Banking Reforms in China and Their Macroeconomic Implications: Three Decades of Reform Revisited

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Abstract

A sound financial system is important for the functioning of an economy. In China, the main player of the financial system is the banking sector. It has undergone many reform steps since the beginning of the reform period in 1979. The paper’s focus lies on the implications of these reforms. The first part of the paper represents an overview and evaluation of the most important reform steps. The second part deals with the macroeconomic implications of the reforms. Insight into the theory behind the finance-growth nexus is given, empirical evidence over the period of 1979-2009 gathered and tested using linear regression models. While the theory of financial liberalization suggests a positive impact of bank liberalization on the economy, there is no clear evidence found for development in the sense of financial liberalization in China’s banking sector. Consequently the positive correlation between the development of the banking sector and the economic development cannot be drawn. The analyzed data panel suggests that the banking sector reforms did not have a positive impact on the economic development.
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1 Introduction

1.1 China’s Banking Sector

The Chinese banking sector is very important to the country’s economy. It is the dominant part of the financial system and provides a large part of the funding for the real economy. Other forms of financing, such as stock and bond markets play a minor role. However, the stock markets are constantly gaining ground, as seen from figure 1.

Figure 1: China’s Financial System and Its Players (Source: CBRC and CSRC Annual Reports 2006-2010)

As the main formal financier of the economy, especially of the state-owned enterprises, the banking sector exercises large influence on the overall economic development. Despite its large share of the financial sector and its importance, the banking sector is generally viewed as the weakest link in China’s economic system. Therefore, reform is essential for the sustainable development and further growth of the Chinese economy. Besides, the sheer size of China’s economy, its financial sector and its banks, together with the increasing interconnectivity of China with the rest of the world, makes the topic relevant for the world economy.

In this thesis, I want to provide an overview on the most important steps of the banking reforms pursued over the last three decades. I shall
put the main focus on the large state-owned commercial banks (SOBs), as they make up the largest share of the banking sector. In the second part of the thesis, I provide an overview on the ways the banking sector and its reformation can influence the macroeconomic performance.

1.2 The Role of the Banking Sector in the Economy

Banks exist due to market anomalies. From a theoretical point of view, the savers with surplus could transfer their funds directly to those in need of financing. In reality there occur a number of problems. First, the surplus an individual lender can hand out to a borrower is usually smaller than the credit needed for a project. The banks therefore pool the lenders. Second, an individual is usually keen on withdrawing its funds when there is need for them, while a borrower needs money for long term projects. The bank can overcome these time differences by providing enough liquidity for a single lender to withdraw her money and still provide the credit. Third, the bank can diversify the individual’s portfolio even when she only has little funds, thereby reducing risks far better than a single saver could. Fourth, the information situation is far too complex for the individual to handle. A bank with large resources in information mining will, in theory, constantly produce higher returns to investments (\(\text{?}\)). In short, banks mitigate the effects of information and transaction costs, thereby ameliorating market frictions (\(\text{?}\)). Through this, it is only natural that banks influence the allocation of resources. There are five distinguishable duties of the financial system. First, financial intermediaries produce information on investment opportunities and allocate capital. Second, they should monitor investment and exert corporate governance. Third, they should facilitate the trading and management of risk. Fourth, they mobilize and pool savings. At last, they should ease the exchange of goods and services (\(\text{?}\)). As the above functions define a financial system, they are inherent to any financial system. However, not each financial system provides services at the same quality or quantity. Depending on how well the functions are developed and how well the system processes its tasks, it is referred to as
1.2.1 The Finance-Growth Nexus

The Finance-Growth nexus refers to the relationship between financial development and economic development. Already in 1911, Joseph Schumpeter claimed that financial services provided by intermediaries are essential for technological innovation and economic development (\(?\)), while critiques of this approach argue that finance is a mere by product of growth. In other words, financial development follows growth (\(?\)).

However, the dominating line of argumentation in the relationship between real economic growth and financial development is proposed in the thesis of financial liberalization. It propounds that governmental restrictions and repression of the financial system restrain the quantity and quality of investment and growth. Interest rate ceilings, high reserve requirements, quantitative credit restrictions and credit allocations mechanisms result in poor performance of investments and low growth rates (\(?\)). The more repressed a financial system, the less efficient will the savings be allocated to investments.

The liberalization agenda offered by the above line of argumentation is straightforward and can be summarized as reducing government intervention and influence: Optimal credit allocation shall be achieved through free markets. Funds would be channelled to more efficient uses with high returns, which in turn would again induce a surge in savings. The bottom line is an increase in the productivity and volume of capital and, eventually, economic development induced through financial development. Through the same mechanism, the banking sector can also spur innovation by funding the most innovative enterprises (\(?\)) Despite the strong believe in the markets behind this theory, supervision of the banking system is deemed important. Also, the theory stresses the need for a stable macro economic surrounding. Not least, when it comes to developing countries, most of the supporters of the liberalization thesis suggest the successful reform of the real sector to be a precondition of financial liberalization (\(?\)). Another
view suggests that while growth can be constrained by credit creation in less developed financial system, in sophisticated systems finance is endogenously responding to changes in the demand of the real economy (?). This means that the more developed the financial system is the higher is the probability that growth causes finance. However, in the words of ?, we are far from finding a definitive answer to which way the causality works.

1.2.2 Review of Literature

There exists a wide array of literature in the field of the finance-growth nexus. Most of these papers are cross-country studies or in the case of China cross provincial.

In their paper, ? study the correlation between levels of financial development and economic development. They test their hypothesis of a positive correlation between the two with data from over 80 countries from 1960 trough 1989. They conclude there is a positive correlation between financial development and long run growth indicators (i.e. economic growth, capital accumulation, efficiency improvements). The results are supported by ? performing the same task, but including stock markets. Empirical evidence point to the direction that financial development can cause real economic growth, not ruling out that it might also work the other way (?). To provide this evidence, King and Levine define the initial level of financial development of a country and observe the consecutive long run growth. They find that initial level of financial development is a rather good predictor of future growth.

When it comes to showing the actual impediments to growth, total factor productivity (TFP) is the favored area of research, as this can be an important determinant of a country’s output level. Since there exist large differences in TFP between countries, there also exist large differences in output per worker, leaving the question of what underlies these differences. One suggestions is the misallocation of resources. Through a financially repressed financial system, some firms have easier access to credit than others. One firm will then receive cheap, subsidized credit, albeit it is not as
competitive as another firm with less access to easy credit. However, the aggregate output of the economy would be larger if the credit went to the more productive company, respectively the one with the higher marginal product (\(\text{Marginal Product} \)). Trough its credit decision, the bank or the government impedes growth.

2 Banking Sector Reforms

The Chinese financial system before reform was characterized by the all-inclusive mono-bank system established in 1950, based on the Soviet Grosbank-System. The People’s Bank of China (PBoC) served as both a central bank and a commercial bank controlling the vast majority of all financial assets. The banking system was designed to serve the planning process and actually not more than a government agency.

The subsequent reform steps are described according to a split up into four different reform eras. For each era, the concrete reform steps, the reasoning behind them and the results are discussed. While the early reforms are presented in a rather short style, the last two major steps are described more in detail. Eventually, an overview on today’s banking sector and reform focus is given.


2.1.1 Reform Steps

The early reform process of this era was focused on changing the structure and operations of China’s administrative banking system, thereby preparing the ground for further reforms. The first step was to create what seems to be the basis of any modern, liberalized banking system: A two-tier system. The change from a mono-bank to a two-tier system can be described in two steps. First, the People’s Bank of China (PBoC) was separated from the ministry of finance (\(?\)). In the second step, three state-owned banks
were spun of the PBoC, namely the Bank of China (BoC), the People’s Construction Bank of China (PCBC\(^1\)) and the Agricultural Bank of China (ABC). The PBoC was to serve as a central bank and a regulatory body for the banking sector, surveilling its split offs. The three newly established banks were to take over the commercial business from the PBoC. Each of the three was given a special, designated area of business and a development mission. The BoC was to focus mainly on deposits and loans for foreign exchange and international transactions, the PCBC was to handle fixed asset transactions and the ABC’s main responsibility was to receive deposits in rural areas and extend loans to agricultural production projects and township industries (\(?)\). The fourth state owned commercial bank, the Industrial and Commercial Bank of China (ICBC), was formed in the year of 1984. All the commercial residuals within the PBoC were outsourced to the ICBC. The activities of the ICBC were centered around the financing of commercial and industrial activities (\(?)\). With the establishment of the ICBC, the transformation from a mono to a two-tier banking system was further enhanced. The four state owned commercial banks founded in this period are usually referred to as the Big Four. Besides the rise of the Big Four, the era saw the emergence of other bank-like institutions such as trust and investment companies, local investment banks and even experimental private banks.

In 1985, the Big Four were allowed to expand their scope of business. The clear separation between the specialized banks’ business sectors was lifted. Each of the banks was allowed to raise and allocate capital in any of the before exclusively served areas (\(?)\). A further important reform step was the establishment of three development banks in 1994, which were to take over the policy lending from the state-owned commercial banks (\(?)\). The three banks were the Agricultural Development Bank of China which was to provide lending to agricultural projects, the China Development Bank, responsible for construction and infrastructure projects, and the Export-Import Bank of China, chartered to disperse loans for the ex-\(1\)The People’s Construction Bank of China (PCBC) changed its name to China Construction Bank (CCB) in 1996.
port and import of capital goods (?). In another move, the state-owned commercial banks were given more decision autonomy in financing public projects. They now had the option of turning down a request for credit if they found the deal to be financially unattractive (?). The period also saw the establishment of new non-state commercial banks which were allowed to compete with the SOBs. In the “Special Economic Zones”, the first foreign banks were allowed to open branch offices, albeit only in very small numbers and under heavy restrictions for their business.

2.1.2 Reasoning

Despite China’s economy being communist, money mattered a lot. Government budgets were examined and deficits to be avoided (?). Nevertheless, since losses incurred by state-owned enterprises (SOEs) were financed through the national treasury, the fiscal deficit grew (see table 1 in the appendix).

In an attempt to relieve the government budget, the financing of these state-owned enterprises was outsourced by cutting out first the PBoC and then the Big Four and encouraging the SOEs to meet their financial requirements through bank loans (?). Besides, the banking system was believed to serve the SOEs better than government credit appropriation. The reformers believed the banking system would allocate the capital more efficiently than the government, thereby creating profitability (?).

The big picture behind the second part of the above described reform steps, after 1984, was the attempt to further commercialize the big four. The banks were expected to operate more on market principles (?). On the one side, the management should be given incentives for pursuing profitability, on the other side they should also be held accountable for bad performances of their institutions. However, this was only possible by further reducing government influence. Within the party, the reformers argued that the PBoC and the specialized banks were, despite the introduction of the two tier structure, still part of the administrative system (?). A clear cut was needed. The government therefore tried to separate
policy lending from commercial lending and the monopoly power of the specialized banks was abolished in an attempt to kick start competition.

2.1.3 Results

After the early reform steps, the Big Four were not much more than development banks controlled by the government and the banks were a means of allocating credit to SOEs without further straining the treasury’s budget. As seen from table 1 in the appendix, the budget deficit was largely cut from 1979 to 1980, so the outsourcing of SOEs’ financing helped. However, the deficits began to grow again from the mid 1980s on. Moreover, the term “commercial banks” was misleading. Investment decisions were not based on appropriate assessment of risks and returns, but on government instructions and therefore the large banks were not comparable to their international peers. The management was in general appointed by the government. Further, the clear division between the business areas served by each of the Big Four prevented any occurrence of competition. For all these reasons, profitability was not one of the characteristics of the Big Four after this era.

Nevertheless, argue that the banking industry gained greater decision autonomy through the early reform steps and was encouraged to play a more active role in the process of developing the Chinese economy. Further, while before this period, most of the credits were directly given out through budget appropriation by the ministry of finance, banks gradually overtook the government as the most important lender. The evolution away from government subsidies to banking loans can be emphasized by the financing structure of fixed investments displayed in figure 2. Within few years, the overwhelming source of financing for fixed assets were the state owned banks, replacing the governmental credit appropriation.

At the end of the period, in 1994, the separation between the commercial banks and the policy banks was far from complete. The policy banks did neither have the branch network nor the capital to replace the state-owned commercial banks as lender for policy loans. Under pressure from
the central and local government, policy lending continued to be a major part of the SOBs business (?). Nevertheless, the era saw first forms of competition in the banking sector (?).

2.2 Central Bank and Commercial Bank Law 1995-2001

2.2.1 Reform Steps

In this era, decisive action was needed to tackle shortcomings arising from earlier reforms: Non-performing loans (NPLs) and mounting inflation.

The first dimension of the reforms persuaded was an improvement of the legal base on which the banking sector was governed. In 1995, China passed the "Central Bank Law". The law clearly defined the PBoC as the Central Bank, granted autonomy to it and vested it with policy as well as supervisory power (?). Besides it emphasized its role as a safe guard of monetary and financial system stability. Now, equipped with the legal power to do so, the PBoC introduced new norms for lending. Overall, regulatory standards were strengthened (?). Measures taken were introducing capital adequacy ratios for commercial banks as well as prudential ratios, namely loans to deposit and assets to liquid liabilities. However, these ratios were nothing more than a formality (?).
In the “Commercial Bank Law”, also promulgated in 1995, further steps were taken in commercializing the SOBs. The law should allow the banks to operate on market principles and give a legal base to further reform the big four. The new laws aspired to improve lending standards and making bank management accountable for bank performance. One of the most important features of the law was its granting of operative independence with the exception of a national emergency case.

Besides these two laws, which were from then on the main pillars of the rules governing the banking sector (?), NPLs were cut out from the SOBs balance sheets and the banks were recapitalized. First, the government issued special bonds worth 270 billion yuan (USD 32.6 billion). The banks then bought these bonds themselves with reserves set free by a decrease in the required reserve rates. The government transferred the gains from the transaction back to the banks in the form of new equity. By this step, the capital base of the big four was doubled (?). In a second step, state owned asset management companies (AMCs) were established in 1999. The NPLs were then moved to these companies at book value in a swap for bonds issued by the AMCs and guaranteed for by the Ministry of Finance (?). The whole swap was worth no less than USD 168.1 billion (?).

2.2.2 Reasoning

In the years preceding the reforms above, the early nineties, China experienced rapid economic growth. Nevertheless, the Chinese Government had to acknowledge that the increasing pace of development did not only come with benefits but also with costs. Moreover, reforms in the real economy were speeding ahead of the banking sector reforms posing a serious threat to the stability of the financial system. A good example from 1992 were the price reforms, which eliminated food ration coupons (?). The introduction of free prices and an investment boom (?) came at great cost for the economy in the form of a high-inflation period. Realizing that the banking sector lacked the abilities to keep inflation at a reasonable level, measures were prepared to strengthen the institutional set up of the PBoC.
Through the "Central Bank Law" the PBoC should be provided with the necessary tools, the tools of a modern central bank, to fight inflation and provide stability to the monetary system. Besides the high inflation another problem arose: The rapid expansion of the economy since the beginning of reforms was mainly fueled by excessive investment into infrastructure and loans given out to SOEs (?). The growth was largely led by government and therefore by the loans of the state-owned and the development banks which were used as a policy tool. The banks lacked appropriate risk control procedures, management skills and corporate governance (?). Additionally, taking into consideration the governmental pressure on the banks to hand out cheap credit, even to non-profitable enterprises, it is not surprising that the loans were of rather low quality, meaning the risk of default was very large. These high risk loans are referred to as non-performing loans (NPLs). As the economy grew, the share of NPLs on the banks balance sheets grew rapidly. And since the banks make up such a large share of the Chinese financial system and play an important role in allocating capital, this problem was soon to become an imminent threat to the whole economy: A toppling banking sector was not helpful for further growth. Aggressive reforms in the SOE sector resulting in the mergers, split up or even closure of non-profitable SOEs, rendered many more loans non-performing (?). The problem was further intensified by a period of slowed down growth during the Asian Financial Crisis in 1996 to 1998 (?). Official statistics of the NPL problem in its peak season during the late 1990s is not available. Estimations vary from 25% of the big fours total loan portfolios to above 30% of China’s GDP at that time (?). The NPL problem was regarded to be the cost paid for the economic reform (see SOE reforms above) and support of the growth policy. Therefore it seemed only reasonable that the government would bail out the ailing banks. This view of essentially treating NPLs as a fiscal problem implies that the ultimate source of eliminating NPLs lies in China’s overall economic growth (?). The objective was to recapitalize the banks with the help of the AMCs and restore their financial health, thereby allowing them to compete one day with other banks in a market driven environment (?).
The “Commercial Bank Law” was the attempt to institutionalize the laws regulating the banking sector. Together with the recapitalization efforts it should provide for a better future by inhibiting the further piling up of NPLs and by further reducing government invention. The government was to stand on the sidelines and take the job of a regulator (?).

2.2.3 Results

Although PBoC was now officially independent, it was in fact subject to state council control (?). Nonetheless, as provided in figure 12, the inflation was successfully brought back to reasonable levels. When it comes to the Big Four, the results of the reform period is mixed. The massive recapitalization efforts of the authorities showed positive impacts improving the equity-to-asset of the banking system. However this ratio fell again below the level before the reform after a short period (?). Also, the independence of commercial banks was put in question, as they were continuously reminded of their political obligations, e.g. boosting growth and saving SOEs, by the government (?). Another issue was the governments dual role as regulator and as a majority owner. These potentially conflicting roles diminish the effectiveness in each of the two roles. When it comes to the NPL problem, the picture is mixed. The balance sheets definitely looked far better and the capitalization was improved. However, when it comes to the source of the NPL problem, the slack lending standards, little had improved. A surge of new NPLs remained possible. NPL ratios are hard to find and most of them rely on estimations and opaque information. It was only from 2000 on that official numbers were released. As seen from figure 3, the NPL ratio further increased till 2001, when the trend changed.

Reforms between 1998 and 2002 were therefore characterized by massive financial support, but had little effect on the bank governance, efficiency and performance. This is demonstrated by ?, who provide a study which examines the impact that bank deregulation in 1995 had on Chinese bank cost efficiency. The study investigates the changes in cost, technical and allocative efficiency. It finds out that early after 1995 efficiency in-
creased, only to drop again in the later nineties. Reasons brought up are the Asian financial crisis and a surge in non-performing loans.

2.3 WTO Accession 2001- Today

China’s banking sector was on paper opened up to foreign banks as early as 1981. However, restrictions were prohibitively high and international banks were discouraged of taking the step of entering the Chinese markets (?). The picture changed with China’s WTO accession in 2001. Some of the commitments taken in face of the WTO accession in 2001 had a direct impact on banking reforms in China. In the WTO agreement, the authorities promised to open up the Chinese banking system to foreign bank branches by the end of 2006 through what they called ”national treatment” for foreign banks. Also, foreign minority ownership in banks was allowed (?).

The prospect of mounting competition from an opening of the banking sector to foreign banks, as well as harsher inside competition from further market liberalization (?), lead to multifaceted and intensified reforms.
2.3.1 Reform Steps

In the year 2003, a new round of capital injection took place as foreign currency reserves were transferred into the banks. The PBoC injected USD 45 billion into both the BOC and the PCBC (?), which at the time were the two best performing SOBs. The ICBC followed suit with a USD 15 billion injected from the official reserves during the first half of 2005, for which the ministry of finance took an equity stake, while NPLs valued at USD 35 billions were transferred to AMCs (?).

Secondly, the three propped up banks went trough IPOs. They are all listed on either the Hong Kong stock exchange or the Shanghai stock exchange (for more details see table 2 in the appendix). However, only around 25% of the shares were free floating, with the rest still being owned by the government.

In 2003, the Chinese Banking Regulation Commission (CBRC) was set up. It was to supervise the banking sector and its reforms as well as to promote regulations. One of its main concerns was attracting foreign investors for the IPOs. It also set a limit of 25% of all shares for foreign ownership with the further restriction that at most 20% of the equity were to be held by a single foreign investor (?). The CBRC then set on to install monitoring tools regarding the NPL problem, a new loan classification system and capital adequacy ratios based on the basel II ratios. Further, it put focus on improving corporate governance (?).

2.3.2 Reasoning

The stated goal of the reforms in this era was to transform major banks into internationally competitive joint-stock commercial banks with appropriate corporate governance structures, adequate capital, stringent internal controls, safe and sound business operations, quality services as well as profitability. The government took further steps to improve the capital situation in the big four. This injection needs also be interpreted in view of the other large reform step of the era, the IPOs. It was perceived that the cleaning up of the balance sheet alone will not suffice to bring an end to
the creation of NPLs. Paradoxically, it may even result in perverted incentives for the large banks, as there is an explicit state guarantee. Therefore, the IPOs are of great importance. However, a successful IPO was only possible with improved balance sheets.

Arguably the most important reform step was the decision of the government to allow for partial private ownership of three of the SOBs through IPOs. This approach allows the handling of several issues at one time. First, an IPO imposes the need to justify the results and actions in front of the shareholders. It therefore should lead to improved corporate governance. Second, the opening up of the market leads to competition and the inflow of knowledge, thereby gaining on efficiency and profitability. Therefore Chinese authorities showed interest in strategic investors in order to diversify ownership and improve management quality (?). Third, a step-by-step retreat by the government can in the end resolve the dilemma of the government, where on the one side it is the regulator and on the other the owner of the banks (?). The IPOs and the listing of the banks were therefore regarded to be key to solve the NPL problem as they are perceived to be the product of governmental intervention, poor corporate governance, a lack of diligence and training in credit risk evaluation. Last but not least, the IPOs presented a welcomed opportunity for fresh capital for the system.

The establishment of the CBRC as a supervisory and regulatory body should eventually provide a clean cut between monetary policy, which remained with the PBoC, and the regulatory and supervisory competencies. With the planned opening up of the market and the going public of the large banks, growing complexity and international standards needed good regulation, management and a stronger supervisory.

2.3.3 Results

Through IPOs, the large banks were forced to adjust their corporate governance to international standards. Big names such as Citigroup, HSBC, UBS, Deutsche Bank or Royal Bank of Scotland brought new banking skills
and knowledge, as well as competitive pressure to China when they bought large share packages as strategic investors. A very direct improvement was provided through the investors taking seats on the boards of the banks, thereby promoting new monitoring discipline (?). Further, international standards force the banks to publish information, adding to transparency and resulting in profitability pressure. The CBRC forced a credit monitoring system on the large banks to control NPLs and the latter reduced their workforce by 250’000 (?). In their paper Berger et al. find that banks with foreign minority ownership perform better when it comes to profit and cost efficiency. ? provide empirical evidence that ownership reform and foreign competition had a positive impact on Chinese national commercial banks (viz. the eleven largest banks of China). This is displayed in improved efficiency and productivity, as well as progress in corporate governance matters. However, the government still holds the major part of the shares and thereby exercises great influence on the banking sector.

Further, the establishment of the CBRC brought around a separation of monetary policy and regulation, thereby improving the institutional set up and paving the way for a more effective, closer supervision badly needed on the way to a modern banking system. It also marked a step towards better corporate governance (?). Another valuable output of the commission is the shedding of some light into the opaque world of Chinese banking trough regular publication of reports and key data on the sector.

A more pessimistic view is offered by the suggestion that the NPL problem is still larger than admitted and that further, substantial bail outs will be needed (?). Further, the Chinese Government has so far shown no sign of giving up their majority stakes in the Big Four, therefore keeping a firm grip on the banks and consequently on their strategies and business conduct. To the observer, it seems as if the government is ring fencing its access to credit decision from the banks. This view is supported by the fact that the bond market, as another form of financing, is still underdeveloped and hardly promoted by the government and all the debt financing remains with the banks. Further, the SOEs still get a more than proportional share of the total credits and many of the clients are the same whose
loans were written off. Loans to the SOEs still make up the major part of all loans handed out (see figure 4). The share is even increasing again. It also seems, the euphoria after the partial opening of the banking sector had its downsides. While before WTO entrance the field of business of the banks had been heavily restricted, the liberalization of the sector lead to an expansion into other business areas and regions, where they lacked expertise and knowledge (?). Another problem is the de facto fragmentation of the banking system: The local branches of the big four are still independent and their objectives often not in line with their headquarters, since they are under local influence (?). All this leaves the perception that a new piling up of NPLs is a realistic scenario. At the end of the period, the banking sector was, measured in international standards, still rather opaque, the regulatory bodies weak and inexperienced, the governance far from best practice and accounting standards inadequate.

![Figure 4: The Share of Loans directed to the State Sector (Sources: CSY 1995-2010)](image)

### 2.4 Today’s Banking Sector

The banking sector in today’s China is still dominated by the Big Four. The Bank of Communication (IPO in 2005) caught up with the Big Four, so now the large state owned commercial banks are referred to as the Big
Five. Nevertheless, while at the onset of the reforms the SOBs were holding almost all assets of the financial system, the picture in the banking sector today looks more diverse. Since the year of 2003, the SOBs gradually lost weight compared to the rest of the banking sector. While in 2003, they still held around 60% of total banking institution assets, in 2010 they were at 49% (Figure 5).

![SOBs Share in Total Assets](source: CRBC Annual Report 2006-2010)

The banking sector today shows a wide array of different institutions, unlike at the onset of reforms, ranging from the huge SOBs to small rural cooperatives (see Table 3 in the appendix). Taking a look at the financial depth shows how the banking sector grew relative in size to the GDP. While in 2003, the ratio of M3 less currency in circulation to GDP was at 2, it reached 2.3 in 2009 (see Figure 6).

From an institutional point of view, the set up of the Chinese banking system is the same as for any modern financial system. The PBoC implements the monetary policy and CBRC is regulating and supervising banking institutions and their business operations. However, these two institutions still lack independence from governmental intervention. When we look at the soundness of the banks in the market, there is a lot of progress. The NPL ratio has dramatically decreased (see Figure 3). One of the main goals of the banking reforms was turning the money losing banks

![SoCBs Share](source: CRBC Annual Report 2006-2010)
into more efficient and profitable institutions. Today’s banks are profitable indeed. and absolute profits have been rising. However, when it comes to the profitability ratios, the development in the last years has been stagnant. Taking the return on assets both for the whole banking sector and the state owned commercial banks, the ratio is within a range of 0.8% and 1.1%. A clear trend is not visible as seen from table 4 in the appendix. The same holds true for the return on equity.

When it comes to foreign banks, the picture is mixed. While for the years of 2003 to 2007 the share of assets held by foreign banks was rising with a peak of above 2% of all assets, it fell again to 1.75% in 2009 (see figure 7). However, it seems that foreign banks only play a very small role in the chinese banking sector, indicating that there still exist barriers to entry.

The banking system in China is still in transition. The reform focus for the SOCBs is now on improving corporate governance, risk management and internal control, as well as supervision. The large commercial banks are slowly brought closer to international standards such as Basel II. The commercialization strategy once applied to the SOBs is now used for commercializing some of the policy banks (e.g. the China Development Bank) back then founded to relief the SOBs’ balance sheets. Further focus is put

Figure 6: Development of Financial Depth over the Reform Period (Source: http://data.worldbank.org/ as of 5th of July 2010)
on reforming the still opaque second and third tier banks, such as rural credit cooperatives?

After the 30 years of reform, Chinese banking system resembles, from an institutional point of view, a modern banking system. The large banks seem able to stand international competition and the fear of China’s banks of loss of market share trough the opening of the markets did not materialize. However, the market remains restricted. The massive recapitalization efforts left the banks balance sheets in a good shape. How much these continued bail-outs will cost in the end is not clear yet. Much more important than the question whether China can afford these bail-outs, which it seemingly can, is whether the changes in the system are effective in preventing a new surge of NPLs. The robustness of the banking sector will be put to the test, once China’s growth slows down and more defaults occur. Still, all the above evidence suggests China’s banking system to be the weakest link in the countries economic set up. Much more effort will be needed, be it regulatory, in the implementation of proper governance or monetary support of the banks until the large banks can be viewed as peers of the American and European commercial banks.

Furthermore, the market is not yet sure what to make of Chinese bank reforms. I constructed an index with three of the Big Four’s (excluding
ABC listed in 2010 only) market capitalization. Taking November 2006 as base period, the constructed index performs inline with the Hang Seng Index, a market index for the Hong Kong Stock Exchange, while especially in 2006 and 2007 it is outperformed by the Shanghai Stock Exchange Composite Index. However, in 2010 and 2011, the bank index slightly outperformed the mentioned indices indicating growing confidence in the banks and therefore the Chinese reform agenda (see table 5 in the appendix).

3 The Macroeconomic Implications of the Reforms

Despite its rather poor financial system, China has experienced vast growth in the last decades. The success story has been the result of bold reforms. The Chinese financial system is dominated by its banking sector. It is of much larger importance to the economy than the other parts of the financial system, such as the stock market (?). It is the main distributor of credits and can in the end decide where investment is going. However, only if the banks are working properly, this will lead to improvement in the economic output. The financing of economic activities or ventures knows mainly two sources (albeit there are other financing channels): banks or governments. Especially, when it comes to developing or emerging countries, more sophisticated financing channels, such as stock markets, funds or venture capital are underdeveloped or don’t even exist. What holds true for the whole world, is that individual savers or investors are not the ones with large impacts on the investments. Usually, the investment decision is delegated to larger institutions (?). In this section I shall discuss the influence the banking sector has on the economic development in China. The growth-impeding structure of China’s banking sector in interaction with the dual structure of the Chinese real economy shall be displayed. In the last part of the chapter I provide empirical measures of the finance growth nexus, by regressing indicators of financial development with indicators of economical development.
3.0.1 Financial Repression in China

Repressed financial systems are often observed in transition economies on their way from central planing to a free market economy. Further, since the financial systems are state-dominated, supervision and regulation is often neglected in such countries (?). From the situation in the Chinese financial sector, it is a conclusive statement that China had and still has a financially repressed economy. But what was the point behind repressing the financial system? It was the financing of an ambitious industrialization strategy which made it necessary to maximize the flow of financial resources to the government. Measures such as limiting the entry to the banking sector, controlling the interest rates, impose high reserve requirements, restrict the development of debt and equity markets should repress the financial system for that reason. By maintaining the monopoly of the SOBs, it was ensured that the bulk of credits would flow to state-owned enterprises (?). In turn, through their obligation to lend to the state sector, the SOBs were in no position to compete with other banks. Further, through credit ceilings set in the annual credit plan, the total lending capacity of the financial sector and each institution was limited, impeding growth of credit volume. After the year of 1985 however, excess credit lending would go unpunished. Then, in the mid 1990s, the credit ceilings were enforced again, as a counter measure to accelerating inflation. From 1995 till 1998 only the large state owned commercial banks were still subject to credit ceilings. After that, credit ceiling were lifted for all banks, while the PBoC kept influence over lending volume and direction trough annual recommendations (?). Further, through the credit plan of the state council, the funds of the banks were channelled to preferred sectors of the economy.

3.0.2 Financing Structure, the Dual Structure of China’s Economy and Impeded Growth

The most important sources of financing for Chinese enterprises are bank loans, self-fund raising (e.g. retained earnings), the state budget and for-
eign direct investment (\(\text{---}\)). The financing structure differs though depending on the ownership of an enterprise. While state owned enterprises rely on bank credits, non-state enterprises rely more on retained earnings and other forms of self financing (\(\text{---}\)).

The understanding of the differences between the SOEs and the private sector is fundamental to the understanding of the financial sector reforms and how they could impact the economic growth (\(\text{---}\)). The set up of China’s economy has dramatically changed over the past decades. While the private sector has gathered speed and is the driving force behind growth, the state owned part of the economy has lost ground. Still, the latter is the largest receiver and main beneficiary of the underdeveloped and state-controlled banking sector (\(\text{---}\)). In figure 8 the shift of output share from state controlled to private enterprises is displayed for the Industrial sector.

![Industrial Output and Ownership](image)

Figure 8: Industrial Output and Ownership (Source: CSY 1988-2010)

The more than proportional share of bank credits given out to the low productivity state sector can be viewed as misallocated capital. Therefore China’s financial sector allocates investment funds inefficiently. Generally spoken, the more productive private sector receives the small share of credits, while most of the loans are allocated in the state owned, less productive sector. The smaller productivity is shown in figure 9, where the asset-to-output ratio of the SOEs is constantly lower than the one of the
non-state sector. Through financial liberalization, the policy induced misallocation of funds should, in theory, be gradually reversed, and thereby growth in the economy accelerated. This is supported by the fact that a key source of productivity growth in the whole economy was the reallocation of labor and capital to more productive uses.

Trough a credit allocation based on incentives such as productivity, profitability and innovation, the banking sector could actively promote growth.

3.0.3 Financial Development and Macroeconomics

In this section, I test if changes in the structure and set up of the banking sector trough the reforms have helped promoting growth and if they confirm the theoretical predictions of the liberalization thesis. I shall provide a regression between characteristics of a modern banking system and justifiable proxies of the overall economic development. While in the literature the focus is mostly on the efficiency of the banks and the tests are on cross country basis, I will define indicators of financial development associated with the above described reform steps in China.

suggest four indicators of financial development, namely financial depth, institutional breakdown between central bank and deposit banks,
the proportion of credit allocated to private enterprises by the financial system and the ratio of credit to the non-financial private sector to GDP. \[*\] suggests financial depth, credit to private sector and ownership of the commercial banks.

The financial depth is given by the relative size of the financial sector to the GDP. It is quantified by taking the ratio M3/GDP (where M3 = broad money minus currency in circulation). A larger ratio indicates a more financially developed system, since it gives a hint on the mobilizing capacities of the financial sector when it comes to domestic savings \([?]\). It is assumed that with increasing mobilization of the savings, the credit volume will increase, thereby fostering growth. However, there are some shortcomings to this indicator. First, savings might be held in assets not included in the M3, such as stock. Further, growth of domestic credit in absolute terms can be related to money creation, therefore an increase in financial depth is not necessarily connected to financial development in the sense of improvement of the financial sector. Neither does financial depth measure where the funds are allocated. For China, financial depth has continuously increased over the reform periods. From 0.19 in 1978 it climbed up to 1.68 in 2009 as portrayed in figure 6.

A second indicator would be the credit to the private sector or the one to the state sector. Credits to the respective sector are then put into ratio to the total credit issued. The explanatory power of this indicator when it comes to financial development stems from the idea that the private sector is more efficient than the public sector. So the more credit goes to the private sector, the more efficient will the financial sector be. The higher efficiency of the private sector paired with a larger ratio of total credits received results in a positive shift in the allocative efficiency of capital. The higher efficiency of the capital compared to before the shift to the private sector results in economic growth. However, the indicator also has its weaknesses. The higher credit needs of the state-owned sector can also, at least partially, be explained by its structure and not only its easier access to credit, as the SOEs are more active in capital intensive industries than the more labour intensive private sector. In China, the loans to the state sector
ratio does not show a clear trend. While until the late 1980s the share of credits going out to the state sector decreased constantly, since the 1990s the trend was reversed. In 2009, the SOEs share in loan reception from the banks was nearly as high as in 1978, reaching 90% (see figure 10). This indicator therefore lacks indication of successful financial liberalization. It could even hint at a reversed liberalization as the state sector is gaining ground again. This result in turn underlines the weakness of the above indicator, financial depth. While the financial depth increases, this does not guarantee that the additional credit is allocated efficiently.

![Figure 10: Loans to the State Sector as Share of Total Loans (Source: CSY 1988-2010)](image)

Third, the government influence on the banks shall be a proxy of financial development. Under the financial liberalization thesis it is assumed that government ownership of financial intermediaries goes hand in hand with government directed credit. Investments promoted by the government are further regarded to be driven by other considerations than profitability. This in turn dilutes the efficiency of the appropriated capital. Thus, a larger government share in the ownership of banks means a larger influence of the government on the capital allocation resulting in policy driven financing and not in profitability and innovation driven financing. The government ownership hinders growth. However, a data problem arises when it comes to determining government ownership. The
banks were fully owned by the government theoretically. Still they served also individual and private depositors. Therefore by just using ownership structure and setting government ownership at 100%, the indicator would ignore other efforts and earlier reforms besides partial privatization which had influence on the banks lending behavior. No argument could be provided to how well the financial intermediation works, thus I constructed another proxy of state influence. While the banks were fully controlled by the state in terms of ownership, deposits can be split according to their sources into state or non-state sourced. Since the banks fulfilled state duties, the funding of these sources was through state deposits. From the balance sheet of the banks it becomes clear which part of the deposits were of non-state origin and which of state origin. The according split gives an idea of the governments influence on the banks. Taking a look at the balance sheets of Chinese banks displays an increasing share of the deposits held by non-state depositors. A steep reduction in state controlled deposits can be observed between the onset of the reform period, where more than 70% were state controlled, and the mid 1990s, where they made up about 35% of all deposits. However, similar to the loans to the state sector, the share of deposits under state influence increased again to approximately 45% of deposits in 2009 (see figure 11). The indicator therefore shows no clear evidence for financial liberalization, at least not for the decade of 2000 to 2009. The findings for this indicator together with the findings of the above indicator, loans to the state sector, support my above assumptions. The decrease in state deposits went hand in hand with a decrease in the loans to the state sector and the latests surge in loans to the state sector was accompanied with a rising share in the deposits held by the state.

While in the literature the inflation rate is not included in measuring the financial development of a country, I shall use it as a proxy for the development of the institutional and regulatory set up of the banking sector in China. The reformation of the institutions of a two tier banking system and the regulation of the latter was one of the cornerstones of the banking reforms and their macroeconomic impact should not be underestimated.
Trimming inflation was key to stabilize and foster the economic development and it was to be achieved through building an effective central bank. This central piece of reform and its implications on the macroeconomics of China shall not go unaccounted for. Looking at China’s rate of inflation there was growing inflation from the onset of reform until the mid 1990s. Then a period of steep reduction in inflation rates followed until the year 2000. Since then, inflation accelerated again (see figure 12). As like for the government share’s in deposits and the share of credit to the state sector (see above), there is no clear trend visible in the development of inflation. The institutional progress is not obvious.

Overall, the indicators give a mixed picture of financial development. While it seems that the banking sector has stagnated in terms of liberalization process, the overall financial depth has increased steadily. This points to the direction, that the financial deepening resulted from other sources than the banking sector or that the allocation of credit is largely mislead. This leaves it questionable whether a relationship between the banking sector development and the economic development can be found.

When it comes to the response variables, the economic development in a country knows straightforward indicators: GDP per capita or GDP per capita growth. The GDP per capita climbed over the course of the reform period reaching more than 2000 USD at constant prices in 2009.
The spectacular growth rates of China over the last 30 years reach from a low of 3% up to 14% for GDP per capita, implying a rather large volatility (see figure 13).

Figure 12: Rate of Inflation over the Reform Period (Source: http://data.worldbank.org/ as of 5th of July 2010)

A further indicator of economic development I found to be interesting, is the increase in investment into fixed assets. More precise, it is interesting how the receivers of the investments changed. The financial development
theory suggests a shift from SOEs to the private sector, as the private sector is more efficient and the financial sector distributes investment according to profitability. This in turn would lead to stronger growth. As a matter of fact, the share of total investments into fixed assets of the state sector declined and the non-state sector received a larger share as displayed in figure 14.

Figure 14: Share of Investment into Fixed Assets going to the State Sector (Source: CSY 1988-2010)

However, taking a closer look at the sources of financing, it is clear that the change in the structure of investments received was not induced by the banking and loan sector, but by individual fundraising (e.g. retained earnings). The share of the banking sector in financing stagnated and in recent years even decreased slightly (see table 6 in the appendix).

The above empirical findings shall be put to a test with the help of linear regression. Using data ranging from the beginning of the reform period in 1979 up to 2009, three regression models are constructed, which should provide insight into the relationship between financial and economic development. The full analysis and data is presented in the Appendix (see table 7 - 9).

1. \[ GDP_{Level,t} = a + \beta_1 FD_t + \beta_2 LSS_t + \beta_3 INF_t + \beta_4 SOD_t + e_t \]

The first regressions will be performed with the model where the GDP
level per capita is the response variable, $FD$ is the financial depth, $LSS$ are the loans to the state sector, $INF$ is the rate of inflation and $SOD$ are the deposits under state control. The results of the regression between the GDP level and the indicators can be seen in table 7 in the appendix. The coefficient for the financial depth ($FD$) is, as expected, positive. Further it is significant at the 1% level. There exists a positive correlation between economic development and the financial depth. The coefficient of the share of loans going to the state sector ($LSS$) is, not as expected, positive. The coefficient is not significant at the 1% level. Third, inflation has a positive correlation with GDP level. However, the relationship between inflation and GDP level fails to pass the significance test at 1%. The positive coefficient, which also passes the significance test at 1%, between the share of bank deposits ($SOD$) under state control and the GDP level comes unexpectedly, as it diametrically contradicts the theory of financial liberalization.

2. \[ GDP_{Growth,t} = a + \beta_1 FD_{t-1} + \beta_2 LSS_{t-1} + \beta_3 INF_{t-1} + \beta_4 SOD_{t-1} + e_{t-1} \]

For the second regression, today’s GDP growth rate per capita, is regressed with the indicators of financial development as above, which in turn are time lagged by one year. The time lag is justified by the fact that today’s GDP growth has its roots in earlier decisions. None of the coefficients passes the significance test at the 1% level (see table 8 in the appendix).

3. \[ FA_{StateShare,t} = a + \beta_1 FD_t + \beta_2 LSS_t + \beta_3 INF_t + \beta_4 SOD_t + e_t \]

For the third regression I chose the share of the total of fixed asset investments going to the public sector as response variable ($FA_{StateShare}$). The results of the regression between the GDP level and the indicators can be seen in table 9 in the appendix. For the financial depth ($FD$), the coefficient is negative, implying a correlation between a smaller share of the investments going into the public sector and higher financial development. Further, the result for $FD$ is significant at the 1% level. All other coefficients are not significant at the 1% level.
3.0.4 Interpretation of the Results

The different response variables do not show a clear connection to the indicators of financial development. However, in two of the three cases financial depth is positively and significantly correlated with economic development. Further, taking a look at how the indicator developed, the reform success in the banking sector measured in terms of the liberalization theory, must be questioned. It even seems as if there was a backlash. Under these circumstances it is hardly surprising that there is no correlation, as no or only minor financial development took place in the banking sector. By the financial depth measures, it is therefore implied that the Chinese rally of the last year was financed through other channels than the banking sector. It can be assumed that a more efficient banking sector might have led to even more growth.

However, the results presented need to be viewed with caution, as the data set used is rather small, including the 30 years of reform only.

4 Conclusions

This paper discussed the reforms of the Chinese banking sector and their macroeconomic implications. The gradual, but still bold, reform approach resulted in a seemingly modern banking system open to foreign markets and governed by profitability thoughts. At first sight, it seems as if the reformers followed a clear liberalization thesis. However, the indicators put together paint a different picture. The share of foreign banks is at best stagnant. The government exerts substantial influence on the sector and the share of loans to SOEs has risen again after it decreased in the first decades of the reform era. The same holds true for the share of total deposits under state control. Further, the inflation is still not under control.

The cleaning up of the Chinese financial system comes with great cost to the state and ultimately the taxpayer. Financial repression was a most effective tool when it came to transferring accumulated losses from subsidizing non-profitable state sectors away from the government’s budget.
However, it is not the banks that have to bear the losses, but the deposit holders and the private borrowers who are faced with artificially low interest rates for deposits and limited access to credit (higher lending rates and lower quotas) (?).

For all these reasons, it is highly unlikely that the banking sector was one of the driving forces behind China’s spectacular growth rally. The picture is more one of a still underdeveloped banking sector, chasing a more and more competitive and successful non-state real economic sector and wasting its allocative opportunities on the less efficient state sector. While the banking sector is rather underdeveloped, still financial depth has increased steadily and is correlated with growing income and more profit oriented investment decisions. It seems as if the Chinese economy has found other ways of financing growth than through liberalizing its banks. An interesting field of further studies would therefore be the influence of the whole financial system on the macroeconomic development, as the financial markets are far more complex than portrayed.

However, in view of lower future growth rates, the banking sector will become more and more important in financing growth for the private sector, as other means of financing (e.g. retained earnings) will no longer be available or to expensive. Therefore further reform and improvement of the sector will be imperative.

Besides, the underdevelopment of the Chinese banking sector also has its benefits. Contrary to the crisis-prone “big bang theory” applied to the reintroduction of market mechanisms in the banking sectors of many former soviet countries, China chose a more stable reform approach. This, beyond pure economic considerations, has obvious political and social benefits for China.
## Appendix

### Table 1: Government Deficit and Surplus (Source: CSY 1988-2010)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Year</th>
<th>Raised in USD Billion</th>
<th>Government Share (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCB</td>
<td>2005</td>
<td>9.2</td>
<td>83.40%</td>
</tr>
<tr>
<td>BOC</td>
<td>2006</td>
<td>11.2</td>
<td>70%</td>
</tr>
<tr>
<td>ICBC</td>
<td>2006</td>
<td>22.2</td>
<td>59.66%</td>
</tr>
<tr>
<td>ABC</td>
<td>2010</td>
<td>22.1</td>
<td>70.7%</td>
</tr>
</tbody>
</table>

### Table 2: Overview on IPOs (Sources: Annual Reports of the Big Four)

![Government Deficits and Surplus Chart](image)
Table 3: The Set Up of the Chinese Banking Sector (Source: CBRC Annual Report 2010)

Table 4: Profit after Tax and Return on Assets (Source: CBRC Annual Report 2006-2010)

Table 6: The Sources of Fixed Asset Investments (Source: CSY 1988-2010)
### Table 7: Regression Model 1: GDP per Capita

<table>
<thead>
<tr>
<th>Regression Statistics</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>R</td>
<td>0.54889</td>
</tr>
<tr>
<td>R Square</td>
<td>0.0039</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.99507</td>
</tr>
<tr>
<td>S</td>
<td>195.5723</td>
</tr>
<tr>
<td>Total number of observations</td>
<td>31</td>
</tr>
</tbody>
</table>

**GDP Per Capita = 3107.25039 + 1184.45303 * Financial Depth + 1020.78060 * Loans to State sector + 12.3998 * Inflation + 2092.9247 * State Deposits**

**ANOMA**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p-level</th>
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<tr>
<td>Regression</td>
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<td>551.250.324.200.09</td>
<td>2272.694.032.93</td>
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<td>312479.59349</td>
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<td>Total</td>
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### Table 8: Regression Model 2 GDP per Capita Growth

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<tr>
<td>R Square</td>
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<td>Adjusted R Square</td>
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<td>S</td>
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<td>Total number of observations</td>
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</tbody>
</table>

**GDP Per Capita Growth = 0.0045 + 0.0118 * Financial Depth + 0.08999 * Loans to State sector + 0.0000 * Inflation - 0.0131 * State Deposits**

**ANOMA**

<table>
<thead>
<tr>
<th>Source of Variation</th>
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<th>MS</th>
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<tbody>
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<td>Regression</td>
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<td>0.000033</td>
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<td>Residual</td>
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<td>Total</td>
<td>29</td>
<td>0.02447</td>
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<table>
<thead>
<tr>
<th>Coefficients</th>
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<th>t Stat</th>
<th>p-level</th>
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</thead>
<tbody>
<tr>
<td>Intercept</td>
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<td>Financial Depth</td>
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<td>Loans to State sector</td>
<td>0.08686</td>
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<td>-1.03141</td>
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<tr>
<td>Inflation</td>
<td>0.000033</td>
<td>0.01256</td>
<td>-0.20356</td>
</tr>
<tr>
<td>State Deposits</td>
<td>0.01308</td>
<td>0.05064</td>
<td>-0.26873</td>
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</table>

T (T%) | 2.78744
### Table 9: Regression Model 3 Investment into Fixed Assets

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Standard Error</th>
<th>LCL</th>
<th>UCL</th>
<th>t Stat</th>
<th>p-level</th>
<th>H0 (1%) rejected?</th>
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<tr>
<td>Intercept</td>
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<tr>
<td>FD</td>
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<tr>
<td>SLS</td>
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<td>0.60368</td>
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<tr>
<td>INF</td>
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<td>0.00247</td>
<td>-0.01015</td>
<td>0.00383</td>
<td>-1.31405</td>
<td>0.20076</td>
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<td>SOD</td>
<td>-0.35957</td>
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<td>-2.11487</td>
<td>0.04458</td>
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</table>

LCL - Lower limit of a reliable interval (LCL)
UCL - Upper limit of a reliable interval (UCL)