qualified legal representatives. A study by Allen et al. (2005), shows how only one fifth of all lawyers in China have a degree in law and how lower fraction of judges have formally studied law in college or university. It is thus

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2 These are industry enterprises whose principle business revenue exceeds 5 million Yuan.
not surprising that private companies do not trust the legal system in China and seek to resolve disputes outside of court.

In 2004 the Chinese government fully recognized private companies as equal to state owned companies and formally guaranteed that they would protect the lawful right and interest of the private sector. In 2007 China’s Property Rights Law was installed, the intend of the Property Rights Law was to represent regulation concerning creation, transfer and ownership of property (Nee and Opper, 2012). Despite the introduction of these laws many entrepreneurs remain skeptical that they would benefit from the juridical system.

Because of the uncertainty of the rule of law in China, political capital has become subject of much research (Newton, 2001 and Birner and Witter, 2003). Zhou (2009), explains political capital as the resources of being trusted by political organization and political connection attained through relationship with a political organization as well as activities associated with this membership. Being a member of the Chinese Communist Party (CCP) or being connected to a high ranking politician within the party could thus give some advantage to the entrepreneur over others. Dickson, (2003) and Ng, (2006) argue that private entrepreneurs were trying to secure a CCP membership even before Jiang Zemin officially welcomed private entrepreneurship to join the CCP. Zhou (2009); Ng, (2006) and Liu, (2003) explain that CCP remains today a credential for successful careers in government controlled institutions and consider this as the most important form of political capital since China is a one party political system. Although there are possibilities to gain from political capital, not all entrepreneurs participate in it, investing in political capital can be time consuming and expensive (since it often involves investing in government sponsored projects) and might include maintaining relationship with corrupted party members. This is often too much of a burden for an entrepreneur who would rather spend his time and money on developing their own company. This especially applies to the once that believe that the government cannot benefit them (or stand in their way for example because of their size) in any way.

As a result private companies need to compete on an unleveled playing field with other state owned companies. Not only are the property rights and the rule of laws unpredictable and not dependable, private companies have also throughout the reform period found it difficult to obtain credit from formal financial institutions.
4.2 China’s financial market

The Chinese financial market is characterized by a large banking sector that is predominately state owned, there are four main banks that dominate the sector. First, Bank of China that specializes in trade finance and foreign exchanges, second, Industrial and Commercial Bank of China which provides working capital loans to SOE’s. Third, China Construction Bank which provides funds for construction and fixed investment and fourth, China Agricultural Bank which specializes in agricultural lending (Ayyagari et al. 2008). Along with these four main state owned banks there are several smaller banks. These four state owned banks are direct offspring from planned economy banking system, they are extremely large both in terms of assets and employment and rank among top 50 largest financial institutions in the world (Naughton, 2007). It is commonly agreed that the financial sector in China has lagged behind the rest of the economy during the reform process. The banking sector is overregulated and is still one of the most protected industries in the country.

In recent years the financial sector has been undergoing great changes, the Chinese government has installed many laws and regulation in order to further develop their financial sector, and today the Chinese financial sector possesses all the same institutions that you would find in a developed Western economy. The Peoples Bank of China (the Central bank) sets monetary policy and provides credit to commercial banks and the China Bank Regulatory Commission (CBRC) which is independent from The Peoples Bank of China keeps regulatory oversight over the monetary policy introduced by Peoples Bank of China. The restructuring of the sector has included allowing foreign banks to operate in the country, these changes were done in preparation to China’s entry to the World Trade Organization in 2001 as well as to prepare banks for equity listing. The sector has grown and diversified and today it includes commercial bank, government policy banks and independent banking institutions. Along with this, capital markets were introduced in 1992 with the establishment of Shanghai and Shenzhen stock markets (Naughton, 2007). As previously mentioned the financial market has been diversified substantially in recent years, however despite the introduction of new players and new rules and regulations the market is still largely controlled by the four large state owned banks. Graph 3 shows the assets that different financial institutions possess, as can be seen the four state owned banks possess more than half of total assets of banking institutions.
Although, China’s banking system is large, other parts of the financial markets are relatively small in comparison to other countries in the world. Wang, Xu and Zhu (2004), showed how the Chinese equity and bond markets are smaller than in most other countries in term of market capitalization and as total value traded as a percentage of GDP. An explanation for this is that the bond market is closely controlled by the government and the Chinese stock exchange performs poorly with relatively low return (Durnev et al., 2004). The stock exchanges largely consist of listed state owned companies were the state is always the majority stock holder (usually by having another state owned company as a majority shareholder) and private ownership is not allowed beyond 0.5% of total shares. A problem with the stock exchange is that shareholders have little protection rights, the legal framework in China has been slowly developed and has a weak enforcement. It is difficult for shareholders to have a voice since they are only allowed 0.5% of all shares which allows the largest shareholder (usually a state owned enterprise) to do whatever it feels is best.

The private sector has from its emergence had difficulties in obtaining loans from formal financial institutions, it is apparent that state owned banks favor large SOE’s in certain key industries. There have been numerous attempts by the Chinese government to stimulate credit to the private sector but their effects have been minimal. For example the government

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*The other category includes, state owned policy banks, rural credit cooperatives, rural commercial banks, urban credit cooperatives, nonbank financial institutions, Postal savings and foreign funded institutions. Among these rural credit banks possess around 10% of the assets for both years and state owned policy banks around 8% in 2003 while others have considerable less.*
introduced a new proactive fiscal policy in 2008 as a part of a stimulus package, which meant that state owned banks were to loosen credit and lend more freely to avoid a credit freeze which Western countries were facing (Revelle and Chiang, 2009). This meant that interest rates for loans and savings deposits with a one year duration were lowered and the government directly requested that the state owned banks were to facilitate access to loans for companies (this referred more to private companies since SOE’s and other state owned firms did in general not have troubles accessing loans from the banks) and for private households. However, when looking at where funds from the stimulus package were going it seems that they went mostly to large SOE’s. With heavy investment into public infrastructure such as railways, airports and power plants, Chinese steelmakers, cement producers and construction companies benefitted most while small and medium sized enterprises continued to experience difficulties. Graph 4 shows where credit from state owned banks was going from 2006 until 2009 and as can be seen, only a fraction of the credit was going to private enterprises and self-employed individuals. There is a slight rise following the government’s stimulus package in 2008 but the amounts received by the private sector are still minimal.

Graph 4. Credit funds of financial institutions.

(Sources, Various Chinese Yearbooks)

Much research has been conducted in order to explain why private companies find it difficult to obtaining loans from formal financial institutions. Zhou (2009), explained that weak property rights can worsen information asymmetry problem, as a result entrepreneurs are not prepare to give too much information to the lender and the lender feels that he does
not possess enough information regarding the project and is thus not prepared to lend because he might feel that the project is too risky. Others argue that the discrimination of lending from state owned banks is not as great as many believe. Anderson, (2006) argued that because the banking sector is characterized by short tail of corporate customers the banks are not discriminating against private small and medium sized companies but rather discriminating against small borrowers, which mostly includes small and medium sized private companies. It is important to note that the formal financial market has been and still is an important feature for the private sector and has played a role in its development, but it has not been as present as it perhaps should have been and has been in other countries during their reform. It seems that because of the lack of credit from formal sources private entrepreneurs depend more on internal financing (retained earnings and principal owner lending) as well lending from other informal sources.

4.2.1 Informal credit
The informal credit market needs to be recognized when discussing the development of the private sector in China. Because private enterprises found it difficult to obtain credit from formal financial institutions they needed to seek alternative lending in order to spur on their development. The informal lending can be divided into two different forms. First would be loans coming from family and friends, these loans are often with low or no interest rates. The second would be loans from curb market lending (Tsai, 2002 and Allen et al. 2006), trade credit or other informal lending institutions such as private money houses and underground lenders who function like banks (Farrell et al. 2006). These loans often come at high interest rates and are thus very expensive. The problem is that not much is known about how these informal market works and how much it has contributed to the development of the Chinese economy. Cull et al. (2009), discuss how trade credit was likely to be a substitute for loans for private firms that had difficulties in obtaining formal credit. Allen et al. (2005), argue that during the first years of economic growth companies are able to develop through alternative lending institutions. McMillan and Woodruff (2002), on the other hand argue that to ascribe the extensive growth of the private sector to informal institutions is an overstatement. They argue that formal institutions are needed when competition forces down profit margins and when production and transaction becomes more complex, something that is present and growing in China.
5. Methodology

The analysis of this thesis is conducted through quantitative approach. The thesis is a descriptive research focusing on the influencing factors on companies attain of loan quota from formal financial institutions in China and the influencing factors on companies total profits. Using data from Investment Climate Survey in China a cross sectional analysis will be performed using STATA data analysis and statistical software. Cross sectional analysis measures units from a sample at a one point in time, the object of this thesis is to find out if there is a correlation between dependent variables (loan quota and total profits) and numerous variables explained more thoroughly in chapter 6.

5.1 Regression analysis

Regression analysis determines the values of a parameter for a function that causes another function to best fit a set of data observations. It measures the effects of a change in variable (x) on another variable (y). Since the objective of this thesis is to measure effects and describe impact of various variables for one given year, cross sectional analysis is used.

5.2 Multiple regression model

Multiple regression models is a form of cross sectional analysis, the models takes more than one explanatory variable into corresponding economic mode. In this thesis both models introduced are multiple regression models. The bases for the empirical models used in this thesis is given in equation 1, both models are then described more thoroughly in later sections.

Equation 1. The multiple regression model:

\[ y_i = \beta_1 + \beta_2 x_{i2} + \beta_3 x_{i3} + \ldots + \beta_k x_{ik} + e_i \]

Where \( y_i \) is the dependent variable, \( x_i \) are explaining independent variables and \( e_i \) is a random variable (or residual). \( \beta_i \) is the intercept and explains impact of each independent variable on dependent variable \( y_i \).

There is one additional variable presented in the models in this thesis, a dummy variable (\( \delta \)). Dummy variables can be used to shed light on rich variety of questions, it is
important to note that dummy variables are independent of other qualitative factors and thus need to have a reference group in order to interpret their results.

5.3 Limitation of cross sectional analysis

Although well respected within the world of academia it is important to note that cross sectional analysis has limitation, the main restraint is that it is not able to explain the causality of the findings. This implies that rare findings should not be explained only through cross sectional analysis but also through further deeper examinations. The findings should however not be dismissed because of these limitations, the information presented from these analysis are extremely valuable and in this case it can help to shape important policy changes within the Chinese financial market.
6. Data

This study relies on a dataset from Investment Climate Survey (ICS) in China for the year 2004. The ICS is conducted by the World Bank and its partners and has been conducted since 1998. The data contains 12,400 observation covering firms of all sizes in many industries. The data was gathered through face to face interviews with managers and owners of the respected firms regarding investment climate and production of their company (World Bank, 2005).

6.1 Sampling

Since the goal of this study is to measure the effects on loan quota and total profits in companies it was important to conduct a model that explained which factors were influential. The sampling size was carefully selected, independent variables needed to have theoretical significance in regard to the dependent variables (loan quota and total profits) and all chosen variables were considered influential.

Model 1 includes 1,807 observations, since the aim of this study is to measure effect of loan quota, only companies that had actual loan quota were considered. There are three different dummy variables in the model. The first, explains the ownership registration status of the companies, the second explains if General Manager (GM) were appointed by the government or not and the third represents the sectors that the companies operate in. The inclusion of them is important to show the differences between registration statuses, possible effects of political capital and if operating in a certain sector has effects on loan quota obtained.

Model 2 includes 1,663 observations, this model aims to follow up on companies’ loan quota and its effect on total profits and as a result only companies that had actual loan quotas were considered. This model includes two different dummy variables, the first one being the ownership registration and the second the sector that the companies operate in. This model also includes new asset investment from the year 2003 in order to show the effects of asset investment on total profits of companies. By including asset investment in 2003 few observations were redundant and thus excluded, which explains the difference in total observation for the two models presented.
6.1.1 Limitations
The available data in this dataset is not faultless, difficulties of precision and availability within certain variable can limit the use of the data as well as making results difficult to interpret. This dataset should however not be dismissed because of these predicaments, there is much information within the dataset which can be used to make important findings within Chinese business environment.

6.2 The dependent variables
The dependent variable used in model 1 is loan quota, the variable represent the approved credit amount that companies have obtained from formal financial institutions in China. Having a loan quota shows the possible credit that companies have access to, it does not represent the total amount of loans that companies have used. By using loan quota rather then used loans helps explaining the possibility for companies’ development potential. Having high loan quota gives managers of companies the possibility to invest in steps in their companies.

The dependent variable used in model 2 is total profit for the year 2004. Total profits are commonly used in order to explain the production realization and development possibilities of a company. Branch (1974), explains how profits can have influence on research and development (R&D), and Schumpeter (1950), discussed how profits allow companies to take risks in regards to R&D in order to grow. The decision to use total profits as a measurement is to analyze if companies registration status in China matters in regards to profits. One should expect that if there is a significant difference in loan quota obtained between companies shown in model 1 there should be similar differences in total profits between companies in model 2.

6.3 Key independent variable
The key interest of this study is to see if company registration status plays a significant role once obtaining loan quota in China, the key independent variable is thus a dummy variable showing registration status of companies.
6.3.1 Company registration status

The decision to use companies’ registration status rather than companies’ ownership structure is because of the interest in exploring if the registration status itself plays a decisive role once obtaining loan quota. Ownership structure can include many different ownership formulations which in turn are difficult to interpret and were thus considered irrelevant for this study.

When creating the dummy variable of ownership registration status, five ownership forms were excluded; share joint owned units, shareholding companies, enterprises invested by Hong Kong, Macau and Taiwan, foreign invested enterprises and other enterprises. Since the focus on this study is to find out if being registered as a private company affects the possible loan quota from local formal financial institution, companies that are invested in from outside of China are excluded. The model also excludes shared joint owned units and shareholding companies. With the focus on differences between private and state owned companies the inclusion of shareholding corporation and share joint owned units which could include many different owners was considered insignificant for the study. Although private companies sometimes register themselves as a shareholding company, majority of those who decide to have a different registration form choose to register as limited liability companies, thus leaving the model with four ownership structures; state owned, collective, private and limited liability company status.

6.4 Control variables

Since there are many factors that can influence companies access to loan quotas and total profits the two models introduces the following control variables.

6.4.1 Company structure

It is important to try to control for the composition of the company structure, the data provides several variable that can be used in order to explain the structure of the company more thoroughly. The age of the company represents how long the company has been operating, the variable can explain if a company that has been operating for a long time is more likely to receive higher loan quotas then newly founded company. With maturity companies can bring

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4 Despite being considered by many as a part of China, Hong Kong, Macau and Taiwan are considered outside investment in this study because of their special business environment which differs in many ways from regular Chinese business environment.

5 In companies with different owners the power structure of the company would need to be considered. Because of many different structure possibilities it would be difficult to interpret and could give wrong impression of the possible effects. These ownership forms were thus excluded.
stability in growth because they learn more accurately on their cost structure and efficiency level, resulting in them not being surprised by profit outcomes and are thus less likely to revise their investment plans (Dunne and Hughes, 1994).

The same applies for companies’ size, it is measured in number of employees within the company. Company size can influence obtained loan quota in a way that it should be expected that larger companies should be able to obtain higher loan quotas because of their size. Both estimations and empirical observations of the structure of bank loans have suggested that banks favor lending to larger firms (Meltzer, 1960). It needs to be considered that although company size commonly influences loan quotas and total profits it is possible that once it reaches certain size growth starts to slow down. For example a fast growing company sets higher target markups and restraints expansion plans in order to avoid driving down prices (Nelson and Winter, 1978; Dunne and Hughes, 1994). It is thus important to control for the size of the company in both models.

6.4.2 Financial factors
Expenditures play a significant role in regards to loan quota. Core business expenses of a company can influence the loan quota that a company is able to obtain. It should be expected that companies use their loan quota either for production expenses or investment within the company. The variable represents all expenditure of the company (including raw material expenses, taxation expenses and other compensations) in order to show the possible influence on obtained loan quota.

The variable fixed assets represent total assets that companies possess, since it is common that formal financial institution require collateral when lending, the inclusion of the variable plays a significant part. Lenders usually know less than the borrower about the possible payoff of loans, these informational asymmetries are thus likely to affect access to loan quota (Besanko and Thakor, 1987). In order to mitigate the problem of informational asymmetric, collateral plays an important role (Steijvers and Voordeckers, 2009). Formal financial institutions require collateral in order to reduce the risk of the loan become non-performing. Having higher fixed assets should in theory give companies possibilities of higher loan quotas. Fixed assets also controls for the size of companies, because of its importance as collateral it is present along with total employment in model 1 while individually controls for the size of the company in model 2.
Investment is an important factor for all companies, investing in companies’ infrastructure increases the value of fixed assets which in turn could help obtain higher loan quota as previously discussed. The motives for companies to invest are to become more efficient in their production in order to increase their total profits. The inclusion of the variable fixed asset investment for the year 2003 should in theory increase companies’ total profits in 2004. It is important to note however that the return on investment can take more than one year to be relished and the problem of overinvesting can have negative effects on companies’ profits (Qin and Song, 2009).

6.4.3 General Managers
Because China is a communist country the government can be influential in companies’ production. The inclusion of the variable if General Managers (GM) of the company is appointed by the government is used in order to explain possible gains of political capital. Here political capital is regarded as relationship between and among actors to make possible, under certain circumstances, the realization of interests that otherwise would not be achievable (Nee and Opper, 2012). It is interesting and relevant to see if having a GM that is appointed by the government influences companies possibilities in obtaining loan quota. If the person hired has good political connection it should be expected that the company would receive higher loan quota than companies that do not have this political connections.

6.4.4 Sector
The Chinese government introduces in its five year plan certain key sectors that are supposed to play a significant role in the countries quest for further economic development. It is thus important to control for different sectors since credit might be channeled at certain sectors making it difficult for companies in other sectors to obtain loan quota. Similarly, sectors that are state controlled should be returning higher profits then the ones that are neither considered key sector nor have large SOE’s that dominate the market. Summary and definition of the dependent and independent variables are presented in table 1 below.
Table 1. Variable definition.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition and comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependant variable</strong></td>
<td></td>
</tr>
<tr>
<td>Loan Quota</td>
<td>Logarithm of loan quota in 1000 RMB</td>
</tr>
<tr>
<td>Total profits 2004</td>
<td>Logarithm of Total profits for year 2004 in 1000 RMB</td>
</tr>
<tr>
<td><strong>Company registration status</strong></td>
<td></td>
</tr>
<tr>
<td>State owned registration</td>
<td>Dummy variables, 1 if company registered as state owned; 0 otherwise</td>
</tr>
<tr>
<td>Collective registration</td>
<td>Dummy variables, 1 if company registered as collectively owned; 0 otherwise</td>
</tr>
<tr>
<td>Limited liability registration</td>
<td>Dummy variables, 1 if company is registered as limited liability company; 0 otherwise</td>
</tr>
<tr>
<td>Private registration</td>
<td>Dummy variables, 1 if company is registered as private company; 0 otherwise</td>
</tr>
<tr>
<td><strong>Company structure</strong></td>
<td></td>
</tr>
<tr>
<td>Total employees of the company</td>
<td>Number of employers in a company</td>
</tr>
<tr>
<td>Age of the company</td>
<td>The year the company was established minus 2004         (the year of the survey)</td>
</tr>
<tr>
<td><strong>Financial factors</strong></td>
<td></td>
</tr>
<tr>
<td>Operational expenses</td>
<td>All expenditures of company in logarithm in 1000 RMB</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>Net fixed assets value of a company in 2004 in 1000 RMB</td>
</tr>
<tr>
<td>New asset investment 2003</td>
<td>New fixed assets investment in 2003 in 1000 RMB</td>
</tr>
<tr>
<td><strong>General Manager</strong></td>
<td></td>
</tr>
<tr>
<td>GM appointed by state</td>
<td>Dummy variable, 1 if GM is appointed by the state; 0 otherwise</td>
</tr>
<tr>
<td><strong>Sectors</strong></td>
<td></td>
</tr>
<tr>
<td>Sectors</td>
<td>All sectors are dummy variables, that take on 1 for the respected sector; 0 otherwise</td>
</tr>
</tbody>
</table>
7. Empirical analysis

7.1 Variable summary

In order to make sure that the model in use is well specified the model has been tested for heteroskedasticity\(^6\) and collinearity. The variables chosen are not correlated with each other in any significant manner, there is some correlation between fixed assets and total employment in model 1, which can be caused by both of the variables ability of measuring the size of the company. However because fixed assets play an important role in regards to collateral when applying for loan quota and total employment represents more obvious size of a company\(^7\) both variables are kept in the model (for full table of collinearity see appendix table 3 and 4). The validity of the model’s is represented by their high R-square\(^8\) (0.3557 and 0.5413) indicating that the fraction of variance explained by the model is 35.57\% for model 1 and 54.13\% for model 2. Summary statistics of the dependent and the independent variables for model 1 and model 2 are found in tables 2 and 3.

Table 2. Summary statistic, model 1.

<table>
<thead>
<tr>
<th>Observations</th>
<th>1807</th>
</tr>
</thead>
<tbody>
<tr>
<td>State owned registration*</td>
<td>0.121</td>
</tr>
<tr>
<td>Collective registration*</td>
<td>0.045</td>
</tr>
<tr>
<td>Limited liability registration*</td>
<td>0.669</td>
</tr>
<tr>
<td>Private registration*</td>
<td>0.165</td>
</tr>
<tr>
<td>GM appointed by state*</td>
<td>0.111</td>
</tr>
<tr>
<td>GM not appointed by state*</td>
<td>0.889</td>
</tr>
<tr>
<td>Log loan quota</td>
<td>9.394</td>
</tr>
<tr>
<td>Log operational expenses</td>
<td>7.664</td>
</tr>
<tr>
<td>Age of company</td>
<td>14.310</td>
</tr>
<tr>
<td>Total employment</td>
<td>1355.734</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>243408</td>
</tr>
<tr>
<td>Agriculture*</td>
<td>0.125</td>
</tr>
<tr>
<td>Tobacco industry*</td>
<td>0.006</td>
</tr>
<tr>
<td>Textile industry*</td>
<td>0.106</td>
</tr>
<tr>
<td>Chemical, Rubber and Plastic industry*</td>
<td>0.234</td>
</tr>
<tr>
<td>Medical and Pharmaceuticals*</td>
<td>0.034</td>
</tr>
<tr>
<td>Metal industry*</td>
<td>0.103</td>
</tr>
<tr>
<td>Machinery and equipment manufacturing*</td>
<td>0.225</td>
</tr>
<tr>
<td>Electric and communication manufacturing*</td>
<td>0.108</td>
</tr>
<tr>
<td>Other manufacturing*</td>
<td>0.046</td>
</tr>
</tbody>
</table>

*Dummy variables

---

\(^6\) See visual inspection of heteroskedasticity in appendix table 1 and 2.

\(^7\) Companies with few employees can have high amounts of assets, while it is not as common that small companies have high amount of employment (although there is always a possibility of that happening).

\(^8\) R-squared is defined as the amount of the sum of squares explained by a regression model, a value of 1.0 gives perfect prediction value of another term.
Using multiple regression model the following model was created to test the hypothesis presented above.

### 7.2 Model 1

\[
\log(\text{Loan Quota}) = \\
\alpha_i + \beta_1 \cdot \log(\text{operational expenses})_i + \beta_2 \cdot (\text{age of company})_i + \beta_3 \cdot (\text{total employment})_i + \\
\beta_4 \cdot (\text{fixed assets})_i + \delta_1 \cdot (\text{state owned registration})_i + \delta_2 \cdot (\text{collective registration})_i + \\
\delta_3 \cdot (\text{limited liability registration})_i + \delta_4 \cdot (\text{GM appointed by state})_i + \delta_5 \cdot (\text{Sector})_i + e_i
\]

Where \(\log(\text{Loan Quota})\) is the dependent variable in logarithm. The reason for using logarithm is to better predict the findings, having the dependent variable as a logarithm generates all finding to be predicted in percentages. \(\beta_1 - \beta_4\) are independent or explanatory variables and \(\delta_1 - \delta_5\) are dummy variables. Dummy variables need a reference group in order to be interpreted, the model presents three different dummy variables. First is the registration status used in order to find out if there are differences between registration statuses when obtaining loan quota. The reference group for these dummies is company registered as private. The second dummy variable distinguishes between the appointment of GM, if it is done by the state or not, this is done in order to see if political capital helps companies in obtaining loan quota. The reference group for this dummy is GM that is not appointed by the state. The third reference group is the petroleum sector.
The result from the regression is presented in table 4.

**Table 4.**

<table>
<thead>
<tr>
<th>Sources</th>
<th>SS</th>
<th>Degrees of freedom</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>3513.063</td>
<td>17</td>
<td>206.651</td>
</tr>
<tr>
<td>Residuals</td>
<td>6364.479</td>
<td>1789</td>
<td>3.558</td>
</tr>
<tr>
<td>Total</td>
<td>9877.542</td>
<td>1806</td>
<td>5.469</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of observations</th>
<th>1807</th>
</tr>
</thead>
<tbody>
<tr>
<td>F( 27, 4206)</td>
<td>58.09</td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.3557</td>
</tr>
<tr>
<td>Adj R-squared</td>
<td>0.3495</td>
</tr>
<tr>
<td>Root MSE</td>
<td>1.8862</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependant variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>P &gt;</th>
<th>t</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>log Loan Quota</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State owned registration</td>
<td>0.497</td>
<td>0.203</td>
<td>0.015**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective registration</td>
<td>0.248</td>
<td>0.241</td>
<td>0.303</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited liability registration</td>
<td>0.566</td>
<td>0.126</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>log operational expenses</td>
<td>0.485</td>
<td>0.023</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of company</td>
<td>0.012</td>
<td>0.003</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total employment</td>
<td>6.98e-04</td>
<td>1.4e-04</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed assets</td>
<td>3.24e-08</td>
<td>3.81e-08</td>
<td>0.396</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM appointed by state</td>
<td>0.226</td>
<td>0.163</td>
<td>0.167</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sectors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>-1.093</td>
<td>0.407</td>
<td>0.007***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco industry</td>
<td>-0.400</td>
<td>0.721</td>
<td>0.579</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textile industry</td>
<td>-0.349</td>
<td>0.410</td>
<td>0.395</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical, Rubber and Plastic industry</td>
<td>-0.954</td>
<td>0.397</td>
<td>0.016**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical and Pharmaceuticals</td>
<td>-1.095</td>
<td>0.455</td>
<td>0.016**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal industry</td>
<td>-0.452</td>
<td>0.411</td>
<td>0.271</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery and equipment manufacturing</td>
<td>-1.050</td>
<td>0.397</td>
<td>0.009***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric and communication manufacturing</td>
<td>-1.007</td>
<td>0.410</td>
<td>0.014**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>-1.206</td>
<td>0.439</td>
<td>0.006***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>constant</td>
<td>5.818</td>
<td>0.426</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** Statistically significant at 99% confident level
** Statistically significant at 95% confident level
* Statistically significant at 90% confident level

7.3 Results from model 1

When looking at companies’ registration status and relating it back to hypothesis 1, it becomes apparent that companies registered as private are receiving lower loan quotas than other forms of registration structures. The regression shows that state owned registered companies are receiving 49.70% higher loan quotas than private companies and limited liability companies are receiving 56.60% higher loan quotas. These results show the significance of registration status of companies and how it can be restraining for a company to be registered as a private. These results explain why many private companies prefer to register as a limited liability company rather than being registered as private company. We can thus accept hypothesis 1, companies registered as private ownership are receiving lower loan quotas than other forms of registration.
When looking at the results from the regression we see that size, age and operational expenses play a significant role in regards to loan quota. All three variables are significant at 99% confident level, one unit increase (percentage of operational expenses) results in companies being able to obtain additional loan quota of 48.5% (operational expenses), 1.20% (for additional year), and 0.00069% (for additional employee) respectable. Interestingly fixed assets have no relevance towards loan quota. Beforehand one might consider fixed assets to play a significant role regarding loan quota since it usually represents the collateral that companies offer formal financial institution as an insurance for the loan. What this indicates is that the decision to hand out loans to companies is perhaps based on a more subjective evaluation rather than a strategic one, meaning that the performance and possibilities of the company are not the most important factors when applying for loan quota.

From what the regression shows it is not possible to say that having a GM that is hired by the state plays any significant part in companies’ possibilities in obtaining loan quota, which is in contradiction to previous consideration. However there can be a perfectly good explanation for that, being hired by the government does not automatically indicate that the person hired has good connection within the Chinese government. The personal ties of the recruited GM are perhaps more significant, then just having the state recruit a GM.

When viewing the regression it becomes apparent that the operating sector of companies can be influential as well. Companies operating in the petroleum sector (mostly SOE’s) are receiving considerable higher loan quotas then most other sectors.

These results are in line with previous studies such as Firth et al. (2009) and Brand and Li (2003) that companies registered as private ownership are being discriminated against and thus need to consider alternative lending in order to receive loans. Along with this the results give mixed results that are difficult to apply directly to economic development theory. That company size, companies’ age and operational expenses influence loan quota is in line with the theory. However the result that fixed assets is not significant is contradicting. Having assets to use as collateral is usually an important factor for companies and helps in their quest for loan quotas. The results imply that formal financial institutions are using subjective valuation in order to decide on loan quota for companies, making it difficult to locate factors that companies need to fulfill or have in order to obtain loan quotas.
7.4 Model 2

\[
\text{Log(Total Profits 2004)} = \alpha_1 + \beta_1 \text{*(age)}_i + \beta_2 \text{*(New asset investment 2003)}_i + \beta_3 \text{*(Fixed assets)}_i + \delta_1 \text{*(collective registration)}_i + \delta_2 \text{*(limited liability registration)}_i + \delta_3 \text{*(private registration)}_i + \delta_4 \text{*(sector)}_i + e_i
\]

Here the dependent variable is the logarithm of total profits for the year 2004, \(\beta_1-\beta_4\) are independent or explanatory variables and \(\delta_1-\delta_4\) are dummy variables. As mentioned before dummy variables need a reference group and in this model there are two different dummy variables. First, like in the former model is company registration status and in this model the reference group is companies registered as state owned. Second dummy variable is the sectors where companies operate and here the reference group is metal production.

The results from the regression are presented in table 5.

Table 5.

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<td>Root MSE</td>
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Dependant variable | Coefficient | Standard Error | \(P > |t|\) | Summary Statistics
---|-------------|----------------|-------|
log Total Profits 2004 | |
Independent variables | |
Private registration | 0.306 | 0.180 | 0.089* |
Collective registration | 0.291 | 0.222 | 0.191 |
Limited liability registration | 0.260 | 0.149 | 0.082* |
New asset investment 2003 | 5.80e-08 | 3.45e-08 | 0.093* |
Age of company | -0.004 | 0.003 | 0.167 |
log fixed assets | 0.847 | 0.022 | 0.000*** |

Sectors | |
Agriculture | -0.154 | 0.172 | 0.372 |
Tobacco industry | 1.412 | 0.521 | 0.007** |
Textile industry | -0.509 | 0.175 | 0.004** |
Chemical, Rubber and Plastic industry | -0.324 | 0.148 | 0.029** |
Medical and Pharmaceuticals | -0.324 | 0.257 | 0.190 |
Petroleum | -0.657 | 0.353 | 0.063* |
Machinery and equipment manufacturing | -0.185 | 0.150 | 0.217 |
Electric and communication manufacturing | 0.319 | 0.173 | 0.066* |
Other manufacturing | -0.734 | 0.229 | 0.001*** |
constant | -0.556 | 0.307 | 0.070* |

*** Statistically significant at 99% confident level
** Statistically significant at 95% confident level
* Statistically significant at 90% confident level
7.5 Results from model 2

The results from the regression of model 2 show that there are significant difference in profits between companies registered as limited liability company and private company. Both company registration statuses are significant within 90% confidence level. The difference in regards to total profits on the other hand is perhaps not as large as one might have suspected.

As model 1 presented limited liability companies were receiving 56.60% higher loan quotas then private companies but private companies are returning 4.60% higher total profits then limited liability companies. The same applies to the differences between state owned and private companies, state owned companies were receiving 49.70% higher loan quotas but private companies were returning 30.60% higher total profits. Limited liability company on the other hand is returning 26.0% higher total profits then state owned companies.

Since collective registration status is insignificant it is not possible to use it in comparison to the other registration forms. In beforehand one would expect that because limited liability companies and state owned companies were receiving considerable higher loan amounts then privately registered companies they would be returning higher total profits. This leads to some contradiction, why are privately registered companies returning higher profits then limited liability companies and state owned companies if they are receiving less loan quotas then the other? These results indicate that loan quota from formal financial institutions is perhaps not as significant as many suspect. It indicates that private companies are not restricted to these loan quotas but find other sources in order to continue their development. This is in line with previous studies such as Zhang and Ming (2001) and Lardy (1999) who argued that private companies used informal credit market to finance their investments. We can thus not accept hypotheses 2, companies that are receiving higher loan quotas are not returning higher total profits then the other registration form of companies.

What is interesting to see is that age of the company does not play a significant role in regards to companies’ total profits. In a way this comes as a surprise since it should be expected that companies that have been operating for longer time should constantly add to its experience and knowledge of the respected operational field and thus be able to increase their production and efficiency more precisely than younger companies. On the other hand there might be a perfectly fair explanation for these results, although older companies gain experience and know how over time the age of the company cannot constantly influence total

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9 Here both companies are compared to state ownership and the number comes from the difference in total profits compared to state owned company. Private company and limited liability company are not directly compared to each other.
profits of a company. Other factors need to be present as well, companies need to invest in order to develop (or grow) and the company needs to make correct investments. Along with this market environment might be playing significant role, if the market is experiencing recession because of outside factors (for example because of world financial crisis) the age of the company does not necessarily affect the performance of a company. It would be expected that older companies would be better equipped to handle those kinds of downswings because of their experience and know-how but that is not necessarily the case as has been seen in the recent world financial crisis. During these down swings companies focus on surviving in difficult environment and although older companies might have more experience it does not automatically indicate that those companies will return higher total profits then the other younger companies.

As can be seen from the results fixed assets is significant within 99% confident level, it indicates that increase in companies fixed assets by one percentage (because the variable is in logarithm) results in 84.70% increase in total profits. Because fixed assets are usually an indicator of companies’ size this suggests that larger companies are receiving higher profits then smaller companies. Something that is in line with theories, but this shows the significance of the size of the companies. By continuously investing in the company they should have more possibilities in developing and thus returning higher profits. However as mentioned before there is a thin line between investing and overinvesting, companies need to make sure that they are investing in right sectors at the right time. What is interesting is that investment from previous year cannot be considered statistically significant, although the variable new investment in 2003 is significant within 90% confidence level, the effects that it has on total profits in extremely low. This can be explained by the fact that investments are often not expected to show returns until after a certain amount of time. Investment is important for companies since it increases companies’ total fixed assets but the full results of it might not become apparent until after couple of years depending on the nature of the investment.

It does not come as a surprise that there are considerable differences in profits between sectors. The sectors that are considered as key sectors and are represented by large SOE’s are returning considerable higher profits then sectors where smaller private and limited liability companies are operating on. Textile, manufacturing and chemical sector are returning 50.90% and 73.35% and 32.36 % lower profits then the metal industry. Other sectors such as petroleum sector is returning 65.65% lower profits (which is interesting since the petrol sector is one of the key sectors presented by the Chinese government) while electronic
manufacturing is returning 31.89% higher profits than the metal industry. Although companies are returning profits the differences between sectors are great, this shows the differences between sectors containing large SOE’s and sectors where other company forms are more present. However because large share of SOE’s in China are enormous in size in comparison to other companies these results should not come as a surprise.

7.6 Discussion

The rapid growth of the Chinese private market is a unique subject that has left scholars around the world stunned. Despite many hindrances such as weak property protection, underdeveloped financial market and retarded access to formal credit the market has manage to develop into being one of the largest contributors in Chinese economy. Discrimination between company forms has for a long time been a problem in the Chinese economy, Chinese entrepreneurs seem to be more extensively registering their companies as limited liability company rather than a private company in order to have better access to important resources. And who blames them, as is seen in model 1, being registered as limited liability company or state owned company is giving companies considerable higher amounts of loan quota then if the company is registered as private. It is understandable that if companies are in need for credit and know that being registered as a private company is restraining, that they rather opt to have friends help them founding a limited liability company and then run it as a private one (with the co-founders having no decision power in the company).

In theory as previously discussed, having better access to credit should lead to companies returning higher profits and more rapid development. That however is not the case in China, privately registered companies are returning considerable higher total profits in 2004 compared to other registration forms, raising fundamental questions. If they have lower access to credit then other company forms why are they returning higher profits? There are couple of explanation that could help understand why private companies are returning higher profits despite lower access to credit. First, it is possible and even expected that private companies are receiving their credit from informal sources. As has been argued by many scholars (Brandt and Li (2003) and Cull et al. (2009)), it has been difficult for private companies to attain credit from formal sources from the beginning of the opening up policy. They have always needed to turn to alternative lending, such as loans from friends or family, trade credit or other informal sources. Second, because private companies have always had difficulties in obtaining formal loans they have stopped counting on it as a possible source for
lending, thus they are more likely to use a fraction of their profit or other forms of internal capital market to further invest in their company instead of turning to lending. Third, could be incentive problems, it is possible that because state owned companies and limited liability companies have easier access to credit the incentives to invest properly in their company is perhaps not as great as for a private company. The incentive problem should however apply more directly to state owned companies rather than to limited liability company since many of them are run as a private company with minimum government interference.

The results from the models suggests that private companies are using alternative lending from informal sources, however it is important to note that it is not possible to generalize that all private companies constantly turn to informal sources when in need of credit. Private companies are run in their own unique way without any outside interference (in most cases) and although they are not using formal credit when in need it does not automatically mean that they are then using informal credit. Many private firms use internal capital markets as their main source of investing and do thus not need to count on other forms of lending.

The results also show the discrimination that private companies are faced with in China. The paper adds to previous literature such as Nee and Opper, (2012); Allen et al., (2005), Zhou, (2009) and Brandt and Li, (2003), regarding governments discrimination and its effects on private companies. Private companies are not competing on a level playing field with the government still favoring SOE’s in certain sectors.

Capital deepening has indeed helped Chinese economy to develop as Dic Lo (2006) argues, however capital deepening alone can only help economies up to a certain point, the need for investment (in companies, human capital, innovation etc.) to further develop is critical as well. The CCP needs to realize that innovation and R&D can be capital intensive and many small and medium size companies do not have the resources to support it properly. Private companies are in general considered better innovator then SOE’s and thus it can be decisive for the future growth of China that the CCP makes sure that productive and efficient private companies are supported in their innovative thinking. The CCP cannot rely on SOE´s as their main innovator and thus needs to channel credit towards the private sector.
8. Conclusion

The private sector has since the opening up policy developed into becoming a major contributor to Chinese economy. The development of the sector is even more remarkable given the lack of conventional infrastructure of the financial market in China (Allen et al., 2005). This thesis seeks to determine if company registration status matters when obtaining loan quota from formal financial institutions and what factors are influential on the size of the loan quota that companies receive. It then moves into exploring if there is a significant difference in total profits of the differently registered companies to explore if formal loan quota is decisive for companies development.

The results show that company registration matters greatly once receiving loan quota from formal financial institution in China. Companies registered as private are receiving 49.70% lower loan quotas than state owned companies and 56.60% lower than limited liability companies. It is also notable that fixed assets play no significant role in regards to loan quota which is contradicting to other developed financial markets where fixed assets play important role as collateral. With fixed assets playing no significant role in obtaining loan quota it seems that the decision of formal financial institutions in China to grant loan quotas are perhaps based on a more subjective decisions rather than a strategic one.

The results also show that despite receiving considerable less formal loan quota, privately registered companies are still returning higher total profits than the other two registration forms, indicating that formal loan quota does not play a decisive role for the development of private companies. The results indicate that private companies seek alternative lending from informal sources once in need for credit and supports previous studies from Zhang and Ming (2001) and Lardy (1999) regarding the importance of informal credit market in China.

These outcomes show that companies in China are still not playing on a leveled playing field, privately registered firms struggle to receive loan quotas from formal financial institutions and thus need to turn to alternative lending (Cull et al., 2009). The current environment encourages private companies to register as different ownership form (many register as limited liability companies) which in turn starts to give wrong impression of the private sector in China. If the private sector is to continue its development the government needs to make sure those productive private firms get the access to credit that they need otherwise chances are that the private market starts to stagnate. The government cannot neglects sector such as the textile and manufacturing industry since they are still playing an
important role for the Chinese economy, they need to support those sectors along with promoting R&D and innovation otherwise they run the risk of these sectors starting to stagnate or experience recession something that could be very costly for them in the short and long run.

The government is starting to acknowledge the importance of making credit available for private firms, in 2004 they presented guidelines for commercial banks to lend to private enterprises (Firth et al, 2009). It will be important that commercial banks follow these guidelines, if companies are to start R&D and innovation (in more magnitude than they are currently doing) access to capital plays an important role. The CCP can not only count on large SOE’s to be responsible for innovation. Private companies in general have higher incentives to create something new and they should be at the center of innovation and R&D development.
Reference


Appendix

Appendix table 1. Visual inspection of heteroskedasticity, model 1.

Appendix table 2. Visual inspection of heteroskedasticity, model 2.
### Appendix table 3. Correlation matrix, model 1.

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### Appendix table 4. Correlation matrix, model 2.

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