

Fachbereich Wirtschaftswissenschaft

**Consequences of the Globalization and the Entry to the WTO on the Reform
of the Chinese Financial Sector**

- Direction and Impacts of Reconstruction in the Bank Industry -

Dissertation

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Preface:

With the tendency of globalization in the world's financial system, especially, with Chinese accession to the WTO in 2001, Chinese financial business begins to experience a new era. For the first time after more than forty years in a controlled market, China took the step towards fully opening its doors to foreign trade partners. This is both a good and bad piece of news for the Chinese financial business. On the one hand, this market stimulus will intensify the economic growth, open more opportunities to them. On the other hand, the Chinese banking industry has limited internal management capabilities and is still heavily burdened by massive non-performing loans. Foreign competition is hardly welcomed. Facing the significant opportunities and looming competition ahead, Chinese banking industry is at a crossroads of change. Standing still is not an option as Chinese bank confronts both the onslaught of new competitors and the equally daunting challenge of finding the right direction for themselves. How should Chinese bank do?

The purpose of this dissertation is to find out, which kind of impacts has been exerted on the Chinese bank industry by the globalization and the entry to the WTO, and which kind of necessary strategic priorities should be set by Chinese banks and Chinese regulators at this momentous time.

In order to fulfill this target, the whole contents will be extended from the following three perspectives.

Firstly, by investigating the development and transformation of the bank industry around the world, this first section intends to find out some common developing tendency of the bank industry worldwide and debate some special characters and experiences of the advanced markets, such as German financial markets and American financial markets.

Secondly, based on the understanding on the reconstruction of the bank industry around the world, the bank' risk exposure and the changing of the bank regulation systems under the new situations will be debated in the second section.

Finally, drawing on the conclusions from the above-mentioned investigations, the thirds section will provide an in-depth investigation about the evolution of Chinese banking industry and discuss the most crucial challenges facing the Chinese banking industry at this moment. Eventually, some necessary strategic priorities that Chinese banks and financial regulators should set can be expected there.

I. The theory of financial intermediaries

In order to analyze the transition and reconstruction of the financial intermediaries in the future, it appears indispensable to study the anatomy of the financial intermediaries from the theoretical perspective. This chapter will first look into the functional stability of the financial intermediaries over time, in comparison with its changeful existing forms. Logically, the reconstruction and the transformation of the financial intermediaries are explicable either in terms of the supply side – a changing comparative advantage in terms of the functions they fulfill (related to the function of financial intermediaries described below) – or an increased demand for certain functions on behalf of end-users (related on the function of the financial system present below). That means, no matter which kinds of shape the financial intermediaries will take in the course of the time, the fundamental function, it will achieve, is quite stable. Finally, the argument of the close link between the financial intermediaries and the macro economic imply the fact, how valuable it is to make the investigation about the transformation of financial intermediaries.

1. The functional perspective of financial intermediaries

The contribution of Robert C. Merton, Zvi Bodie (in 1989)¹ to the financial systems was the starting point to the “functional perspective” instead of an “institutional perspective”. A functional perspective is one based on the services provided by the financial system, such as providing a way to transfer economic resources through time, in which the economic function served by financial institutions are taken as given and the best institutional structure to perform those functions at a given time and place is researched. It does not assume that the existing mix of institutions remains the same. Instead, functions are the stable elements in the framework. Institutions matter but are not the anchors, and institutional changes are thus endogenous with this perspective. The argument in favor of focusing on the functional rather than the institutional perspective is that over long periods of time functions have been much more stable than institutions.

In contrast, an “institutional perspective” is one where the central focus is on the activities of existing institutions such as banks and insurance companies in which the unit of analysis is the institution and the existing institutional structure is taken as a given. It is static in focus. Because

¹ Bodie, Zvi, and Robert C. Merton, (1989), ‘Finance’. Saddle River, N.J., Prentice Hall, pp. 28.

institutions not only matter, but also are the conceptual anchor of this perspective, institutional change with this framework is exogenous. As we know, over the past decade, the financial service industry has undergone a dramatic transformation. Institutions have come and gone, evolved and changed, but the functions are far more stable while the financial services may be packaged differently both across competitive institutions and over time. In short, the functions of financial services such as origination, distribution, servicing and funding are far more stable than the institutions that provide services or the specific products in order to satisfy customer requirements.

The difference between the institutional and functional perspective can be seen from a brief discussion of insurance. Institutionally, insurance company produces the insurance contract. But what function does insurance company service? It guarantees the value of an asset under specific circumstance. Note however that a ‘put option contract’ issued by an option exchange also supply a guarantee of asset value. Both the insurance contract and the option contract supply the same function: namely, protection against the loss in asset value. Nevertheless, from the view of “institutional functional perspective”, the issuing company is entirely different: an option exchange is not an insurance company. Moreover, the put option on an exchange is a different product from the insurance contract. In contrast, although, the product and the institutions, which provide them, are quite different, functionally they do the same thing: provide a guarantee of asset value to the customer. Hence, either can be used as a substitute of the other.

Using this functional approach to the financial sector, the activities of financial intermediaries can be seen as focusing on one or another function performed by it. And the form and the reconstruction of the financial intermediaries can also be analyzed as the adaptation to the function in a new and changed market situation. This theory is just where this paper would be based.

2 The functional theory of the financial system

2.1 The conception of financial system

Serving as an important intermediation in the economy, the financial system allows funds to be channeled from those who might not put them to productive use, to those who will. In this way financial service industry can help promote a more efficient and more dynamic economic

development.² On the other hand, Franklin Allen argued, “A financial system is generally understood as an interactive system of supply and other financial-related services. The structural and behavioral condition of the non-financial sector, the transactions between the surplus, intermediaries and deficit units, and ventures in the business, law and cultural fields depict the financial system integrated in the national economy”.³

Today, the financial system is cosmopolitan. The financial market and financial intermediaries is connected together closely by the advanced long-distance electronic system. As the financial circulates world wide, the financial function is also fulfilled worldwide.

2.2 The function of the financial system

The basic function of the financial system can be undoubtedly considered as the “high efficient resource allocation and promoting the economic efficiency”. Based on this basic function, this section summarizes the functions that financial systems are expected to fulfill. Whereas the form taken by financial systems is subject to evolution through time, the functions fulfilled by the financial system in the context of its overall function of resource allocation are relatively fixed. This provides a constant feature both of long-term developments and of recent trends. Evolution of financial intermediaries’ forms and of financial structure may be seen as a form of adaptation and improvement in the ways these functions are fulfilled, under pressure of competitive forces. Referring to the functional finance, various paradigms have been proposed⁴. Here, we highlight and utilize what was proposed by Merton and Bodie (1995)⁵. They focus on the following six functions:

1) Firstly, financial system is provision of ways to transfer economic resources over time, across geographic regions or among industries. By these means, households may optimize their allocation of funds over the life cycle and funds may be optimally allocated to their most efficient use. A capital market facilitates efficient separation of ownership and control of capital, thus aiding specialization in production. A range of financial intermediaries is active in these processes. The more complicatedly the economy runs, the more important this function will become.

2 See Frederic S. Mishkin, (2001), ‘The Economics of Money, Banking, and Financial Markets’, Boston, pp. 9.

3 Franklin Allen, Historical Background, (1999), ‘How Financial System Differ and How They Develop?’, Wharton School, working paper pp1.

4 For example, Sanford(1994), Rose(1994), Hubbard(1994).

5 Robert C. Merton, Zvi Bodie, (2000), ‘Finance’, Chinese Edition, The publishing House of Renmin University of China, pp.24-30.

2) The provision of a mechanism for pooling of funds from individual households so as to facilitate large-scale indivisible undertakings, and the subdivision of shares in enterprises to facilitate diversification. Mutual funds, other institutional investors and banks provide means to pool funds, while securities markets and the process of securitization of claims are examples of subdivision.

3) Provision of ways to manage uncertainty and control risk. Through securities and financial intermediaries, risk-pooling and risk-sharing opportunities are made available to households and companies. There are three main ways to manage risk, namely hedging, diversifying and insuring. The role of derivatives in this process has come to the fore in recent years. More generally, in the financial system, many contracts are devised for the transferring and management of the risk, but not for the transferring of capital funds.

4) The provision of ways of clearing and settling payments to facilitate exchange of goods, services and assets. Banks, for example, may offer cheque accounts; cash cards and wire transfers, while money market funds may also offer transactions services or non-financial firms may offer credit cards. Systems for transferring payments and for trading, clearing and settling securities transactions may also fall under this heading.

5) Providing price information, thus helping to decentralized decision-making in various sectors of the economy. Financial markets provide not only means to trade but also information useful for decision-making; for households, yields and securities prices provide information in consumption-saving decisions and in allocating portfolios. Firms may equally make investment and financing decisions on the basis of market prices. Central banks may use market prices as indicators of expectations. Not only prices per se but implied volatility (derived from options prices) may be relevant in this context.

6) Providing ways to deal with incentive problems when one party to a financial transaction has information that the other does not, or when one is agent of the other, and when control and enforcement of contracts is costly. “Moral hazard” and “Adverse selection” are inevitable in such cases. The existence of “Moral hazard” and “Adverse selection” counteracts the effect of other functions of the financial system. But features of the financial system, such as delegation of monitoring by households to specialized financial intermediaries may reduce such problems. The issue remains, however, of how households may monitor the intermediaries by themselves or whether the latter have the right incentives. In the last sections, we shall analyze how financial

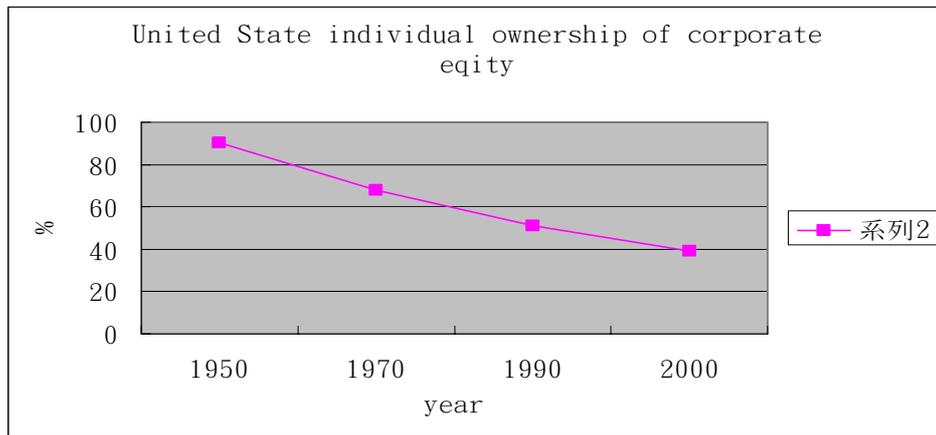
intermediaries have positively fulfilled these functions in the recent decades. At the same time these function can also be used for explaining the dynamic force of the transformation of the financial intermediaries extensively.

2.3 An overview about the recent change in the financial system

After the introduction about the functions served by financial systems the following questions should be brought forward. With the course of the time, in order to fulfill these relatively stable functions, which kind of change has been witnessed by financial system in recent decade? What might be termed as the traditional paradigm for financial intermediation is illustrated like follows. Banks and insurance companies convey funds from low wealth households to firms. High wealth households and large companies (with the help of investment banks) mostly use financial markets directly. The primary role of intermediaries is perceived to be reducing transaction costs and providing information. Markets and intermediaries are alternative ways of channeling funds. However, as we noted, the financial system has undergone a dramatic transformation in the past years. One aspect of the transformation has been the increase in importance of financial markets in the U.S.A and the other countries (You can see the evidence from the second section of this paper, such as those for equity and debt). This is not only in absolute terms but also in relative terms. For example, the market capitalization of corporate equity in the U.S. has rise steadily as a percentage of GDP, from around 50 percent in 1975 to nearly 75 percent in 1994 (OECD-Financial Market Trends, #62, November 1995). Consequently, with the boom of the security market, the proportion rises dramatically before 2002. With the increase in financial assets in security market, another trend in the data has become clear. Despite a significant fall in the direct costs, the increased availability of information about corporations and access to price data and standard valuation models through services of other accounting company, this expansion in the importance of financial markets is not because of higher participation by individuals. A notable feature of financial markets in the past few decades has been the drop in use by individuals directly. As Figure 1-1 indicates the ownership of corporate equity by individuals in the US has fallen from about 85% in the mid 1960's to around 30% in recent years. At the same time, the share of mutual and closed end funds, pension funds have correspondingly increased. That means, the amount of financial claims held directly by households has clearly fallen dramatically. Intermediation has become significantly more important and has been the predominant source of

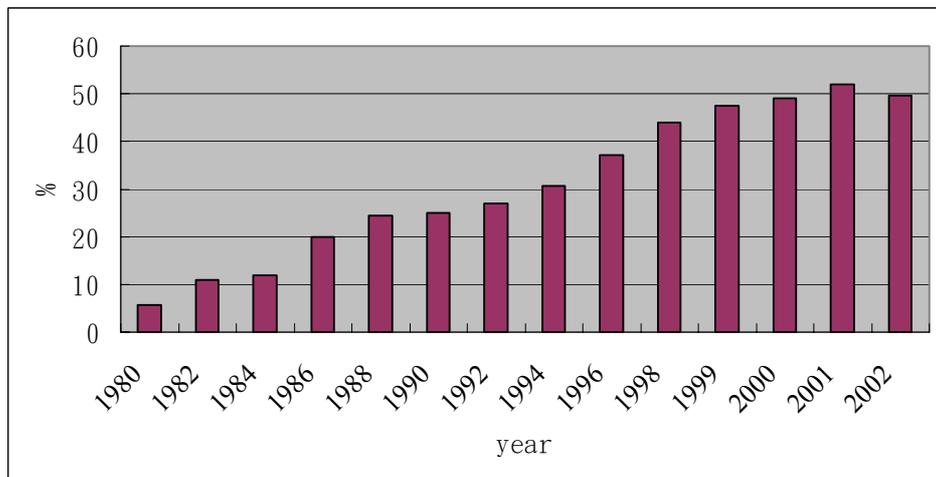
new financial resources flowing into the capital markets over the past several decades. Figure 1-2 illustrates how the ratio of mutual fund holdings to householder equity ownership has risen from about 5% in 1980 to about 50% by 2002⁶.

Figure 1- 1: United State individual ownership of corporate equity



Source: Federal Reserve Board “Flow of funds account”, 2001

Figure 1- 2: U.S householder owning Mutual Fund (Number and percent of U.S households)



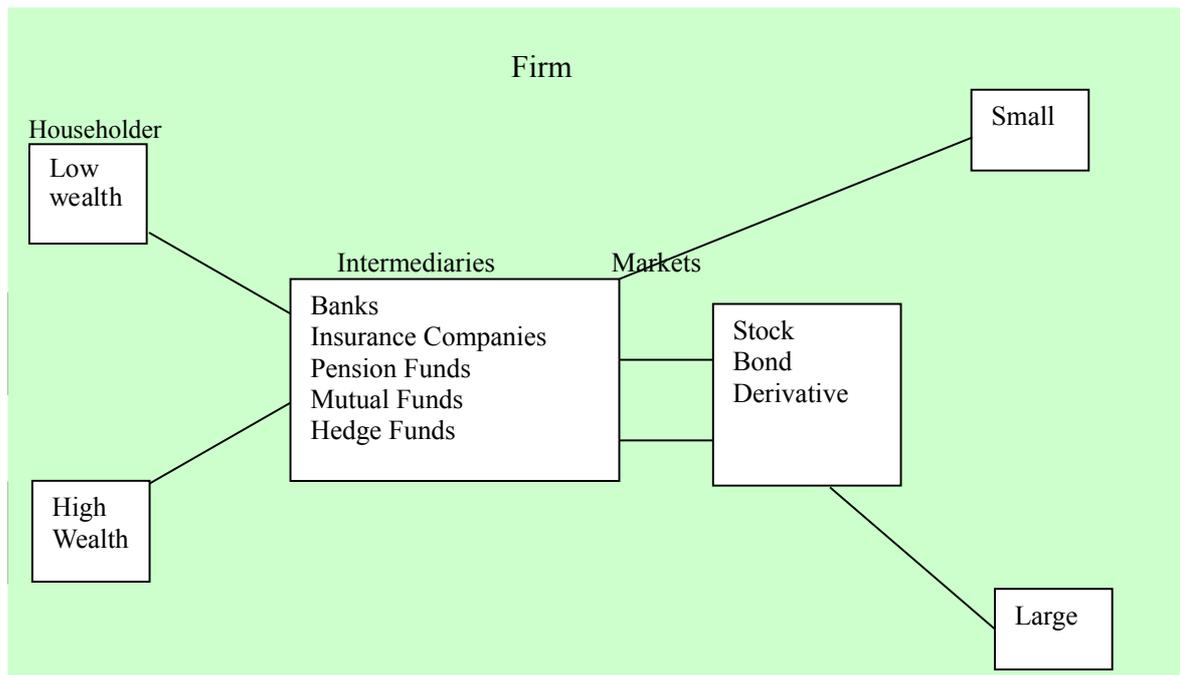
Source: Federal Reserve Board and Investment Institute, 2003

Figure 1- 3 illustrates what might be termed the emerging paradigm for financial intermediation that these changes are leading to. Most households increasingly deal with intermediaries, such as pension and mutual funds that invest in markets on their behalf. Even among the very wealthy,

⁶ Board of Governors of the Federal Reserve System—Flow of Funds Accounts, the figure will be got in chapter “the survey of U.S financial institutions.

the use of private banking services and hedge funds, where advisors make investment decisions on behalf of their clients, has become increasingly common. Small firms deal with banks and other entities, such as limited partnerships, providing venture capital and other forms of private equity. Only the very largest firms (with the help of investment banks) deal directly in financial markets.

Figure 1- 3: The new trend of the fund flow in the financial system



Source: Management Science/ Vol. 45, No. 9, September 1999

All in all, the share of individual ownership of corporate equity in the U.S. has fallen during the period 1950–2000. There was a particularly sharp change in the early 1980s, when individual ownership fell from over 75 percent to around 50 percent in only a few years (Board of Governors of the Federal Reserve System—Flow of Funds Accounts). The change has occurred because intermediaries are using markets more extensively than ever. Over the period 1950–2000, the share of pension funds’ ownership of equity in the U.S. has risen from less than 10 percent to over 20 percent. In the same period, the share of mutual funds’ ownership of equity in the U.S. has grown from around five percent to nearly 81 percent (Board of Governors of the Federal Reserve System—Flow of Funds Accounts, the figure will be got in chapter “the survey

of U.S financial institutions”). In derivative markets, intermediaries play an even more significant role. As of 1995, financial institutions accounted for 82 percent of the national amounts of OTC derivatives outstanding while non-financial institutions accounted for the remaining 18 percent (Bank for International Settlements—Central Bank Survey of Derivatives Market Activity, 1995).

3 The functional theory of the financial intermediaries

To get a better understanding of the role played by financial intermediaries, our analysis should take a step further by investigating the principal financial intermediaries and which kind of special functions they perform.

3.1 The conception and categories of the financial intermediaries

What is the financial intermediary? In the view of Goldsmith (1969), financial institutions are characterized by the fact that financial instruments constitute their main assets habitually, not only occasionally, and that their activities are concentrated on, and hence their income is mainly derived from, the holding of, and transactions in financial instruments.⁷ In the light of this, figure 1-4 provides a guide to the discussion of the financial intermediaries by describing of their primary liabilities (source of fund) and assets (use of fund). According to different research demands, the financial intermediaries are classified in different way. In order to give a better understanding, the classification Frederic S. Mishkin (2001) will be introduced. It is concentrated on USA financial markets and makes a detail explanation on the characters and functions of every financial intermediary.

According to S. Mishkin (2001), there are three categories: (1) depository institutions (banks), (2) contractual savings institutions, and (3) investment institutions.⁸

⁷ Goldsmith, Raymond W., (1969), *Financial Structure and Development*, Yale University Press, pp29.

⁸ Frederic S. Mishkin, (2001) , *The Economic of Money, Banking and Financial Market* , Boston, pp 37-39.

Figure 1- 4: Primary Assets and Liabilities and Financial Intermediaries (U.S.A)

Primary Assets and Liabilities of Financial Intermediaries (U.S.A)		
Type of Intermediaries	Primary Liabilities	Primary Assets
Depository institutions (banks)		
Commercial banks	Deposits	Business and consumer loans, Mortgages, U.S. government Securities and municipal bonds
Saving and loan associations	Deposits	Mortgages
Mutual saving banks	Deposits	Mortgages
Credit unions	Deposits	Mortgages
Contractual saving institutions		
Life insurance companies	Premiums from policies	Corporate bonds and mortgage
Fires and casualty insurance companies	Premiums from policies bonds and stock, U.S	Municipal bonds, Corporate government securities
Pension funds, government retirement funds	employer and employee contributions	Corporate bonds and stock
Investment intermediaries		
Finance company	Commercial paper Stock, bonds	Consumer and business loans
Mutual funds	Shares	Stocks, bonds
Money market mutual funds	Shares	Monetary market instruments

Source: Frederic S. Mishkin, (2001) , 'The Economic of Money, Banking and Financial Market' , Boston, pp. 37-39

1) Depository institution (banks)

Depository institutions, which will be referred to as “banks” throughout the whole dissertation, are financial intermediaries that accept deposits from individuals and institutions and make loans. People usually give more interest on this group of financial institutions (which include commercial banks, saving and loan associations, mutual saving banks, and credit unions) because they are involved in the creation of deposits, an important component of the money supply. Their behavior plays an important role in how the money supply is determined. It includes Commercial banks, Saving and Loan Association (S&Ls), Mutual Saving Banks and Credit Unions.

2) Contractual institutions: Insurance Companies and Pension Funds

Contractual Saving Institutions, such as insurance companies and pension funds, are financial intermediaries that acquire funds at periodic intervals on a contractual basis. Because they can predict how much they will have to pay out in benefits in the coming years reasonably

and accurately, they do not have to worry as much as depository institutions about losing funds. As a result, the liquidity assets is not as important a consideration for them as it is for the depository institutions, and they tend to invest their fund primarily in long term securities such as government and cooperate bonds, stock, and mortgages. It includes Life Insurance Companies, Fire/Casualty Insurance Company and Pension Funds. Among them, the Life Insurance Companies are the largest of the contractual saving institutions.

What should be noted is, Pension Funds (private) and Government Retirement Funds provide retirement income in the form of annuities to the employees who are recovered by a pension plan. Funds are acquired by contributions from employees or from their paychecks or voluntarily contributions. The largest asset holding of pension funds are corporate bonds and stocks. They are among the largest investors in the stock market. In addition, because this sector represents such a large area of economic activity, the Federal Reserve Board identifies pension funds as a separate category of financial services.

3) Investment Finance Institutions

This category includes financial companies, mutual funds, and money market mutual funds.

a-Financial Companies:

Financial companies raise funds by selling commercial paper (a short term credit finance instrument) and by issuing stocks and bonds. They lend these funds to consumers who make purchase of such items as furniture, automobile, and home improvement and to small businesses. Some financial companies are organized by a parent corporation to help sell its products, for example, Ford Motor, GE...

b- Mutual funds:

These financial intermediaries acquire funds by selling shares to many individuals and use the proceeds to purchase diversified portfolios of stocks and bonds. Mutual funds allow shareholders to pool their resources so that they can take advantage of the lower transactions costs when buying large blocks of stocks or bonds. In addition, mutual funds allow shareholders to hold more diversified portfolio than they otherwise would. Shareholders can sell (redeem) their shares at any time, but the value of these shares will be determined by the value of the mutual fund's holdings of the shares. Since the fluctuation of the security market is frequent, the value of mutual funds shares will change subsequently too.

c- Money Market Mutual Funds:

These are relatively new financial institutions, which have the character of a mutual fund but also function to some extent as a depository institution because they, in effect, offer a kind of deposit account. A key feature of these funds is that shareholders can write checks against the value of their shareholdings. There are, however restrictions on the use of the check-writing privilege. Like most mutual funds, they sell shares to acquire funds that are then used to buy money market instruments that are both safe and liquid. The interest on these assets is then paid out to the shareholder. Over the past 20 years, these kinds of funds have undergone extraordinary growth in USA market.

3.2 The function of financial intermediaries

As we mentioned earlier, the past decade has witnessed the crucial role of financial intermediaries in the financial system. This has raised the following problem: Why are financial intermediaries becoming more and more important? The answer to this problem lies in the understanding of the function of the financial intermediaries⁹. This section will examine this problem from two perspectives. One is the traditional view, based on the understanding of the “friction” in the financial transaction coming from the problem of “transaction cost” and the problem of “asymmetric information”. The second perspective analyses the “risk” of the modern market, which is becoming more volatile and cannot solve this risk problem by itself. It is regarded as more reconciling to the current market situation.

3.2.1 Transaction, participation costs and financial intermediaries

Transaction costs, the time and money spent in carrying out financial transactions, are the major impediment to the efficiency of the financial system. Assuming you having 5000 \$, you want to make an investment in the security market. The sum of your money is so small that you have to face at least two problems. Firstly, you can buy only few stocks. The broker will tell you, the “broking cost” will account for a greater portion of your money, because the transactions cost per share are high when the number of shares bought is small. And moreover, if you want to buy bonds, you will find the situation is worse because some of the bonds have a 10000\$ lowest paper-value. Finally, as an individual investor, facing the transaction costs, you can only make some limited investment portfolios. That means, you cannot diversify the risk of your investment.

9 Frederic S. Mishkin, (2001) , 'The Economic of Money, Banking and Financial Market' , Boston, pp. 181-198.

Think about the other example, someone approaches you with an excellent investment opportunity offering a high return but needing a ten thousand dollar loan. You have the cash and would like to lend them the money, but in order to protect your investment you have to draw up a loan contract that specifies how much the borrower will pay, when he will make the interest payments, and when he will repay the loan. Suppose that hiring a lawyer and drawing up the loan contract will cost one thousand dollars, and then you might decide not to make the loan, even though you think that it is a good one, because the interest you can charge may not compensate the transaction costs.¹⁰ The result is that a successful investment may not be undertaken, thus decreasing the efficiency of the economy. At the same time, the traditional theories on financial market assume all investors are involved and there is full participation in markets. However, there is extensive evidence that full participation is not an assumption that holds in practice. Typical households hold few stocks and participate in only a limited number of financial markets. Rather than full participation there is limited market participation. A large proportion of investors have only one or two kinds of stocks in their portfolios, and very few have more than ten equities. One plausible explanation of limited market participation is that there are fixed costs of information on a particular stock or other type of financial instruments. In order to be active in a market, an investor must devote the time and effort to learning how the market works, the distribution of asset returns and how to monitor changes through time. With fixed setup costs of this kind it is optimal to invest in a limited number of assets. In addition to the fixed costs of market participation there are also arguably extensive marginal costs of monitoring additional markets on a day-to-day basis. Such monitoring is necessary to see how the expected distribution of payoffs is changing and how portfolios need to be adjusted. To the extent investors are following dynamic trading strategies to create synthetic securities they will need to follow the market on a continuous basis. On the other side, the value of people's time, particularly that of many professionals, has increased significantly in the last fifteen years. So, because of the transaction costs and the participation costs, it is almost impossible for individual investors to make use of the financial markets to make profit. Fortunately, financial intermediaries can reduce these transaction costs substantially by economies of scale, so that the individual investors can benefit from the financial markets. Because intermediaries can take advantage of economies of scale, the reduction in transaction costs per dollar of transactions as the size (scale) of transactions

¹⁰ Allen, F. and D. Gale, (1996), 'The Theory of Financial Intermediation', Wharton School, pp. 22-30.

increases. The economies of scale can give a good explanation about the basic function of the financial intermediaries. For example, a bank knows how to find a good lawyer to produce an airtight loan contract, and this contract can be used over and over again in its loan transactions, thus lowering the legal costs per transaction. Thus a bank has no trouble making the loan that you personally might have to pass up because you faced a burdensome transaction costs. Similarly, the purchases of many individuals can be bundled together, as occurs when a mutual fund buys stocks on behalf of its investors, then the costs of buying those stocks will be substantially reduced and more funds will be directed to the equity markets. On the other side, with the pool of the funds, the mutual funds can purchase stocks on a large scale, and can more easily diversify its investment risk than individual investors. Besides the economies of scale, financial intermediaries can also reduce the transaction costs by special technologies. For example, using the computer and internet technology, the banks, mutual funds and other financial intermediaries supply their customers with some very convenient services, for example the internet transaction, the telephone banking¹¹.

In short, the decline of the transaction costs makes financial transactions more easily to be available to the individual investors. At the same time, it also makes it possible for the financial intermediaries to serve “liquid service” for its customers, such as some Monetary Market Funds not only pay high interest to its shareholders and also allow its shareholders to write checks against the value of their shareholdings.

3.2.2 Asymmetric information and financial intermediaries

From the view of the “friction”, the “transaction costs” is only one kind of friction in the financial system. Just as important is the presence of asymmetric information. Asymmetric information refers to the fact that in the process of transaction, one party often does not know enough information about the other party to make accurate decisions. For example, a borrower usually has better information about the potential returns and risks associated with the investment projects than the lender does. Because of the Asymmetric of information, three types of problems exist in the financial system.¹²

¹¹ Franklin Allen, Anthony M. Santomero, (1999), ‘What Do Financial Intermediaries Do?’, Center for Financial Institutions, Working Papers from Wharton School Center for Financial Institutions, University of Pennsylvania. pp. 18-26.

¹² Iris Claus, (2003), ‘Asymmetric Information, Financial Intermediation and the Monetary Transmission Mechanism: A Critical Review’, by New Zealand Treasury in its series Treasury Working Paper Series with number 03/19, pp. 8-18.

a- Adverse selection and “lemon”:

Adverse selection is an asymmetric information problem that occurs before the transaction. Frequently, the potential bad credit risks come from the ones who most actively seek out a loan. Thus, the parties who are the most likely to produce an undesirable (adverse) outcome are most likely to be selected. For example, those who want to take on big risks are likely to be the most eager to take out a loan because they know that they are unlikely to pay it back. Since the existence of adverse selection makes it more likely that loans might become a bad credit, lenders may decide not to make any loans even though there is chance of low credit risks in the market. This affects the market so negative that in some extreme situation the market trading shrinks seriously and the market is destroyed. This is called the "lemons problem" and “the problem of second hand car” described by George. Akerlof (1970)¹³. Clearly, minimizing the adverse selection problem requires that lenders must have the ability to screen out good from bad credit risks.

b- Moral hazard:

Moral hazard occurs after the transaction takes place. Lenders are subjected to the hazard that the borrower will engage in activities that are undesirable from the lender's point of view because these activities will make the loan less likely to be paid back. Moral hazard occurs because a borrower has incentives to invest in projects with high risk in which the borrower does well if the project succeeds but the lender bears most of the loss if the project fails. The conflict of interest between the borrowers and lenders stemming from moral hazard implies that many lenders will decide that they would rather not make loans, so that lending and investment will be at suboptimal levels. In order to minimize the moral hazard problem, lenders must impose restrictions (restrictive covenants) on borrowers so that borrowers do not engage in behavior that makes it less likely that they can pay back the loan; then lenders must monitor the borrowers' activities and enforce the restrictive covenants if the borrower violates them.¹⁴

c- Free-rider problem:

In order to overcome the problem of asymmetric information in the market, the fund supplier needs to receive enough information about the borrower. However, the problem is who will produce this information. Can private company produce this information? This refers to another

¹³ Akerlof, George A., (1970), ‘The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism’. Quarterly Journal of Economics, 84(3), pp. 488-500.

¹⁴ David P. Baron and David Besanko, (1987), ‘Monitoring, Moral Hazard, Asymmetric Information, and Risk Sharing in Procurement Contracting’, Journal of Economics, 1987, vol. 18, issue 4, pp. 509-532

concept that is very important in understanding the friction in a financial system. It is the so-called free-rider problem. The free-rider problem emerges when individuals who do not pay for information take advantage of the information that other individuals have paid for. A direct consequence of the free-rider problem is that it prevents the private market from producing enough information to eliminate the asymmetric information that leads to adverse selection and moral hazard. Consider this example (Mishkin: 2001)¹⁵.

Suppose that you have just purchased information that tells you which firms are good and which are bad. You believe that this purchase is worthwhile because you make up the costs of acquiring this information, and then some, by purchasing the securities of good firms that are undervalued. However, when our free-riding investor sees you buying certain securities, he buys right along with you, even though he has not paid for any information. The increased demand for the undervalued good securities will cause their low price to be bid up immediately to reflect the securities' true value. As a result of all these free riders, you can no longer buy the securities for less than their true value. Now that you will not gain any extra profits from purchasing the information, you realize that you never should have paid for this information in the first place. If other investors come to the same realization, private firms and individuals may not be able to sell enough of this information to make it worth their while to gather and produce it. The weakened ability of private firms to profit from selling information will mean that less information is produced in the market place.

Simultaneously, the adverse selection problem, in which overvalued securities are those offered for sale more frequently, is more likely to hamper the well functioning of the securities market. More importantly, the free rider exerts the incentive to the moral hazard in security market. As we have seen, monitoring and enforcement of restrictive covenants are necessary to reduce moral hazard incentives for borrowers to take on risk at the lenders expense. However, because monitoring and enforcement of restrictive covenants are costly, the free-rider problem discourages this kind of activity in securities markets. Once some investors know that other securities holders are monitoring and enforcing the restrictive covenants, they can free ride on the other securities holders' monitoring and enforcement. When these other securities holders realize that they can do the same thing, they also may stop their monitoring and enforcement activities, with the result that not enough resources are devoted to monitoring and enforcement. The

¹⁵ Frederic S. Mishkin, (2001), 'The Economic of Money, Banking and Financial Market', Boston, pp. 181-198.

consequence of the “free rider” is that private companies cannot produce information. Because of the existence of free riders we now see the private information supplier cannot solve the problem of asymmetric information in the financial system. So, the following question is who will solve this problem? Indeed, financial intermediaries (for example banks) can avoid the free-rider problem by making primarily private loans rather than purchasing securities that are traded in the open market. Because private loans are not traded, nobody can free ride on the intermediaries that are monitoring and screening projects. As a result, financial intermediaries are able to reap the full benefit of the information producing and monitoring services they provide. So, financial intermediaries have greater incentives to acquire the costly information. Thus, for this reason, some economists like (Frederic.S.Mishkin, 2001)¹⁶ suggested that financial intermediaries, especially banks, should play a more important role in the function of transferring fund to the company than security market does. At the same time, with some special financial instruments, for example “Mortgage Loan” and “the net value auditing”, financial institutions also decline the moral hazard. After the introduction about the function theory of financial intermediaries from the traditional perspectives, now the other two views will examine its function from the perspective of the risk management and the complicity of the market.

3.2.3 The trading and management of risk

What is the risk? Risk is the uncertainty in our practical economic and life. It is important because it is closely related with our interests.¹⁷ In the current financial system, the function of risk management is showing its unprecedented role. So, it seems worthwhile to examine why customers have a need to trade and manage risk? Why financial intermediaries have an advantage in risk management?

Firstly, as the globalization and liberalization become the trend of the world economy, the commodity and the fund flow in a more and more complicated and comprehensive market. With the extension of the market, the competition and risk faced by the households and the firms also become more and more complex. And then, the interest and utility of the market participators are affected more easily. In short, in a more and more extended and fluctuated market, the uncertainty for every participator is becoming greater. The risk faced by companies can be divided into three

¹⁶ Frederic .S. Mishkin,(2001),‘The Economics of Money, Banking and Financial Markets’, Boston, pp. 190.

¹⁷ Zvi Bodie and Robert.C.Merton, (2000),‘Finance’, New Jersey, pp. 247.

kinds, the production risk, the risk of price of product, and the risk in price of raw material.¹⁸ For example, because bankrupt is costly for every firm, facing the competition from the domestic and international markets, firms are more concerned about the volatility of their earnings and costs because low profit realization frequently leads to bankrupt (Especially, for firms in regulated industries, the cost is important because for them the large loss is always associated with the right of license and the monopoly position.). In order to maintain a stable cost and earning, they adopt more sophisticated risk management in their whole business. Similarity, the individual and householder, in the modern and open markets, also face a large scale of uncertainties such as investment, debit risk and the loss of the possession, the illness risk and the unemployed risk. So, they also have the demand to transfer their risks.

From the modern commercial practice, the risk always is transferred by three ways¹⁹: the hedging, the insurance and the diversification. In all these methods, by dealing in financial assets, financial intermediaries are defined as the financial risk business. Financial intermediaries may facilitate risk sharing by reducing transactions costs. Standard risk diversification arguments concentrate primarily on cross sectional risk sharing, which requires that individuals, at a given point in time, diversify their portfolios of assets. If there are fixed costs associated with each transaction of assets, financial intermediaries, by taking advantage of economies of scale, can reduce the costs of holding a diversified portfolio of assets. Consequently, a key feature of financial intermediaries is the bundling and unbundling of risk. He suggests the key value added of intermediaries is that intermediaries can transact at near zero cost while individuals have high trading and participation costs. This means that intermediaries can create a large number of synthetic assets through dynamic trading strategies. By hedging appropriately, they can create products with very safe payoffs, which Merton argues are particularly valuable to some intermediaries' customers. Furthermore, intermediaries may ease the inter-temporal smoothing of risks that cannot be diversified at a given point in time, such as oil-price shocks and other macroeconomic shocks. Intermediaries can also mitigate liquidity risk. Many high-return investments require a long-term commitment of capital, but risk-averse agents are generally hesitant to relinquish control of their savings for extended periods. Financial intermediaries, however, make long-term investments more desirable, since they pool savings, which can be made liquid whenever needed. More precisely, financial intermediaries invest just enough in

¹⁸ Zvi Bodie and Robert.C.Merton, (2000), 'Finance', New Jersey, pp. 251.

¹⁹ Zvi Bodie and Robert.C.Merton, (2000), 'Finance', New Jersey, pp. 255.

short-term assets to satisfy those with liquidity needs and at the same time make a long-run commitment of capital to firms.

3.2.4 The market incompleteness and financial intermediaries

In an Arrow-Debreu theory, world with complete markets and complete information, there would be no role for intermediaries, but in the world we live in there are numerous reasons why the risk-sharing opportunities offered by markets are incomplete:

- Complexity: It may be very expensive to write complex contracts, so the market provides only simple and standard contracts, but not comply with the demand of the Customization.
- Legal uncertainty: One of the barriers to the introduction of new securities is the uncertainty about how the legal system will treat them. As a result, there is a preference for securities on which there is a settled body of case law, this necessarily limits the selection of contracts on offer.
- Gains from standardization: Trading securities requires general knowledge about classes of securities, stocks, bonds, options, futures, etc., as well as specific knowledge about individual securities, mean return, variance, beta, etc. As a result, dealing in standard securities reduces information costs and this may also discourage the introduction of new securities (Gale 1992)²⁰.

As a result, a customer can hedge an idiosyncratic risk in the markets, but the risk-sharing opportunity is incomplete because of the shortage of the customization. This means that there is the potential for an intermediary to increase the customer's interests by offering a supplementary risk-sharing contract. It is assumed that the intermediary can write an explicit contract; that is, a written contract that can be enforced by third parties such as the courts. It is also assumed that the contract is complete; that is, it is the optimal contract under the assumption that there is complete information and no transaction costs. In this case, the intermediary is able to increase the whole benefit because we assume that it can do something that the market cannot do, namely, provide an explicit, complete risk-sharing contract. And then, we take the argument a step further by assuming that writing explicit contracts is costly. The market provides a limited set of securities (and hence a limited set of hedging opportunities) because it is too costly to provide a broader set of securities. However, intermediaries have an advantage over the market, because they can offer risk sharing through implicit contracts; that is, contracts that are unwritten and hence unenforceable by the courts. The problem with implicit contracts, of course, is that they must be

²⁰ Gale, D.,(1992), 'Standard securities', *Review of Economic Studies* 59, pp. 731–755.

self-enforcing. Thinking about the dynamic relationship between intermediary and its customer, the intermediary must have an incentive to carry out the terms of the implicit contract in the context of a long-term relationship, rather than renege and put an end to the relationship.

Consequently, we turn to the other aspects of this problem, that is how an intermediary can reduce investors' participation costs and, in particular, the costs of acquiring information. The problem faced by the investors in the market is not so much "uncertainty." The investor simply does not know what he is getting into. He lacks the expertise needed to evaluate the securities, derivatives, or risk-sharing contracts that the intermediary wants him to trade. The intermediary can reduce the uncertainties faced by the investors by offering implicit insurance against "unforeseen contingencies" or "misunderstandings". If things turn out badly, there is the possibility of compensation. In effect, the intermediaries, by providing insurance against "unforeseen contingencies" (obscure states), reduce the security's contingency in obscure states and hence reduce the need for the investors to have information.

4 The inner connections between the financial intermediary institutions and the macro economy

After the analysis about the role of the financial system and financial intermediaries from the functional perspectives, we take our research further by referring to a new field: what is the relationship between the financial intermediaries and the macro economy?

Generally, the presence and the transition of the financial intermediaries exert its impact on the macro economy from three aspects: first, promoting the efficiency of the economy; second, adjusting the economic operation by transmitting the monetary policy; third, affecting Macro economic operating risk.

Before we study the links between the financial intermediaries and the economic growth, it is important to briefly explain how the financial system affects the economic growth. Moreover, what should be noted is that the main focus of this section is to analyze the relationship between the financial intermediaries and the economic growth, but rather financial markets, although financial markets are also a very important factor, which will become gradually obvious in the later chapters.

4.1 The relationship: the economic efficiency and the financial intermediaries

4.1.1 The financial system and the long term economic growth

Just like what has been argued previously, the basic function of the financial systems (financial markets and intermediaries) is to ‘allocate the social resource efficiently and promote the economic productivity’. This primary function can be separated into three basic sub-functions: the mobilization of savings, the acquisition of information, and the management of risk. By fulfilling these functions, financial systems improve both the quantity and quality of real investments and thereby increase income per capita and raise the standard of living. Levine (1997)²¹, in his broad review of the literature, finds that financial development has a significant positive impact on the economic growth.

There are three major channels through which the financial system can promote the economic growth (e.g., see Pagano: 1993 and Levine: 1997). First, the provision of financial services can encourage the mobilization of savings from many disparate savers. Financial systems affect the economic growth by improving the efficiency with which those savings are used and increasing the amount of funds allocated to firms, thereby facilitating the growth of capital and productivity. That is, financial systems can raise firm investments by reducing liquidity risk and idiosyncratic risk. Second, better screening and monitoring of borrowers can lead to more efficient resource allocation. For instance, well-developed stock markets enhance corporate control by (i) aligning the interests of managers with those of firm owners, and (ii) facilitating takeovers to mitigate the principal-agent problem and so encourage economic growth. Furthermore, financial intermediaries can promote growth by economizing on the costs of gathering information by replacing many monitors with one delegated monitor. Third, improvements in risk sharing can enhance innovative, high-quality projects. For example, stock markets reduce liquidity risk by allowing agents who might receive liquidity shocks to readily and cheaply sell their shares in the market. Similarly, financial intermediaries, particularly banks, mitigate liquidity risk by issuing demand deposits and by pooling savings of individuals.

To sum up, the financial development (that is, the development of well-functioning financial markets and intermediaries) has a positive impact on the long-run economic growth.

²¹ Levine, R., (1997), ‘Financial Development and Economic Growth: Views and Agenda’, *Journal of Economic Literature*, Vol. 35, June, pp. 688-726.

4.1.2 Financial intermediaries and the economic growth

Based on the above analysis about three functions of the financial intermediaries, this subsection describes how financial intermediaries enhance economic performance by promoting the efficiency of the capital mobilization and allocation.

a- Diminishing Transaction cost and the economic growth:

Financial intermediaries boost the mobilization of savings in at least two ways. First, they lower transactions costs associated with collecting savings from numerous individuals in the economy. Second, financial intermediaries mitigate the moral hazard and adverse selection problems. By alleviating the asymmetric information problems and by reducing transactions costs, financial intermediaries ease savings mobilization and thereby increase the economic growth. The channels through which financial intermediaries encourage long-run growth are as follows: (i) by mobilizing savings, financial intermediaries increase capital formation, which in turn increases the national savings rate, and (ii) by exploiting economies of scale, thereby reducing transactions costs per unit of transactions as the size of a transaction increases, financial intermediaries improve the allocation of savings to the most efficient economic sector. That is to say, financial intermediaries encourage the economic growth by increasing the capital formation and promoting the efficiency of capital operation.

b- Information supplier and economic growth:

As we have analyzed in the above sections, the adverse choice and moral hazard will reduce the capital allocation in the real sectors. Screening has played a major part in developing theories of credit rationing (e.g., see Stiglitz and Weiss: 1981)²². Similarly, because it is costly to screen projects and the existence of free rider in the markets, it is optimal to delegate the acquisition of information to financial intermediaries to avoid the duplication of costly information acquisition. Since it is costly to assess the actual state, it is more efficient to have only one agent do the assessment for a group of agents. For example, the costs of monitoring decline as the financial intermediary deals with an increasing number of borrowers. In other words, financial intermediaries can mitigate the so-called free-rider problem in the private production of information. Moreover, financial intermediaries exploit economies of scale in the monitoring of firms. By reducing asymmetric information and free rider, financial intermediaries improve the

²² J. Stiglitz and A. Weiss, (1981), 'Credit rationing in markets with imperfect information'. American Economic Review, 71, pp. 393-410.

assessment of investment opportunities and the exertion of corporate control once those investments have been funded. This, in turn, improves capital allocation and boosts the economic growth.

c- The risk management and the economic growth:

Financial intermediaries may facilitate risk sharing on cross section by reducing transactions costs. Intermediaries can also mitigate liquidity risk by pooling funds. By facilitating the investments demand of different customers, either risk averse or risk favor, financial intermediaries improve the allocation of capital and thereby encourage the economic growth. Furthermore, Intermediaries, particularly banks, may be more effective at providing external finance to new firms that require staged finance, because intermediaries can more credibly commit to making additional funding available as the project develops, while markets have a more difficult time making credible long-term commitments. To put it differently, since it is easier to renegotiate bank loans than to restructure corporate bonds, intermediaries may have a comparative advantage. Thus, financial intermediaries would encourage the start-up of innovative projects and the long-run economic growth.

4.2 The financial intermediary institutions and the financial crisis

Almost in every country, especially in recent decades, the financial crisis is always at the center of the debate about the financial problems because the costly expenditure for it. As the last section of this chapter, the paper will use all of what have been researched in the above to make a general investigation about the relationship between the financial intermediaries and the financial risk. Concerning it, two problems will be involved. First, which factors do induce the financial crisis? Second, why do the financial intermediaries amplify the crisis?

4.2.1 The factors causing the financial crisis

Financial crisis is the violent turbulence in the financial market, which is characterized by the fierce price declining of the financial assets and the bankrupt of many financial and non-financial companies. It is a common situation in the economic history and lead to the dig retrogression of the economic development. The explanation about the moral hazard and diverse choice in above-said will contribute to our understanding about financial risk. When the situation of moral hazard and diverse choice is so serious in the finical system that it is almost impossible for the financial

system to mobilize and allocate fund between the fund surplus sectors and fund demand sectors, the financial crisis breaks out! In the process of the economic operation, five factors will lead to the deterioration of the moral hazard and the adverse choice.

a- The increase of the interest rate:

As we know, those peoples who make the high-risk business are willing to pay high interest rate for their debits. If the market interest rate has a sharp rise, those peoples whose project is low risk will withdraw from the credit market. However, those people exposed on the high-risk projects are also willing to make a credit. So, because of the adverse choice, the lenders will not supply fund. Hence, this leads to a decline of the investment and the aggregate economic operation.

b- The tumbling of the stock market:

Similarly, the sharp tumbling of the stock market accelerates the moral hazard and the adverse choice as well. Because the price of the stock reflects the net value of the enterprise, it can play a role similar to the “endurable possession” in the mortgage market. With the stock price declining, the risk facing the lender increases and the lender who supply fund to the enterprises will refuse to supply liquid fund for the enterprises continuously. Therefore, this leads to a decline of the investment and the aggregate economic operation.

c- Unexpected deflation:

In the balance sheet of the company, because the debt is fixed and nominal, the unexpected sharp decline of the gross price level will lead to the decline of net value of the enterprise. So, increase the risk of the lender. Just like what have been referred in the above contents, this will also induce the shrinking of the economic operation.

d- The increase of the uncertainty:

Under the following situation, such as some financial or non-financial companies bankrupting, economic recession, and the security market sharply stumbling, the uncertainty of the economic operation will increase considerably. This high uncertainty makes it almost impossible to solve the problem of adverse of choice. The only choice, which the fund surplus sector can make, is keeping this fund by itself. This accelerates the economic recession.

e- The panic of the bank system:

As we know, bank is one of the most important intermediaries between the fund surplus sectors and the fund demand sectors. It promotes the economic growth and conducts the monetary policy. Therefore, because of the loss of the confidence and a large of bankruptcy, the bank system will

cut down its credit to the investor during the financial crisis. At the same time, this decline of credit leads to the increase of the interest rate. All of these lead the economic to a worse situation.

4.2.2 How does the bank system amplify the financial risk

Using the following figure, Frederic S. Mishkin gave a vivid description about how the financial crisis happened and spread. Now, using the “Multiple Deposits Model”²³, we can see clearly how a bank system accelerates the financial crisis:

$$M = m * (C + RB)$$

M: the monetary supply; m: money multiplier; C: currency; RB: bank reserves

$$M = \frac{1+(c/d)}{Rd+(c/d)+(ER/D)} * (C + RB)$$

D: checkable deposit; Rd: required reserved ratio, ER: excessive reserves;

When the panic of the bank system happened, the depositor will take their money out of the bank because of the fear for bankruptcy. This causes the rising of “C/D”. According to the “Multiple Deposit Model”, “C/D” is negative correlated to “m”. Hence, the level of M will decline dramatically. What is more, with the outflow of the deposits, bank wants to increase the reserve rate to protect from the financial risk. And this action results in the rising of “ER/D”. Similarly, this accelerates the decline of “M”. All of these effects are combined together, the capital supply decline sharply when the panic happens, and in turn this leads the economic operation to a worse situation.

So, the m (money multiplier) is a two-blade weapon. On the one hand, it can exaggerate the supply of currency, when the deposit increases in the bank system. On the other hand, when financial crisis breaks out, it amplifies the financial risk by accelerating the shrinking of the capital fund (Figure 1-5).

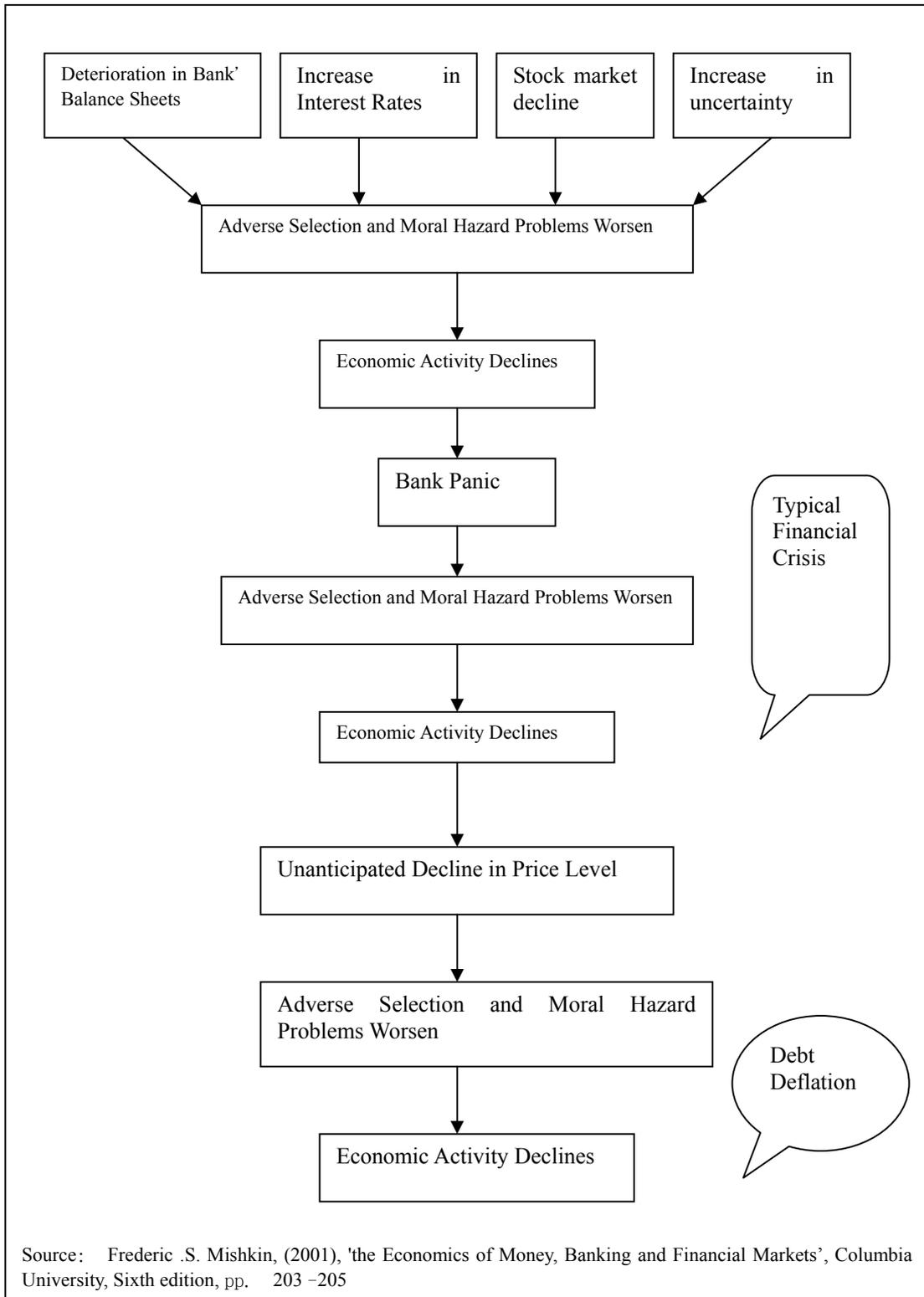
5 Conclusion

At the end of this section, what should be emphasized is, the exploration about the function of the financial intermediaries is not only used as the understanding about the intermediary theory, but

²³ The detail explanation concerning the factors that determine the money multiplier can be available in “the Economics of Money, Banking and Financial Markets”, Frederic .S. Mishkin, Columbia University, Sixth edition, (2001), pp. 432 -434

also serve for the further examination about the reconstruction and the transformation of the financial intermediaries in the whole dissertation. Logically, the transformation of the financial intermediaries should be explicable either in terms of the supply side – a changing comparative advantage in terms of the functions they fulfill (related to the function of financial intermediaries described below) – or an increased demand for certain functions on behalf of end-users (related on the function of the financial system present below).

Figure 1- 5: The analysis of financial crisis



II. The development and transformation of the bank industry around the world

Relying on the introductory chapter, this section will take the research a step further by investigating the transformation of the bank industry. Over the past debates, there has been an intense debate about the future of the bank industry. Some, especially in U.S.A, are of the opinion that the bank will decline in the future and its function will be taken over by the other financial intermediaries. Banking executives, academics, and high officials in many branches of governments hold the view that banks are declining in importance as well. The purpose of this section is to examine the transformation of the bank industry. Chapter 2 will discuss, with the development of the economy, whether the bank still keeps its special and growth. If the bank industry still shows its un-alternative function in the coming days, which kind of factors is exerting the long-term influence on the development of the bank industry? And then, Chapter 3 will study the financial intermediaries in the U.S.A and Germany. From the traditional perspectives, the financial system in U.S.A is thought different from the German financial system. Consequently, an empirical investigation on the evolvments of bank industry in Germany and U.S.A might become the basement to solve our puzzle, whether there is a common developing trend for the bank industry even if they begin from a different development status.

1. The future orientation of the bank: special function and durable development

1. Theoretical review: the special function of bank system

Traditionally, the special features of banks can be traced back to the fund- intermediary function and their running of the economy's payment system. Since the early experience of the deposit-taking institutions in the nineteenth century, banks have issued debt instruments that are accepted as means of exchange and payment on the basis of a fiduciary relationship among the agents using them and between the agents and the issuing banks. A supplying transaction (and portfolio management) service is what characterizes banking according to Fama (1980), while Kareken

(1985) emphasizes the central role of banks in managing the payment system.²⁴ Corrigan (1982) adds to these functions the banks' twofold role of backup sources of liquidity for all enterprises in the economy and of transmission belt for monetary policy.²⁵ Others have objected that, with the evolution of financial markets and institutions none of the above functions is exclusively pertinent to banks as such (see Golembe: 1983; Golembe and Mingo: 1985, and Goodhart: 1987). In advanced economies, transaction account facilities are supplied by non-depository - and even non-financial - institutions with access to payment clearing and settlement systems. Likewise, various other financial and non-financial institutions can provide credit to business. Finally, where monetary policy is mainly conducted via open-market operations, government securities dealers (even more than banks) may act as transmission belt of monetary policy signals to the economy.

In 1984, Diamond found a special feature in banks acting as delegated monitors of borrowers, on behalf of the ultimate lenders (depositors), in the presence of costly monitoring²⁶. Essentially, banks improve the social benefit by exploiting economies of scale in processing the information involved in monitoring and enforcing contracts with borrowers. They reduce the delegation costs through a sufficient diversification of their loan portfolios. This view of bank's feature underscores the relevance of banks' informational advantage vis-à-vis individual investors. Banks specialize in extracting and processing information concerning borrowers through their close relationship with them and in a way that is not replicable by individual investors. But, neither it proves to hold for banks exclusively - since any kind of intermediaries may equally benefit from portfolio diversification - nor does it explain why loan contracts are not replaced by more efficient risk-sharing, state-contingent contracts that reduce asymmetric information (such as equities).

So, researchers have to look for other features that may more specifically characterize banks as special financial intermediaries.

²⁴ Kareken himself, however, and Fama (1980), before him, have envisioned regimes where payment transactions are divorced from banks and performed by non-bank entities or even by individual agents, which is what is increasingly happening these days.

²⁵ In revisiting the issue almost two decades later, Corrigan (2000) confirms his original view. His original view can be found in 1982 in paper 'Are Banks Special?', Federal Reserve Bank of Minneapolis.

²⁶ Diamond, D., (1984), 'Financial intermediation and delegated monitoring, Review of Economic Studies 51, pp. 393-414.

1.1 The theory of the monetary circuit

Sir J. Hicks (1985) did so. He pointed out that the banks' ability to lend withdrawal deposits allows banks to hand over money to borrowers without giving up any cash, simply by increasing their liabilities: banks create money.²⁷

Integrating the credit and liquidity functions of banks, as proposed above, share one limitation: all assume the pre-existence in the economy of some form of money (or, more generally, of some type of liquid claims on existing wealth) that can be deposited with banks and which banks can use to make loans. None of these analyzes banking as being characterized specifically by deposit creation. The function of bank system and the other financial intermediaries discussed in the following section explores the role of banks as credit money producers. The approach debates how bank system necessarily integrates liquidity, credit, and payment services as they issue new money to finance the production. The approach shows how banks and non-bank intermediaries serve complementary purposes in a production economy.

Assume the economical fields can be simply categorized into four sectors: firms, households, banking sectors (including the central bank and commercial banks), and non-bank financial intermediaries. We assume, banking functions and non-bank financial intermediaries functions are conceptually differentiated and are performed by separate entities. Economic activity is represented as a one-period circuit process with three phases: a beginning phase (circuit-start), an interim interval, and an ending phase (circuit-end).²⁸ Two commodities are produced in the economy for household consumption and capital investment of enterprises. The theory of the monetary circuit²⁹ has followed on Schumpeter's steps. The sequential steps of the circuit process

27 Hicks, J. R. (1985), 'Methods of Dynamic Economics', Oxford: Clarendon Press.

28 In the reality, the economy consists of multiple and overlapping circuit rounds as several bank loans of different maturity may be extended at different times, new production is carried out continuously, and debts on old production are retired at any time. Yet, the logic of each opened round having to come to a closure, as well as the conditions for it to do so, remain the same and can be analyzed in a simpler, one-round process description.

29 Monetary circuit theory has its major proponents in Europe - most notably France, Belgium, Italy, and Switzerland - where different groups of scholars are active under B. Schmitt, A. Parguez, and F. Poulon, J. Cartelier, A. Cencini, De Vroey, A. Graziani, and M. Messori, to cite just some of the leading names. On this side of the Atlantic, Marc Lavoie is a circuitist from Canada. In the United States, a circuit-based interpretation of the saving-investment process - which is adopted in this work - was propounded long ago and later reiterated by P. Davidson (1965, 1991), although this author may not be regarded as a circuitist. The major contributions to circuit theory do not constitute a fully unified body of economic knowledge, and in fact considerable diversity exists across them. Yet, some basic and important features are clearly distinguishable, providing common foundations for an integrated theory of money and production. Although the literature on the monetary circuit has grown rich since the pioneering work of Schmitt (1959), many publications are in languages other than English (for references, see Messori 1988 and references in Rochon. 1999). Interested English-language readers should refer to Graziani (1990, 1996), Lavoie (1985), Rochon (1999), and

are sketched below:

1) At circuit-start (**I**), banks screened borrowers among firms on the basis of their risk and efficiency, and negotiate with these selected firms about the terms and conditions for one-period loans. The banks credit the negotiated loan amounts on the firms' deposit accounts. The firms execute goods production using capital and labor, and use loans to pay wages to workers. Deposits are transferred from the firms' bank accounts to the accounts of wage earners.

2) In the interim interval (**II**), household incomes are spent on consumption goods and/or saved. Unspent incomes go into demand deposits with banks and/or into long-term assets with (or through) financial intermediaries in the capital markets. Firms wishing to add to their stock of productive capital (investing enterprises) issue long-term securities in the financial market. Financial intermediaries evaluate the demand for funds from the investing enterprises and transfer savings to those most viable, in exchange for securities. The financed enterprises buy the capital goods needed.³⁰ All money transfers and payments for goods and securities take place through book-entries on accounts held with the banks.

3) At circuit-end (**III**), the firms use their revenues from output sales to pay off their bank debt plus interest and the money originally created is destroyed.

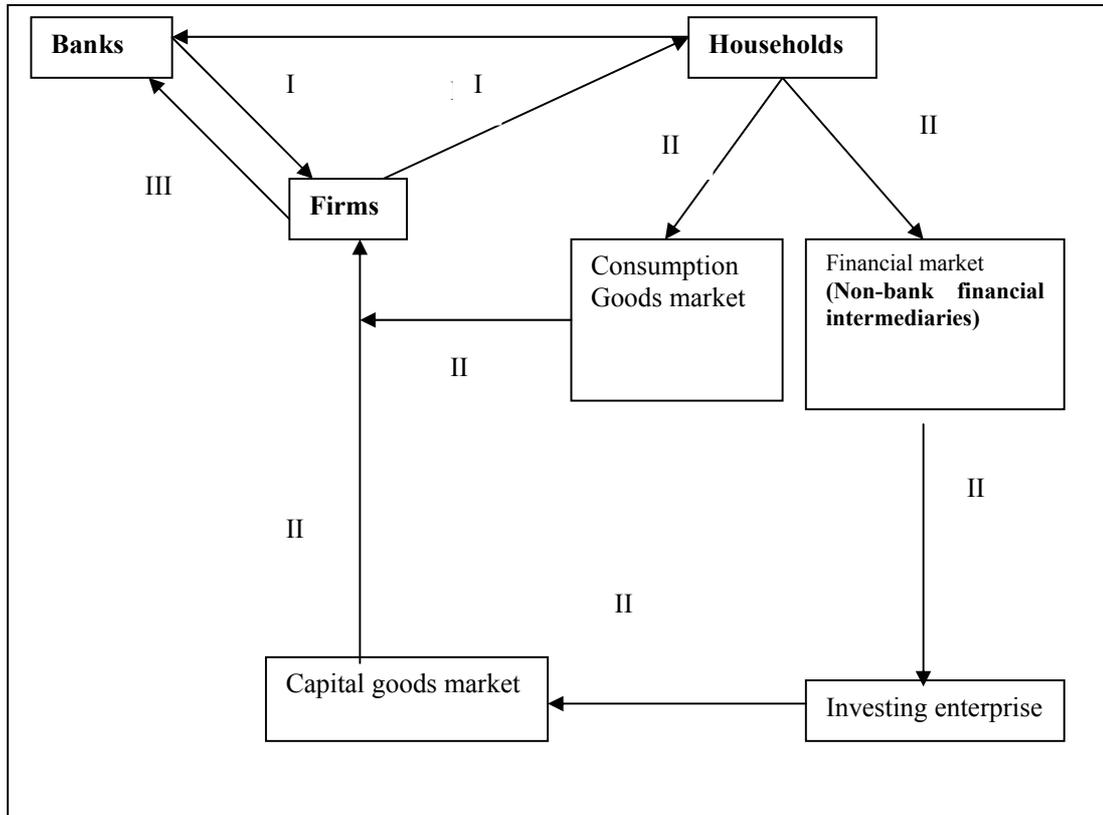
When the economy is considered in its various sequential stages, as in the simplified model above, very distinctive roles appear to be played by the credit market on one side, where liquidity is created to finance production, and the financial market on the other, where existing liquidity accumulated by savers is allocated to investments. This, in turn, implies a distinctive role for banks and non-bank financial intermediaries, whereby:

1) Bank system allows the circuit to start by providing new money to production. Such money is in the form of banks' own liabilities, or debt claims on the banks themselves, made available to borrowers under certain credit contract terms. Banks not only intermediate existing money, but add to it every time. They extend new credit to firms in the form of new deposit claims.

Cencini (1995).

³⁰ In simply, the capital goods market is where the machine is sold, in contrast to the consumption market.

Figure 2- 1: Flow of fund in the circuit model



2) Non-bank financial intermediaries collect existing liquidity (bank deposits) from savers with long liquidity positions and allocate it to investors with short liquidity positions. Unlike banks, the money intermediated by financial intermediaries does not represent claims on the intermediaries themselves; Thus, while intermediaries transfer money across agents with different liquidity preferences, in no case do they create money. What then characterizes bank system from other financial intermediaries is that (i) banks issue debt claims on themselves that are accepted as money by the public, and (ii) inject money into the economy by lending claims on their debts. Banks and other financial intermediaries thus perform functions that are different and complementary in originating money and in making it circulate and re-flow to its point of origin in the circuit process. These functions may be carried out either by separate entities or jointly, under more universal institutions that bring banking and non-banking activities together. In many cases, banks operate also as financial intermediaries engaging in fund transfers from savers to users while non-banks can offer liquidity services on certain types of liabilities, but this should

not shade the distinctive nature of bank-money creation. Banks provide the raw materials for a monetary production economy to work and grow (regardless of the technological form of money). The positive impacts of finance on the economic growth have received significant empirical support during the nineties, starting with the contribution by King and Levine (1993)³¹. Research showed also that countries with more developed banking systems and liquid capital markets have experienced the most rapid growth (Demirgüç-Kunt and Levine: 1996)³², confirming the importance of complementarities between banking and non-bank financial intermediaries. In short, bank systems are special because they can finance new production by creating money. This makes production financing cheaper than if banks were only able to intermediate claims backed by pre-existing real resources. That means, bank systems are unique, because they can not only fulfill some similar function as the other financial intermediaries, but also exclusively create money by the endogenous and exogenous method.

1.2 Endogenous and exogenous money creation in the bank system

As outlined in the previous paragraphs, according to the demand of a company, bank system can supply money to initiate its production. This means companies can make production decisions based upon their expectations on what the future profitability of the production might be. And then, this demand for funds can automatically be transferred into the money supply. The supply looks like the endogenous process in the economic development itself.

However, the fact is far more complicated than what the ‘the theory of monetary circuit’ shows us. Money creation theory can be dated back to the Keynesians. Keynesians believe that the money supply is determined partly exogenously or autonomously by the central monetary authority and partly endogenously by the demand for money. As economic activity rises and falls, changes in the demand for money cause changes in the supply of money.

1. Exogenous Versus Endogenous Determination of the Supply of Money:

Exogenous determination of the money supply means that, the amount of money supply in circulation can be determined independent of economic activity by the central bank. The central

³¹ King, Robert, and Ross Levine, (1993), ‘Finance and Growth: Schumpeter Might Be Right, Quarterly Journal of Economics’, August, 108(3), pp. 717-38.

³² Demirgüç-Kunt, A. and R. Levine, (1996a). ‘Stock market development and financial intermediaries: stylized facts’. World Bank Economic Review, 10, pp. 291-321.

monetary authority has the ability and authority through use of its policy tools to determine the exact amount of money supply in circulation. Federal Reserve credit — open market operations (OMO) and lending at the discount window (d) — determines the monetary base (high powered money). And reserve requirements (r) determine the amount of loans banks can make to expand the money supply from the monetary base.

$$M_s = f(\text{OMO}, d, r)$$

Endogenous determination occurs when economic forces change the amount of money in circulation independent of the central monetary authority. That means commercial banks can expand the money supply from any given base in response to an increase in loan demand and contract the money supply with the same base when loan demand falls. For example, commercial banks can alter the multiplier and the money supply with their excess reserve holdings and lending policies. This effect of economic activity and the actions of economic participants on the money supply is called reverse causation. The supply of money is partially a function of the demand for money. Reverse causation occurs when a change in the demand for money changes the supply of money. So, such two sides of the money market are interdependent rather than dependent.

2. Multi-deposit creation process—understanding the exogenous and endogenous money creation:

1) The first pace: exogenous money supply from the central bank—control of the monetary base³³

How the central bank provide the monetary supply to the commercial bank system:

In practice, the central bank can change the monetary base as a result of the following two ways:

- a. By making loans to banks (discount loans).
- b. By purchasing government securities (open market operations).

Discount loans: the central bank makes a discount loans to a bank.

When the central bank makes a \$100 discount loan to the commercial bank A, the bank is

³³ Erich Schneider, *Einfuehung in die Wirtschaftstheorie*, (1967), Teil III, 'Geld, Kredit, Volkseinkommen und Beschäftigung', (9 erweitere und verbesserte Auflage) , Verlag Mohr S.16 und S.43, and Frederic S. Mishkin,(2001), 'The Economic of Money, Banking and Financial Markets', Six Edition, pp. 394 and pp. 405,Boston.

credit with \$100 of central bank deposit from the proceeds of the loan. The effects on the balance sheet of the banking system and the central bank are illustrated by the following T-account.

Bank A		Central bank	
Assets	Liabilities	Assets	Liabilities
Central bank deposits +\$100	Discount loans +\$100	Discount Loans +\$100	central bank money +\$100

The monetary liabilities of the central bank have also now increased by \$100, and the monetary base as well, has increased by this amount.

Open market purchase from a bank:

Suppose that the central bank purchases \$100 of treasury bonds from a bank and pays for them with a \$100 check. The bank will either deposit the check in its account with the central bank deposit or cash it in for currency, which will be counted as vault cash. To understand what occurs as a result of this transaction, we look at T-accounts, which list only the changes that occur in balance sheet items starting from the initial balance position. Either action means that the bank will find itself with \$100 more central bank deposit and a reduction in its holding of securities of \$100.

Bank system		Central bank system	
Assets	Liabilities	Assets	Liabilities
Securities -\$100 Central bank deposit +\$100 (Or cash)		Securities +\$100	central bank money +\$100

The central bank meanwhile finds that its liabilities have increased by the additional \$100 of central bank money, while its assets have increased by the \$100 of additional securities that it now holds.

2) The second pace: endogenous money supply from the commercial bank system

Multiple deposit creation: a simple model

Departing from the understanding of how the central bank system controls the monetary

base, we now explain how the deposits are created. When the central bank supplies the banking system with \$100 of additional monetary bases, deposits increase by a multiple of this amount - a process called multiple deposit creation.

Let us assumed the \$100 open market purchase described earlier was conducted with the Bank A (T-account 1). After the central bank has bought the \$100 bond from the Bank A, the bank found it has an increase of \$100 in Central bank deposit. Because the bank has no increase in its checkable deposits, required reserves remain the same, and bank A finds its additional \$100 of Central bank deposit means that its excessive reserve have increased by \$100. What should the bank A do with these excessive reserves?

T-account 1

Bank A	
Assets	Liabilities
Securities -\$100 Central bank deposit +\$100	

Assume that the bank A does not want to hold excessive reserves because it earns no interest on them. The bank A makes a loan equal in amount to the \$100 increase in excessive reserve. When the bank A makes the loans, it sets up a checking account for the borrower and outs the proceeds off the loan into this account. In this way, the bank A alters its balance sheet by increasing its liabilities with \$100 checkable deposits and at the same time increases its assets with the \$100 loans (T-account 2).

T-account 2

Bank A	
Assets	Liabilities
Securities -\$100 Central bank deposit +\$100 Loans +\$100	checkable deposits +\$100

The bank A has created checkable deposits by its act of lending. Because checkable deposits are parts of the monetary supply, the bank' act of lending has in fact created money.

However, the borrower took out a loan not to leave \$100 idle at the bank A, but to

purchase goods and services from other individuals and corporations. When the borrower makes these purchases by writing checks, they will be deposited at other banks, for example Bank B. So, the final T-account of Bank A is (T-account 3):

T-account 3

Bank A	
Assets	Liabilities
Securities -\$100 Loans +\$100	

The increase in central bank deposit of \$100 has been converted into additional loans of \$100 at the bank A, plus an additional \$100 of deposits that have made their way to other bank (B).

Now, just like what has been assumed, the \$100 of deposits created by Bank A's loan is deposited at bank B. So, Bank B's T-account becomes (T-account 4):

T-account 4

Bank B	
Assets	Liabilities
Central bank deposit +\$100	checkable Deposits +\$100

If the required reserve ration is 10%, this bank will now find itself with a \$10 increase in required reserve, leaving it \$ 90 of excessive reserve. Because bank B (like the Bank A) does not want to hold on the excessive reserves, it will make loans for the entire amount. It loans and checkable deposits will then increase by \$90. The net result of bank B's T-account will look like this (T-account 5):

T-account 5

Bank B	
Assets	Liabilities
Required reserves +\$10 Loans +\$90	Checkable Deposits +\$100

If the money spent by the borrower to whom bank B lent the \$90 is deposited in another bank, such as bank C, the T-account for bank C will be (T-account 6):

T-account 6

Bank C	
Assets	Liabilities
Central bank Deposit +\$90	Checkable deposit +\$90

Following the same reasons, if all banks make loans for the full amount of their excessive reserves, further increments in checkable deposits will continue (at Banks C, D, E and so on), as depicted in Table 2-1. Therefore, the total increase in deposit from the initial \$100 increase in reserves will be \$1000.

Table 2- 1: Creation of Deposits (assuming 10% reserve requirement and a \$100 increase in reserve)

Bank	Increased Deposit	Increase in loans	Increase in reserves
Bank A	0	100	0
Bank B	100	90	10
Bank C	90	81	8.1
Bank D	81	72.9	7.29
Bank E	72.9	65.61	6.561
...
Total	1000	1000	100

Conclusion: The \$100 increase in the monetary base leads to a \$1000 increase in deposits!³⁴ Even if the endogenous and exogenous money supply come from the different source, but the principle to amplify the money creation follows the above said general role. So, we can see clearly, that for the single bank the amount of his deposit limits its credit ability. But for the bank

³⁴ The monetary base = currency + reserve according to 'Erich Schneider, Einführung in die Wirtschaftstheorie, (1967), Teil III, 'Geld, Kredit, Volkseinkommen und Beschäftigung', (9 erweiterte und verbesserte Auflage) , Verlag Mohr S.16 und S.43, and Frederic S. Mishkin,(2001), 'The Economic of Money, Banking and Financial Markets', Six Edition, pp. 394 and pp. 405,Boston.

system, it can create the new money supply by the multiplication of its excessive deposit reserve. In addition, the introduction of coins and notes into the monetary multiplier model will not make a difference. First, the households could also deposit coins and notes at the commercial banks with the same effect on the banking system providing them with surplus cash. At the same time, the preference for notes and coins influences the money multiplier. The multiplier will become zero if there is the preference for 100% notes and coins. And in this traditional discussion of the money supply the multiplier depends on the minimum reserve set by the central bank and the preference of the public for cash instead of deposits. The formula is included in the book from Erich Schneider³⁵. In addition, the modern money theory develops the ideas further including more sophisticated behaviours of the households in respect to cash management.

1.3 The asymmetric information and the bank

As we mentioned in chapter one, one important function of financial system explained by asymmetric information theory is the prominent role-played by banking institutions and other financial intermediaries that make private loans. These institutions play such an important role because they are well suited to reduce adverse selection and moral hazard problems in financial markets. They are not subject to the free rides problem and profit from the information they produce because they make private loans that are not traded. Because the loans of these institutions are private, other investors cannot buy them. As a result, investors are less able to free ride off financial intermediaries and bid up the prices of the loans, which would prevent the intermediaries from profiting from its information production activities. Similarly, it is hard to free ride off these monitoring activities of financial intermediaries when they make private loans. Financial institutions making private loans thus receive the benefit of monitoring and so are better equipped to prevent moral hazard on the part of borrowers. In terms of these functions, banks have particular advantages over other financial intermediaries in solving asymmetric information problems. Firstly, bank's advantages in information collection activities are enhanced by their ability to engage in long-term customer relationships and issue loans using lines of credit

³⁵ Geldsschöpfungsmultiplikator: $1 / (r + c(1 - r))$, Erich Schneider, (1967), Einführung in die Wirtschaftstheorie, Teil III, 'Geld, Kredit, Volkseinkommen und Beschäftigung', (9 erweiterte und verbesserte Auflage), Verlag Mohr, S.52.

arrangement (Berger and Udell: 1995)³⁶.

In addition, their ability to scrutinize the checking account balance of their borrowers may provide bank with an additional advantage in monitoring the borrower's behaviors (Nakamura: 1993)³⁷. Bank also has advantages reducing moral hazard because, as demonstrated by Diamond (1984)³⁸, they can engage in lower cost monitoring than individuals, and because, as pointed out by Stiglitz and Weiss (1983)³⁹, they have advantages in preventing risks taking by borrower since they can use the threat of cutting off lending in the future to improve a borrower's behavior. Banks also have advantages in contracting, which are, specifying interest rates, collateral requirement and other contractual terms that help sort borrower into risk pools, which reduce adverse selection and moral hazard incentive for borrower to engage in risky activities. Bank's natural advantages in collecting information and reducing moral hazard explain why bank have such an important role in financial market throughout the world. Furthermore, bank has the advantages of synergy from providing liquidity provision at the same institution offering line of credit lending and deposits (Stein: 1999)⁴⁰.

The asymmetric information framework explains why banks play an even more important role in the financial system of emerging markets and transition countries because of the great difficulty of acquiring information on private firms in these countries. When the quality of information about firm is poor, asymmetric information problem will be more severe, and it will be harder for firms to issue securities. Thus the smaller roll of securities markets in emerging markets and transition markets leaves a greater role for the financial intermediaries such as bank.

36 Berger, Allen N & Udell, Gregory F, (1995). 'Relationship Lending and Lines of Credit in Small Firm Finance', Journal of Business, University of Chicago Press, vol. 68(3), pp. 351-81, July.

37 Leonard I. Nakamura, (1993), 'Recent research in commercial banking: information and lending', by Federal Reserve Bank of Philadelphia in its series Working Papers, pp. 93-24.

38 Diamond, D. , (1984), 'Financial intermediation and delegated monitoring', Review of Economic Studies 51, pp. 393-414

39 Stiglitz, Joseph E. and Weiss, Andrew, (1983), 'Incentive Effects of Terminations: Applications to the Credit and Labor Markets', American Economic Review. Vol. 73, No. 5, pp. 912-927.

40 Anil K. Kashyap & Raghuram Rajan & Jeremy C. Stein, (1999), 'Banks as Liquidity Providers: An Explanation for the Co-Existence of Lending and Deposit-Taking', NBER Working Papers 6962, National Bureau of Economic Research, Inc

2. The change of the bank industry and the economic development

2.1 The bank industry and the economic growth: the overall correlation-ship

It is well known that, the financial system is fundamentally shaped by real economic development, and the financial intermediaries always fulfill its economic functions. Undoubtedly, banks should not be an exception to this general rule. Based on the available newest data⁴¹ from 70 countries, this section uses simple graphs, regression method, correlation and causality test to illustrate the basic laws of financial intermediaries' transformation. More specifically, we provide international comparison concerning the relationships between economic development and bank in order to see, whether the banks have a future with the economic development.

Consider four measures to show the size and the activity of banks and other financial intermediaries. First, Liquid Liabilities to GDP⁴² is used as an overall measure of financial sector development. Second, Banks Assets / GDP provide a measure of the overall size of the banking sector. Third, Claims of Deposit Money Banks on Private Sector / GDP is a general indicator of bank activity in the private sector. Forth, Claims of Other Financial Institutions on Private Sector / GDP provides a board measure of non-bank activity in the private sector.

After computing these measures of financial intermediaries' size and activity, we group countries into low, lower-middle, upper-middle and high-income countries as defined in 1997 World Development Indicators.⁴³ Based on this ranking of income, we end up with roughly the same number of countries in each group. Then, for each group we compute the average value of the financial intermediaries' development indicators. Table 2-2 gives the data for each country. Figure 6 shows that Liquid Liabilities to GDP, Bank Assets, Claims of Deposit Money Banks on the Private Sector / GDP, and Claims of Other Financial Institutions on the Private Sector/GDP all rise when comparing richer with poorer groups of countries.

41 Data from the IMF's International Financial Statistics, the IFC's Emerging Market Database and "A new database on financial development and structure" supplied by Thorsten Beck in Jun 1999. At the same time, we got our other data about the U.S.A and Germany from the other source, which will be listed in the following contents.

42 Equals currency (M2) plus demand and interest-bearing liabilities of bank and other financial intermediaries divided by GDP.

43 Countries are classified according to their 1997 GNP per capita. Low is \$756 or less; lower middle is \$766-\$3,035; upper middle is \$3,036-\$9,385; and high is \$9,386 or more.

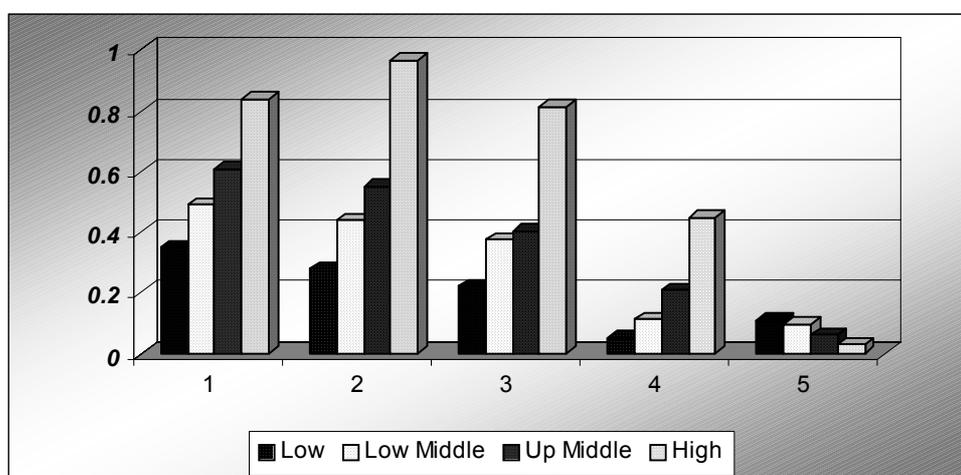
Table 2-2: Financial Indices for Each Group of Countries

Country income per capital	1 Financial liquid liability/ GDP	2 Bank assets /GDP	3 Claims of banks on private sector/GDP	4 Claims of other financial institute on private sector/GDP	5 Central bank assets/GDP
Low	0.35	0.280	0.220	0.053	0.11
Low middle	0.49	0.439	0.375	0.112	0.098
Up middle	0.61	0.55	0.403	0.208	0.062
High	0.84	0.966	0.815	0.45	0.028

Source: Data from the IMF's International Financial Statistics, the IFC's Emerging Market Database and 'A new database on financial development and structure' supplied by Thorsten Beck in Jun 1999

Remarkably, with the development of the economy, the following tendency can be observed obviously in Figure2-2.

Figure 2- 2: Financial Indices for Each Group of Countries



Source: Table 2-2

Note: 1. Financial Liquid Liabilities to GDP ; 2.Banks Assets / GDP ; 3.Claims of banks on private sector/GDP ; 4.Claims of other financial institute on private sector/GDP ; 5.Central bank assets/GDP

- The overall assets of financial sector are rising;
- The overall size of the banking sector is growing;
- The general bank activity in the private sector is increasing;
- The activity of non-bank sector in the private sector is increasing;

- The direct role of the Central Bank in credit allocation is smaller;

These patterns are statistically significant. The correlations (and P-value⁴⁴) between GDP per capita and Liquid Liabilities to GDP, Bank Assets, Claims of Deposit Money Banks on the Private Sector / GDP, and Claims of Other Financial Institutions on the Private Sector/GDP are all significant at the 0.05 level as shown in Table 2-3.

Table 2- 3: Correlation between GDP per capital and other financial developing indicator

Correlation ship	Financial Liquid Liabilities to GDP	Banks Assets /GDP	Total Value/GDP	Claims of banks on private sector/GDP	Claims of other financial institute on private sector/GDP	Central bank assets/GDP
GDP PER_CA	0.547	0.6903	0.4779	0.6621	0.6805	-0.365
p-VALUE	0.001	0.001	0.01	0.01	0.01	0.01

Source: Data from the IMF's International Financial Statistics, the IFC's Emerging Market Database and 'A new database on financial development and structure' supplied by Thorsten Beck in Jun 1999

Now, consider five measures of banking sector efficiency and market structure: Overhead cost⁴⁵ and Bank Net Interest Margin⁴⁶; Bank Concentration⁴⁷, Foreign Bank Share and Public Bank Share in total Assets. Figure 2-3 and Table 2-4 illustrate that higher income countries tend to have lower average Overhead Costs and Bank Net Interest Margin. At the same time, both foreign bank share and public bank share in total assets also decrease as the country moves to a high-income country. The correlations (and P-values) between GDP per capita and other four indicators further demonstrate the significant, negative relationship between economic growth and bank efficiency except of the concentration index (correlation coefficient is 0.034) (Table2-5). The statistic result illustrates the following conclusion:

44 This probability is also known as the p-value or the marginal significance level. Given a p-value, you can tell at a glance if you reject or accept the hypothesis that the true coefficient is zero against a two-sided alternative that it differs from zero. For example, if you are performing the test at the 5% significance level, a p-value lowers than .05 is taken as evidence to reject the null hypothesis of a zero coefficient.

45 Equals the bank overhead cost to the total asset of the bank

46 Equals bank interest income minus interest cost over total assets

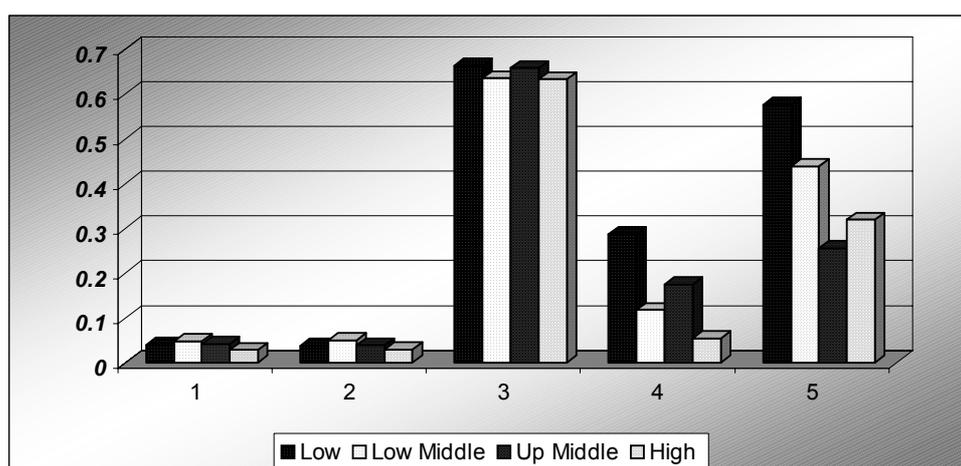
47 Equal the ratio of asset of three largest bank to total bank assets

Table 2- 4: Financial Indices for Each Group of Countries

Country income per capital	1 Overhead	2 bank net interest margin	3 Bank concentration index	4 foreign bank assets in total bank assets	5 Public share in commercial bank assets
Low	0.04	0.038	0.664	0.287	0.576
Low middle	0.049	0.051	0.636	0.118	0.44
Up middle	0.042	0.039	0.659	0.175	0.256
High	0.029	0.03	0.634	0.055	0.320

Source: Data from the IMF's International Financial Statistics, the IFC's Emerging Market Database and 'A new database on financial development and structure' supplied by Thorsten Beck in Jun 1999

Figure 2- 3: Financial Indices for Each Group of Countries



Source: Table 2-4

Note: 1. Overhead costs ; 2. Bank net interest margin ; 3. Bank concentration index ; 4. Foreign bank assets in total bank assets ; 5. Public share in commercial bank assets

Table 2- 5: Correlation between GDP per capital and other financial developing indicator

Correlation coefficient	Overhead costs	Bank net interest margin	Bank concentration index	Foreign bank assets in total bank assets	Public share in commercial bank assets
GDP per capital	-0.353	-0.443	0.034	-0.332	-0.462
p-VALUE	0.005	0.001	0.898	0.09	0.004

Source: Data from the IMF's International Financial Statistics, the IFC's Emerging Market Database and 'A new database on financial development and structure' supplied by Thorsten Beck in Jun 1999

- That means the bank sector show more efficient in higher income countries.
- With the development of the domestic economic, the domestic bank will gradually dominate the domestic markets.
- In the process of a country moving to a high-income country, more and more private bank and non-public banks will appear.
- There is not relationship between the economic development and the concentration of the bank sectors. In short, in higher income countries, commercial banks and the whole financial intermediaries becomes larger, more active and more efficient. And the structure of the bank sector becomes more domestic and non-public. The direct role of central bank in credit allocation therefore declined.

2. 2.2 The theoretical analysis on the changes of the banks and economic development

1. The model

Given that, the aggregated financial assets (AD) can be generalized to three kinds: At: the assets for transaction demand; Ap: the assets for precaution demand; Ai: the assets for investment demand;

$$AD = At + Ap + Ai \quad (1)$$

In the model (1), we assume the asset for transaction demand and precaution demand exist largely in the type of the deposit (Ad) and insurance premium (Ap), and the asset for potential investment demand is securities (As), such as equity or the bond.

$$\text{So, } AD = Ad + Ap + As \quad (2)$$

Then, in order to make an explanation on the way in which, the properties is allocated among the above-said different assets, Mishkin's theory of 'asset allocation'⁴⁸ can be used here, which provides a framework for deciding which kind of factors cause the demand curves for one kinds of asset to shift. These factors include changes in four parameters.

(1) Wealth (Y);

(2) Expected returns (the return expected over the next periods) on one assets relative to alternative assets (Rn);

48 Frederic S . Mishkin, (2001), 'The Economics of Money, Banking and Financial Market', Sixth Edition, Boston, pp. 95.

(3) Risk on one asset relative to alternative assets (e);

(4) Liquidity relative to alternative assets (f);

2. The data and the methods

Here, the following parameters are used to calculate how the deposit will change according to the change of 'wealth' and 'expected return'.

Using GDP describe the "wealth";

Using "long-term interest, inflation rate as well as the index of the "DJIX " describe the expected returns;

Using Deposit for Ad

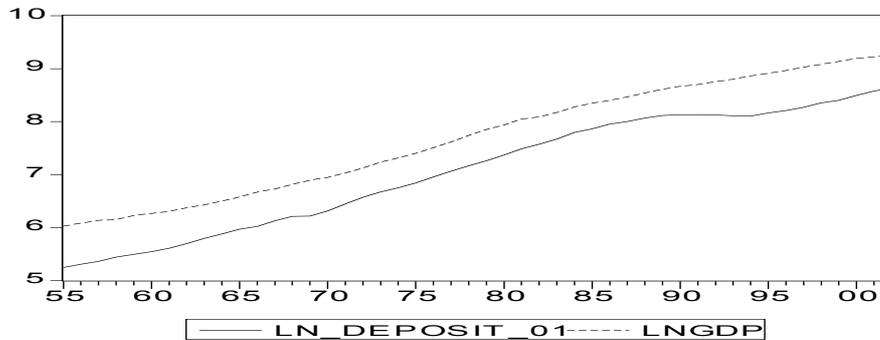
And then, the relationship between Deposit, GDP and other variables can be expected in the following calculation.

3. Methods:

Using the time series data from 1955 to 2002 in U.S.A and through making a "unit root" and "co integration test" between the previous economic variables. The relationship between the deposit amount and the GDP and the other expected return parameters could be received. In the traditional bank industries, deposit accounts for most of the liabilities of the bank balance sheet. So, here, the brief developing relationship between the GDP and the size of the bank can be revealed.

4. The result

Figure 2- 4: Developing relationship between the GDP and the size of the deposit



Source: data from the databank, Bank Scope, in Institute ZEI, in Bonn

From this graph, we can notice that, the time series variables are dominated by smooth and long-term increasing trends. This means the variables are not stationary. In general, in order to make any kind of normal regression (OLS) and statistical inference from a single realization of a random process, stationary of the process is often assumed. Intuitively, a process $\{X_t\}$ is stationary if its statistical properties do not change over time. More precisely, the probability distributions of the process are time-invariant.⁴⁹

In order to know, whether the dependent variable (log deposit) and control variable (log GDP) are stationary, the Uni-root test can be made. Making use of ‘Unit-root test program by software Eviews’ for dependent variable (log deposit) and control variable (log GDP), we found that both these variable are I (1). That means they are non-stationary therefore, the normal regression methods cannot be used here.

So, given a group of non-stationary series, Clive W.J. Granger introduces the method about determining whether the series are cointegrated. Because he introduced the methods of analyzing economic time series with common trends (cointegration), he was awarded the noble-prize in 2003. The notion of cointegration arose out of the concern about spurious or nonsense regressions in time series. Specifying a relationship in terms of levels of the economic variables, say $y_t = \alpha + \beta x_t + u_t$, often produces empirical results in which the R^2 is quite high, but the Durbin-Watson statistic is quite low. That means the significance is not satisfied. This happens because

⁴⁹ X_t Stationarity means $X_t - X_{t-1} = U_t$, when U_t is a white noise.

economic time series are dominated by smooth, long-term trends. That is, the variables behave individually as non-stationary random walks. In this situation, we use cointegration method to avoid these negative effects of the non-stationary to the relationship between these variables.⁵⁰

Here, the cointegration test result is listed in the following table: The ‘Zero hypothesis’ is that there is no cointegration relationship between these variables:

Table 2- 6: Cointegration test between the variables: ln(deposit); ln GDP; inflation rate; long term interest rate;

Sample time series: from 1955 to 2002				
Included observations: 45				
Test assumption: Linear deterministic trend in the data				
Variable Series:				
Ln_Deposit ; Ln GDP; US inflation rate; U_S_long term Interest				
	Likelihood	5 Percent	1 Percent	Hypothesized
Eigenvalue	Ratio	Critical Value	Critical Value	No. of CE(s)
0.537144	59.81846	47.21	54.46	None **
0.265032	25.15315	29.68	35.65	At most 1
() Denotes rejection of the hypothesis at 5%(1%) significance level				
L.R. test indicates 1 cointegrating equation(s) at 5% significance level				
Normalized Cointegrating Coefficients: 1 Cointegrating Equation(s)				
LN_DEPOSIT	LN(GDP)	USINFLATION RATE	U_S__LONG_TERM_INTEREST	C
1.000000	- 0.994484	0.189351	-0.068118	0.291218
P – value	(0.08894)	(0.18406)	(0.05133)	
Log likelihood	111.5829			

Source: data from the Bank Scope in Institute ZEI, Bonn.

According to the test, the following conclusion can be drawn:

The LR test rejects the ‘Zero hypothesis’ of no cointegration between these variables, but

⁵⁰ Damodar N Gujarati: ‘Basic Econometrics’ P 721 and Clive W.J. Granger – Prize Lecture ‘Time Series Analysis, Cointegration, and Applications’ <http://www.nobel.se/economics/laureates/2003/index.html>.

accept the hypothesis of at most one cointegration relation. The estimated cointegrating relation is:

$$\text{Log deposit} = 0.99 \text{ Log GDP} - 0.19 \text{ inflation rate} + 0.07 \text{ long term interest rate} - 0.29$$

The equation and the figure (1) show, that the aggregating amount of deposits has a close positive relationship with the growth of GDP. Almost both of them increase according to the same proportion. The reason lies in that the transaction function of the deposit is exclusive and un-substitutable. Thanks to the long term increasing trend of the GDP, the gross amount of the deposits will also increase with almost same pace to fulfill the transaction function. That means the absolute scale of the bank industry increase at the almost same pace as the GDP.

3. The common elements affecting the transformation of the financial intermediaries

As clearly outlined so far, the bank industry will still keep special and stable development consistent with the economic growth. However, what is worth noting from the beginning is, that the bank industry has been evolving itself from the day of its creation

Logically, two factors exert permanent and fundament impacts on the transformation and reconstruction of the financial intermediaries, including the bank. One is the change in the fashion of financial supply and financial demand; the other is the changing of market competition environment. In detail, these are the following four major factors that are remolding the structures of financial services in almost every corner of our world quickly.

- Economic development, the growth of individual income, the changing of the enterprise funding;
- Advances in financial market and information technology, particularly communication and increased remote delivery of financial services;

Normally, with the development of economy and technology, some new financial demands will emerge from the real economic sectors. Simultaneously, some new financial instrument and servicing models will also be introduced by the financial sectors themselves. The appearance of the new demand and supply will become the engine, which reshapes the financial system.

- Globalization;

- Deregulation;

While the surge of globalization and internalization sweep the whole world, deregulation and liberalization policy become the un-substitutive tendency in the whole world, including cross-border, cross-markets and products (e.g. universal banking), increase in capital flows, greater cross-border flow financial services and more trading/listing in international financial center. In this light, the competition in the financial market becomes more and more serious. The different competition environment asks for the different business and organizing strategy of the financial intermediaries to keep its competitive advantage in the competition. This will inevitably drive the financial intermediaries to reform and make necessary transformation.

3.1 The impacts of technology and financial markets

Before the advent of computers and advanced telecommunication, it was difficult to acquire information about the financial situation of the firms that might want to sell securities or commercial papers. Because of the difficulties in screening out bad from good credit risk, the only firms that were able to sell bonds and commercial paper were very well established corporations that enjoy high credit rating and fames. Most of the corporations have to depend on the bank to raise their demanding capitals. With the improvement in information technology in the 1970s, it became easily for investors to screen out bad from good credit risk, thus making it more likely that they would buy long-term debit securities or commercial papers from less famous or small companies. This results in an explosion in the growth of new financial instruments and institutions over the past two decades, which has placed increased competitive pressures on commercial banks. Bank depositors now have access to a vast array of mutual funds as an alternative vehicle for savings and liquidity. Bank borrowers now have access to a greater set of financing vehicles, like commercial papers for the most creditworthy firms and junk bonds financing for riskier firms. That means that the companies can gradually decrease the demand for bank capitals and the investors can gradually decrease their demand for bank deposit. As a result, the competition facing the traditional bank business becomes more and more furious⁵¹. To be sure, in the following chapter, it will be shown that the banking sectors have grown more slowly as result of these new financial instruments and institutions.

⁵¹ Mishkin 'The Economics of Money Banking and Financial Markets' Chapter 10, Banking Industry: structure and competition, Boston, pp. 267-277.

Even this severe competition, the loss of market share however has been limited, in part, because banks have responded with new financial technologies to create entirely new business strategies. In many cases, these changes have fundamentally changed the way that banks do business. For example, by scrutinizing their loans (rather than holding them in portfolios) banks have economized increasingly scarce sources of funds.⁵² Similarly, by reorienting their business mix toward non-traditional business and off-balance sheet activities like back-up lines of credit, banks have continued to earn revenues from business customers that switch from loan financing to, say, other financial services. And banks have made themselves relatively more attractive to depositors by offering increased convenience (e.g., ATM machines) and a broader array of investment options (e.g., proprietary or third-party mutual funds).

Developments in communications and information technologies may also help improve the efficiency of large banking firms. Repeated rounds of market extension acquisitions have left many large banking companies with numerous branches, subsidiaries, and branches located far away from the headquarters. It can be difficult to monitor activities, and this can result in increased “agency” costs for banks that have to combat shirking and/or cost-preference behaviors by managers at locations far away from the headquarters. Faster and less expensive communications technologies will likely make it easier to effectively monitor these managers.

3.2 Deregulation and globalization: the changes of the structure and competition of the financial industry

Irrespective of the technical development, as the most strictly supervised industry, the liberalization of financial laws and the integration of financial market have led to drastic changes in the structure of the financial industry. For example, in the U.S.A, the relaxation of regulation and the repeal of Glass-Steagall Act during the 1980s and 1990s eliminated the barriers to geographic and business mobility, which had artificially limited the size of banks.⁵³ Many

⁵² Mishkin ‘The Economics of Money Banking and Financial Markets’ Chapter 10, Banking Industry: structure and competition, Boston.

⁵³ The Riegle-Neal Act of 1994 eliminated virtually all prohibitions against inter-state banking in the U.S. This act followed 25 years of *ad hoc* deregulatory acts by state governments, which had gradually permitted banking companies to expand across state borders. The European Union passed similar legislation at roughly the same time. The Single Europe Act of 1986 eliminated all barriers to cross-border resource movements, paving the way for a single uninterrupted economic marketplace in the EU. The Second Banking Directive of 1989 (implemented in 1993) together with several sisters’ acts created a “single passport” for financial firms in the EU, and harmonized banking

banks took advantage of the new laws and grew substantially larger in a relatively short period of time, typically via in-market and out-of-market mergers and acquisitions. The accumulated effect of these mergers greatly increased the size of the participating banks, and also substantially changed the overall structure of the banking industry. In 1990 the largest U.S. commercial bank held about \$150 billion in assets and the average bank held about \$275 million in assets. One decade and over 9,000 bank mergers later, the largest U.S. bank now holds about \$600 billion in assets and the average bank now holds about \$750 million in assets⁵⁴. In addition, a growing number of large U.S. banks are becoming global players by making acquisitions across international borders. Banks have a variety of motivations for making acquisitions. Benefits from increased scale are the most obvious, including but not limited to reduced unit costs; higher per unit revenues; improved access to capital markets; the ability to make larger loans or offer broader product lines; the ability to attract and retain high quality managers; reduced portfolio risk from diversifying into new geographic markets; and network benefits from integrating systems of branches and ATMs that cover different geographic areas.⁵⁵ For banks that use traditional bank distribution channels, acquiring existing banks is simply faster and easier than growing internally by building new physical capacity. Other motivations refer to enhance efficiency. Banks operating in the same local or regional banking markets might merge in order to acquire market power. Bank managers might pursue mergers in order to become “too-big-to-fail,” a strategy that, if effective, reduces the bank’s cost of long-term debt financing by eliminating any default risk premium. In addition, reduction in trade barriers, decline in transportation cost and advancement in communication in recent year have led to an acceleration of international economic integration. The increase in the general level of economic integration across board becomes the main factor of the rapid development of cross board financial services. Especially, the Maastricht Treaty on European Union provides for the introduction of a single currency by January 1, 1999, at the latest. This greatly pushes the integration of financial market and financial service in the whole EU. The globalization and integration of financial services exerts a severe competition on the domestic financial intermediaries. In return, this external pressure leads to deregulation in the banking industry and financial market. In addition, due to the

regulations across its member states.

⁵⁴ Federal Deposit Insurance Corporation, (1999), ‘statistics on banking, historical statistical on banking’.

⁵⁵ For an in-depth review of scale economies in banking, see Berger, Demsetz, and Strahan ,(1999).

unification in financial market, more products were now in play in the arena of investment banking and in order to ensure that traditional banks remained competitive, restrictions on their product choices have to be removed. In terms of the regulator, the domestic bank regulation become somehow limited and restricted when it has to confront the challenges of the international markets.

4. Conclusion

There are two questions expected to be solved in this chapter. One is, on the course of the change in financial system, whether other financial institutions can replace all of the bank's functions. From the analysis on a 'Flow of fund in the circuit model' and 'money creation process', we find out, bank systems are unique, because they can not only fulfill some similar function as the other financial intermediaries, but also exclusively create money by the endogenous and exogenous method. At the same time, the relationship between the bank industry and other financial intermediaries are both competitive and complementary in terms of the different financial functions. Especially, when we observe the 'Flow of fund in the circuit model', we can find out, banks and other financial intermediaries thus perform functions that are different and complementary in originating money and in making it circulate and re-flow to its point of origin in the circuit process. Given that the fact, some of the functions of the bank cannot be replaced, a new question arises here. That is, how the bank industry changes during the periods of the economic growth, and which kind of basic factors will affect the change of the bank system. An empirical analysis and a theoretical investigation combined together in the chapter two give us the definite answer for these two questions. On one side, countries with more developed banking systems and liquid capital markets have experienced the most rapid growth, confirming the importance of complementarities between banking and non-bank financial intermediaries. On the other side, logically, two factors exert permanent and fundamental impacts on the transformation and reconstruction of the financial intermediaries, including the bank. One is the change in the fashion of financial supply and financial demand; the other is the changing of market competition environment. In detail, these are the following four major factors that are remolding the structures of financial services: 'the economic development'; 'the advances of the information technology in financial market'; 'the globalization' and 'the deregulation'.

2. Exploration on the transformation of bank industry in U.S.A and Germany

Coming from the traditional perspectives, the financial system in U.S.A is said to be far from that in Germany. Consequently, it seems indispensable to make an investigation about the bank industry in USA and Germany respectively. This comparable investigation will show us whether or not the bank shows a common direction in the course of their transformation even if they are from a different background. The rest of the chapter is organized as follows. We first describe the way, in which the banking industry is organized in the USA and in Germany, emphasizing the differences. And then, the paper provides the analysis about the transformation of bank industry in USA and in Germany respectively. The final part concludes with a discussion on the issue of whether a uniform global banking transformation model is emerging, towards which the two countries' leading banks are converging.

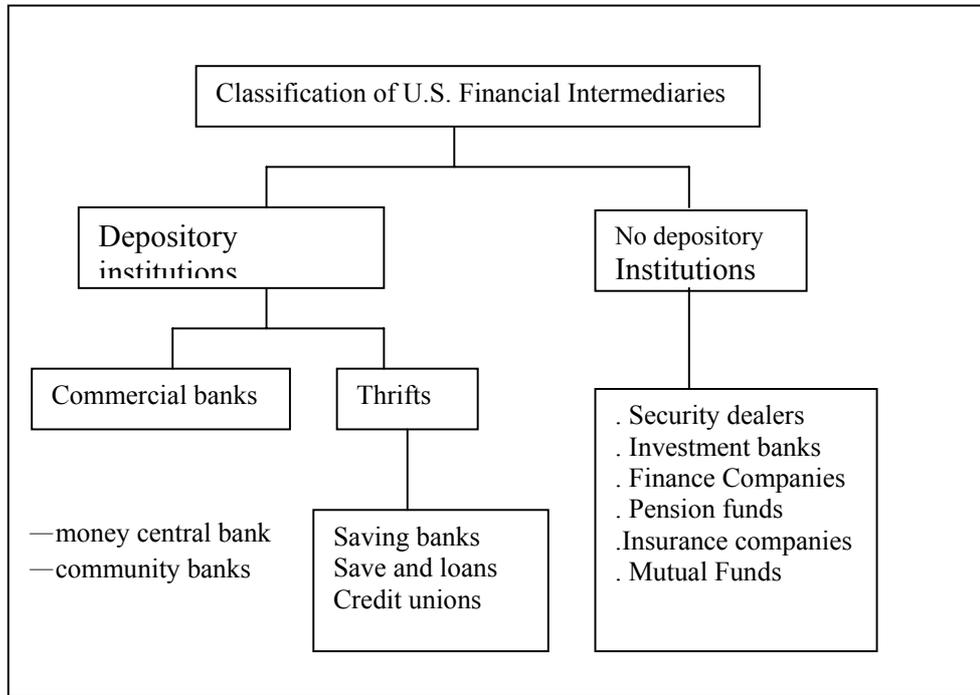
1. The difference of the bank's organization between USA and Germany

1. The different organizing structure of the bank business

A typical "bank" in the U.S.A, until late 1980s, would typically refer to as a commercial bank, as opposed to an investment bank. On the other hand, the term "banks" in Germany, typically refers to the universal banks, which are allowed to participate in a broad range of activities, including investment banking business, insurance services (though only through subsidiaries), security brokering and dealing, payment services (in Germany, this requires a banking license) and commercial banking activities.

Figure 3-1 shows the classification of the financial intermediaries in the U.S before 1980. As shown, they are broadly and clearly categorized into depository and non-depository institutions.

Figure 3- 1: Conventional classification of USA financial intermediaries before 1980s



Source: Bank for International Settlements (ed.) (2001), G-10 Report on Consolidation in the Financial Sector, Also available from International Monetary Fund and Organization for Economic Cooperation and Development

However, since 1980s, these distinctions between financial intermediaries are no longer so clear due to two reasons. First, the de-regulatory Acts of 1980 gave asset expansionary powers to the thrifts resulting in a fuzzy distinction between commercial banks and thrifts with respect to products offered. Second, the prohibitions under the Glass-Steagall Act were being relaxed on a case-by-case basis during the 1990s resulting in lower and lower walls between depository and non-depository institutions.

Table 3-1 presents a comparative picture of the situation in 1990 and 2000, showing no changes in the German system, but significant changes occurring in the U.S. system.

Table 3- 1: Services offered by the commercial banks in USA and Germany

Service	USA: 1950	USA: 2000	Germany: 1950/2000
Consumer and industrial lending	Yes	Yes	Yes
Equities brokerage	Yes	Yes	Yes
Equities investment and underwriting	No	Yes	Yes
Debt underwriting (government)	Yes	Yes	Yes
Debt underwriting (private)	No		
Debt brokerage (government)	Yes	Yes	Yes
Debt brokerage (private)	Yes		
Insurance brokerage and underwriting	No	Yes	Yes
Real estate brokerage and investment	No	Yes	Yes
Mutual funds brokerage and management	No	Yes	Yes

Source: Bank for International Settlements (ed.) (2001), G-10 Report on Consolidation in the Financial Sector, Also available from International Monetary Fund and Organization for Economic Cooperation and Development

Returning to the classification of the financial intermediaries, in Germany, as we see in Figure 3-2, financial intermediaries may be broadly categorized into universal banks, special banks. German banks have traditionally been universal banks, engaging in both commercial and investment banking business and serving both households and firms. Furthermore, German banks, especially commercial banks, have relatively close links with the corporate sectors. German banks control large parts of shares in major industrial companies and have representatives on most supervisory boards.⁵⁶ Universal banks include privately owned business banks, savings banks (mostly municipal-owned) and mutually owned credit co-operatives.

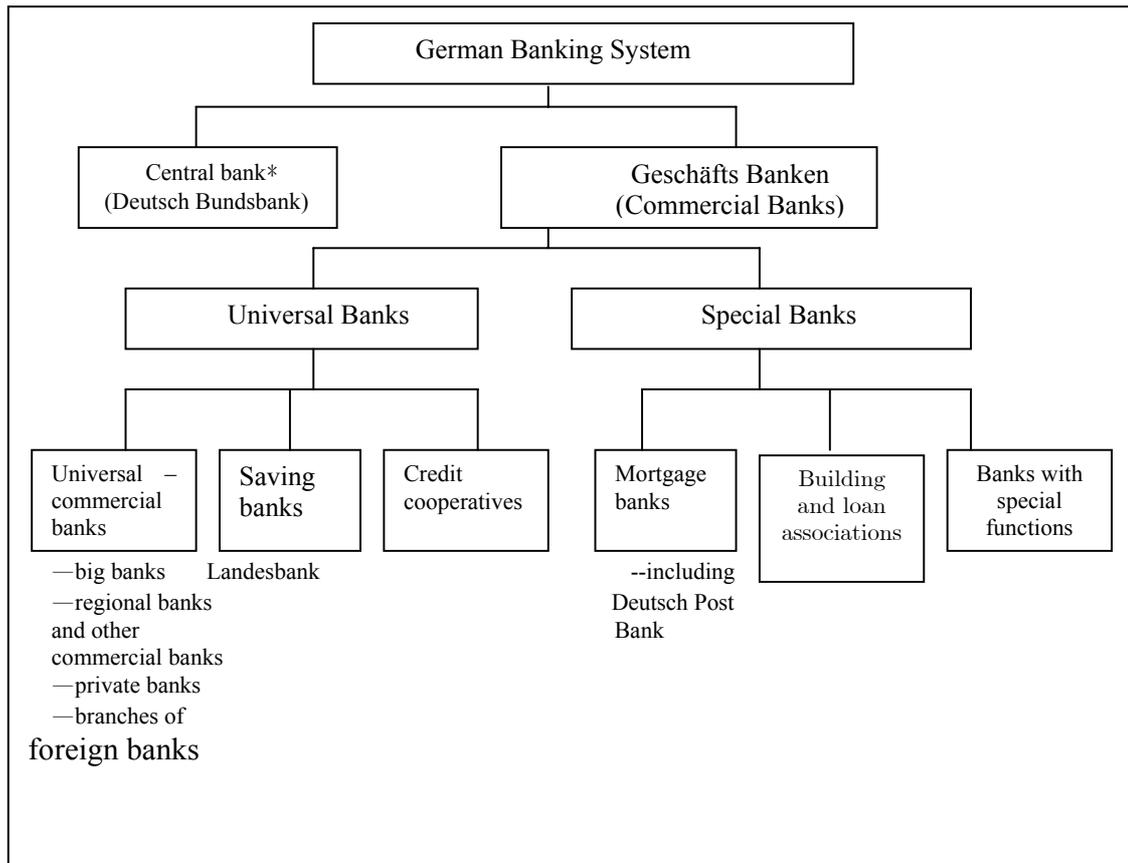
Although the saving banks and credit institutions are legally allowed to be universal banks, however, their core business, especially for the savings banks, is clearly in retail or commercial banks.⁵⁷ Special banks consist of mortgage banks; mutual funds and public banks while near

⁵⁶ According to different studies, quoted by Kester (1994), German banks own 9% of listed German companies, but more than 25% of the 33 major industrial corporations. Furthermore, banks also act as depositories for stock owned by individual stockholders. In 1988, banks represented 40% of the total market value of outstanding shares, so that they effectively controlled nearly 50% of all shares. While Gordon and Schmid (2000) report somewhat lower numbers, they note that corporate equity ownership is concentrated in the big banks and that for most corporations it is concentrated in one bank. They also quote a study that German banks were represented on two thirds of the supervisory boards in 1979, accounting for 10% of all members.

⁵⁷ In Germany, the savings banks and the credit cooperatives are managed by a “headinstitute” (*Spitzeninstitut*). For the savings banks, this *Spitzeninstitut* or managing institute is the Landesbanken while for the credit cooperatives the managing institute is the Deutsche GenossenschaftsBank. While the majority of the regional savings banks and the credit cooperatives clearly focus on retail banking, these managing institutes however, for both groups, are true universal banks performing significant investment banking functions.

banks include insurance companies and credit institutions. However, given that universal banks can legally participate in all the product areas of financial services, a large banking group in Germany (like Deutsche Bank Group) may well have subsidiaries straddling the functions of all four of the categories described above.

Figure 3- 2: Conventional classification of German banking system



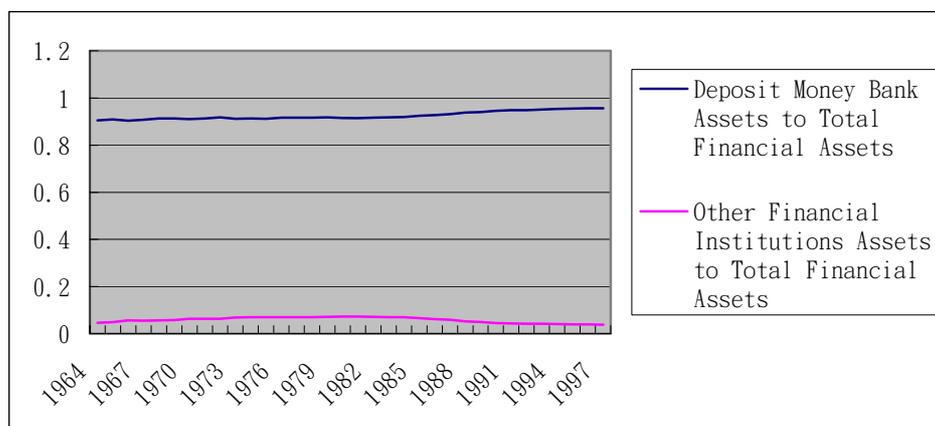
Source: Deutsche Bundesbank and German Bank Association (www.german-banks.com)

Note: The Deutsch Bundesbank now is a part of the system of European Central Banks

2. The different bank status

The more fundamental difference is illustrated on figure 3-3. The share of banking assets in the total financial sector is 23% in the U.S. as compared to a significant 77% in Germany, confirming the evidence of thin capital markets there, reflecting the traditional methods of bank financing in Germany versus a tradition of market financing in the USA.

Figure 3-3: Comparison between the universal banks and other financial intermediaries in Germany



Source: The new database from Ross Levine in 2001

From what we observe, there is all reason to believe that, ‘Germany offers the best example of universal banks’. It was clearly revealed in figure 3-3, in German financial system, universal-banks play a relatively dominant role. Loans by banks accounted for most of the finance raised by the economy as a whole, especially the capital demands of small and medium-sized enterprises. The equity market covers only 5% to 7% of the financial needs of the corporate sectors. At the same time, German non-financial enterprises obtain no more than about 2% of their funds through bonds.⁵⁸ A large number of bonds were issued by banks, which used this instrument to refinance their lending business.⁵⁹

However, in the U.S.A. Commercial banks’ share of total financial intermediary assets fell from around the 40 percent range in the 1960-99 periods to below 23.5 percent by the end of 1999. Similarly, the share of total financial intermediary assets held by thrift institutions declined from around 20 percent in the 1960s-90s periods to below 5 percent by 1999 (Table 3-2). Loans by bank are not used as the most important capital resource as before.

⁵⁸ Speech by Professor Hermann Remsperger, Member of the Executive Board of the Deutsche Bundesbank, at the Nomura Annual Euro Conference, Tokyo, 26 November 2002.

⁵⁹ Speech by Professor Hermann Remsperger, Member of the Directorate of the Deutsche Bundesbank, at the European Summit of Financial Journalists, Frankfurt, 29 October 2001.

Table 3- 2: Relative Shares of Total Financial Intermediaries Assets

	1960	1970	1980	1990	1999
Banks	58.7	59.3	57.9	44.9	29.8
Commercial banks	38.6	38.5	36.7	30.4	23.5
S&L and mutual saving banks	19.0	19.4	19.6	12.5	4.6
Credit unions	1.1	1.4	1.6	2.0	1.7

Source: Federal Reserve Board 'Flow of funds account', 2001

3. The different ownership structure

Moreover, as we have seen from Table 3-3, state ownership has been and is zero in the U.S. In contrast, a large share of public and cooperative banks characterizes the German banking system. Table 3-3 shows that relative to other countries in both the European Union and the whole OECD, Germany has a relatively large share of public banks. In Germany, commercial banks make up only around 25% of total banking assets and deposits. Public banks, which are owned either by the counties and cities or by the regional governments (Länder), play an important role in German bank system. Publicly owned banks account for more than 40% of total bank assets (Table 3-4).

Although, ownership structures of the municipal banks vary over time, but generally happened between the municipal governments and the local savings banks (either directly or through the regional savings banks association). In addition, the municipal banks have built up considerable cross shareholding relationships.⁶⁰ All in all, in Germany the public sectors, through the municipal-owned savings banks and the Landes banks, have a share of around 40 percent of the total retail banking business. Municipal owned banks remains a formidable barrier to deregulation and consolidation (Table 3-5).

Table 3- 3: Ownership of the banking industry in the U.S. and in Germany in 2000

Country	Share of state and municipal-owned bank
USA	0%
EUROPEAN UNION	28.1%
OECD	25%
GERMANY	42.3%

Source: La Porta Lopez-de-Silanes and Shleifer (2000): Bunds Bank monthly report 2000, Statistic section

⁶⁰ For an extensive discussion of the state banks see Sinn (1999).

Table 3- 4: Deposit and Asset share of different bank groups in Germany 2000

	Total Asset	Total non-bank deposit
Commercial banks	25.2 %	24.6%
- of which : Largest four banks	14.4%	12.8%
Saving banks	36.1%	39.4%
Cooperative banks	13%	18.7%
Others	25.7%	17.2%

Source: Bundesbank Monthly Report 2000, other banks include mortgage banks, building and loan association and other special banks

Table 3- 5: Market shares of publicly owned banks in Germany

	1970	1980	1990	2000	2001
All publicly owned banks (total assets)	45.6	43.5	38.0	42.3	42.4
Landes Bank und other State banks ⁶¹					
Assets	15.6	16.3	14.5	19.9	19.9
Bonds outstanding	39.7	42.4	32.1	26.2	25.7
Saving banks (Sparkassen)					
Assets	22.9	22.1	20.6	15.5	15.4
Deposit of non-banks	39.4	37.7	34.2	26.0	26.0
Public owned banks with special functions					
Assets				6.6	6.8
Public Mortgage banks					
Assets	7.1	5.1	2.9	0.3	0.3

Source: Deutsch Bundesbank, Monthly Report, Statistic Section, January, 2001 and Federal Deposit Insurance Corporation Website

3. The different relationship between bank and their industrial holding

The other distinguished bank character, which should be stressed in Germany, is, unlike in the U.S., banks in Germany have capital locked-in in industrial holdings. Business contacts arising from these crossholdings generated good loan businesses to the banks. However this "relationship banking" structure is changing. The relevant tax reforms, which had gone into effect on January 1, 2002, relieved the seller of any capital gains taxes on the sale of these cross-holdings. The larger banks have already announced their plans of the sale of such holdings, popularly referred to as "the end of Deutschland AG". For instance, Deutsche Bank AG has announced that it will sell its entire holdings of Daimler-Chrysler. Also, due to the substitution of bank finance by

⁶¹ The federal government owns several banks (most importantly *KfW* and *Deutsche Ausgleichsbank*) that carry out specific functions such as export financing or lending to new enterprises. Their market share (in terms of total assets) is about one third of that of the state banks.

capital markets finance, the role of investment banking business is becoming more important and the German banks are eager to establish their leads in this new domain.

4. The different concentration rates

Contrary to what happen in America, the concentration rate in German bank industry is lower. With respect to the structure and composition of the banking industry in Germany (see Deutsche Bundesbank, 2000a and Table 3-6), currently, there are 3,167 banks with more than 44,443 branches. Of these 3,167 banks, around 9% are private business banks, around 20% are savings banks (Sparkassen) and the Landesbanks, around 66% are credit cooperatives and approximately 5% are special banks (including Postbank). The highest percentage of market share in retail banks is enjoyed by the primarily municipal-owned savings banks (40%), followed by the private banks (25%), the mortgage banks (16%) and the credit cooperatives (15%).

Table 3- 6: Structure and Composition of banking system in the U.S. and Germany

Measure	USA		Germany	
	1990	1999	1990	1999
Number of institutions	15,304	10,070	4,719	3,167
Number of Branches	72,346	78,928	44,345	44,443
Total assets to GDP	80.8%	73.3%	158.9%	230.8%
Market share of top 5 largest banks	11.3%	26.56%	17.1%	18.8%

Source: Bank for international settlement 2001

In terms of size distribution, unlike the U.S., there are only five large banks in Germany and over 3000 small banks and these top five banks own less than 20% of the industry's total assets. However, in American, as of 1997, around 80 percent of the total U.S. bank assets have been concentrated in 4 percent of the banks (in 1983, 3 percent of the banks held 63 percent of the total assets). So, the concentration rate in German bank industry is lower.

Obviously, the U.S.A bank industry and the German bank industry came from the quite different starting point. This arouses a very interesting question, which is worthy of more attention. That is whether the bank industry shows some common developing direction with the evolvments of the financial business even if they are far from each other at this moment.

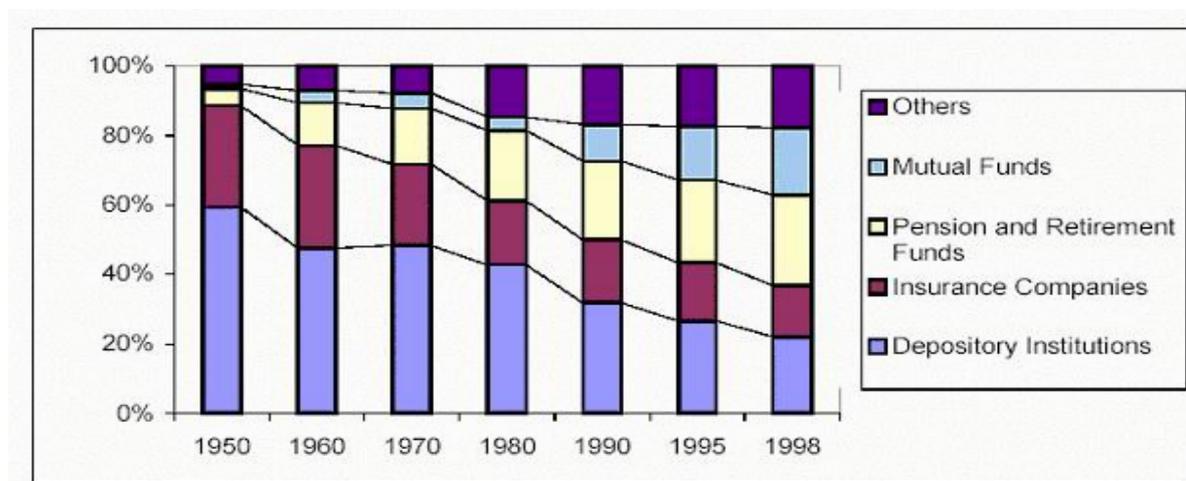
2. The transformation of the bank industry in U.S. and in Germany

2.1 The development of institutional investor in U.S.A and in Germany

Both in the USA and in Germany, the substantial development of the security market, and the institutional investors (the mutual funds and pension funds) are the typical characteristics in financial industry over the past years. The difference between these two countries is what happened in USA in 1970s appeared in Germany in 1990s. The change of American financial system can be shown in figure 3-4. It illustrates how dramatically the U.S. financial system has changed in the past decades. Based on it, three conclusions can be drawn clearly.

(1) Until the middle of the 1970s, banks were the dominant form of financial intermediaries. The structure of the financial system was much more like that of Japan, France and Germany, in the sense that banks dominated and markets were less significant. The financial system can be called as the depository bank based financial system.

Figure 3- 4: Distribution of US financial assets by the main types of financial intermediaries



Source: Refer to Mishkin's Chapter 12, Table 1 (pp. 315), 'Relative shares of total financial intermediary assets', 1960-1999"⁶²

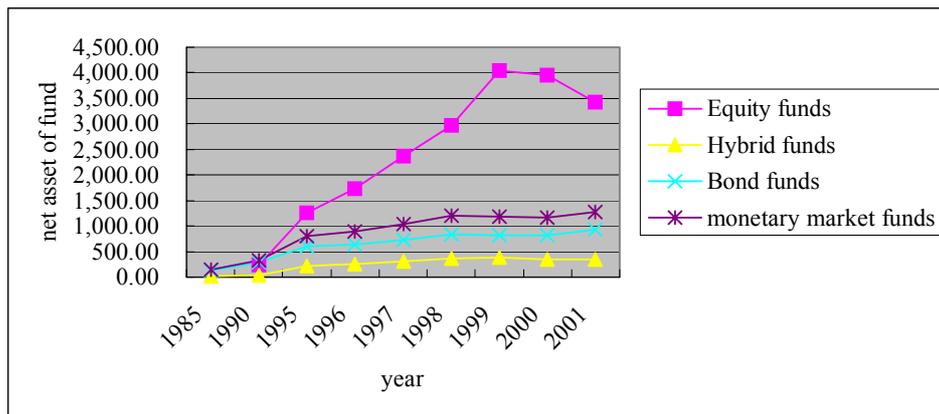
(2) Over the past 30 years, the assets of all kind of financial intermediaries rose quickly over time. But, the growth rate of the different financial intermediaries shows dramatic difference, in which the investment intermediaries enjoy a remarkable growth rate, especially the pension funds and mutual funds.

⁶² Mishkin, (2001), 'The Economics of Money, Banking and Financial Market', Sixth Edition, Boston, pp. 315.

(3) As a result, today, matters have changed to the point that mutual funds and pension funds control a bit more than half of all financial intermediary assets in this country. Banking has never been the only game in stage. Even today it's not the biggest game in stage. Pension funds account for roughly as much of financial intermediary assets as banks and thrifts combined (30%). The financial innovation that has occurred in the last 25 years changed the form of the financial system from a depository bank-based one to an investment-intermediaries-based one.

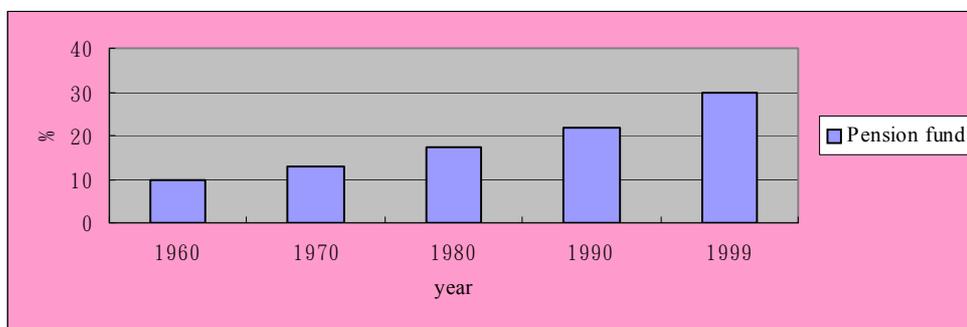
The key factors, which contribute to this change, are the striking development of the pension fund and mutual funds. Figure 3-5 and figure 3-6 illustrate that over the past two decades, the rapid rise in the assets of mutual funds and pension funds industry has caught a considerable attention. To the end of the 1999, the asset of mutual and pension funds together have accounted for 41.5 percent of the financial intermediary assets.

Figure 3- 5: A net asset of mutual fund by type.1985-2001 (billions\$)



Resource: ICI, <http://www.financialservicesfacts.org/financial2/securities/mutualfunds/>

Figure 3- 6: Relative asset share of financial intermediaries



Source: Federal Reserve Board 'Flow of funds account', 2001

In Germany, the 1990s were a period of great changes in the financial system. Reliance on financial markets increased substantially. The importance of equity as a source of funding and as financial investment rose substantially (Table 3-7). Equity ownership becomes more widespread. From 1988 until 2000 the number of shareholders almost doubled (from 3.2 million to 6.2 million). Since then, despite the depression in equity prices around the world, the number of shareholders has declined only slightly (Deutsches Aktieninstitut: 2002). An increasing part of savings was channeled through institutional investors, in particular investment funds. In contrast, the share of households' financial assets placed with banks as deposits decreased.

Table 3- 7: Key figure on financial intermediaries

Year	Credit and equity finance of non-financial sectors (in % of total liabilities)				Saving of non-financial sectors (in % of total assets)					
	Non financial corporations				Households					
	Bank loans	Bonds	Equities		Bank deposits	Bonds	Equities	Investment Funds	Insurance claims	
1991		61.7	2.5	24.8		32.0	13.4	6.5	4.1	18.8
1995		57.6	2.9	28.2		27.8	13.4	7.1	7.0	20.2
1999		50.4	1.3	44.5		21.0	10.2	13.3	10.2	21.5
2000		52.4	1.5	37.3		20.1	10.1	12.1	11.2	17.1
2001		53.8	1.9	31.5		19.7	10.3	9.5	11.7	24.0

Source: Deutsche Bundesbank and German bank association (www.german-banks.com). 2001.

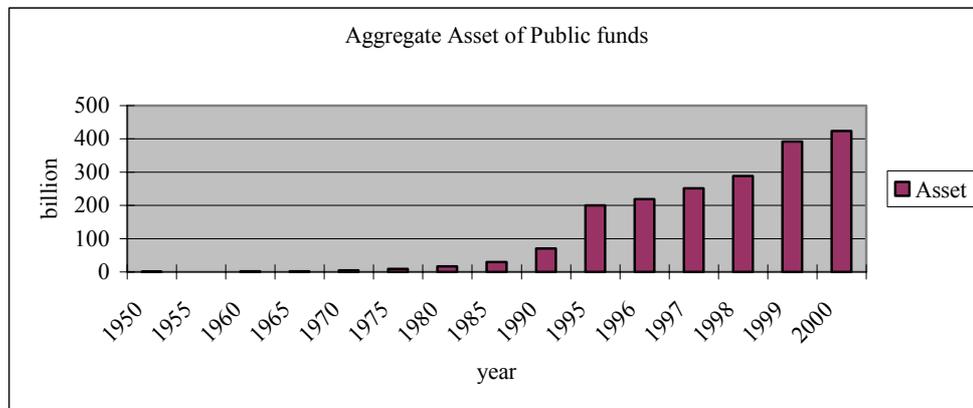
Nevertheless, the German financial system is still bank-based. Bank loans account for 54% of the liabilities⁶³ of the non-financial sectors, only 8 percentage points less than ten years ago. In particular small and medium-sized firms continue to rely heavily on bank finance (Bauer and Domanski: 1999). Large firms further reduced their dependence on bank lending, but this occurred from already low levels.⁶⁴ Dis-intermediation has been much more pronounced with respect to deposit taking than in lending. During the 1990s, the share of savings in the form of bank deposits declined by 12 percentage points to less than 20% by the end of 2001.

⁶³ Excluding intra-sectoral liabilities, such as trade credit.

⁶⁴ For example, for "large" German enterprises with an annual turnover of DM 100 million or more the share of bank lending (as % of total liabilities) declined from 9% to about 7% during the 1990s. During the same period, this ratio increased from 31% to almost 40% for "small" enterprises with a turnover of less than DM 5 million (see Deutsche Bundesbank (2001)).

Notwithstanding this trend, banks have been able to retain their leading position in the intermediation process by stepping up issuance of bank bonds.⁶⁵ The very reason behind this striking transformation is the quick development of securities markets and investment institutions from 1990s. The sharp increase in sales of investment fund in 1999 and 2000 as well as the record amounts of stock market issues during the same period are particular testimony to the increasing importance of the securities markets (figure 3-7) in Germany. With respect to the investment funds, in light with the limitation to the investors, the investment funds is categorized into the other two groups, the public funds⁶⁶, which can be bought by every investor, and the special funds⁶⁷, which are sold only to institutional investors, such as banks, insurance companies and Asset Management Companies. The first public fund was launched in 1950. Since then, the mutual fund industry has witnessed a slight development until 1980s. The same situation is also observed in special mutual funds fields after the first fund was set up in the year 1962. Nevertheless, things have changed in the past decade. With an average increase rate 22% every year, the German investment-industry took the lead of the development in all kinds of the industry fields in Germany.

Figure 3- 7: The change of the investment Funds

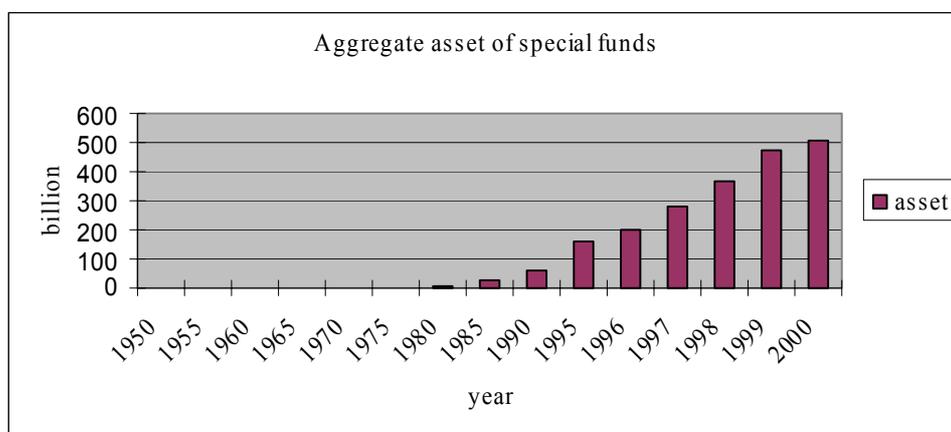


Source: BVI, Deutsche Bundesbank

⁶⁵ Another example for the increasing importance of financial markets for banks is the derivatives business. The growing turnover in OTC derivatives markets – almost tripling between 1998 and 2001 – is almost exclusively attributable to the activities of banks.

⁶⁶ The public fund are normally identified as Aktifond (equity fund), Rentfond (pension fund), Mishfond (Hybrid funds) Geldmarkt/-nahr fond (MMMF) Offene Immobilienfond (Open-end real estate Fund) Dachfond (fund-of-fund).

⁶⁷ With regard to the public fund, as a rule one institutional investor holds all units of one fund. In this case, the investor is the role owner of the underlying assets of the special funds. The same is true when the fund is established for a limited number of institutional investors- max 10 with comparable investment goal.



Source: BVI, Deutsche Bundesbank

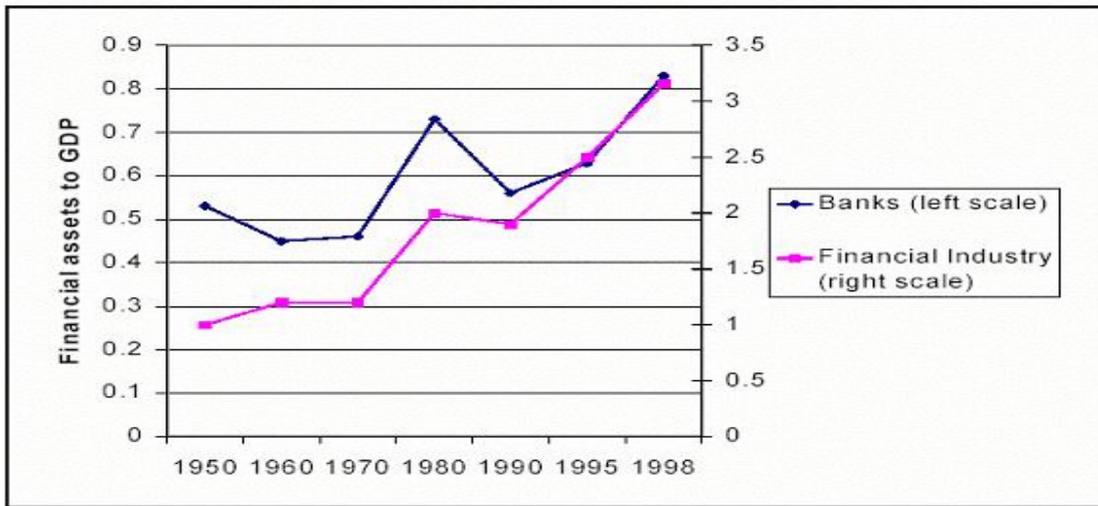
As a whole, the development of the security market will in the long run represent an additional source of equity for corporations. In addition, the number of cross-listings of German shares abroad and foreign shares here in Germany has increased. In 1997 there were 700 domestic companies and 2,784 foreign companies listed on German stock exchanges; by August of 2002 the figure had ballooned to 1,080 domestic companies and 9,964 foreign companies. In the future capital market-based corporate finance will probably gain more importance in German financial system⁶⁸.

2.2 The development of the bank industry and the economic growth

From previous contents, it looks clearly, on one hand, that the share of the financial assets in depository institutions in U.S. have experienced a substantial falling in comparison with the other financial intermediaries over the past thirty years; on the other hand, however, just like what has been showed in the following figure, banks becomes larger (Figure3-8), more active and more efficient as the economy growth. And bank assets are stable relative to total financial assts (Figure 3-9).

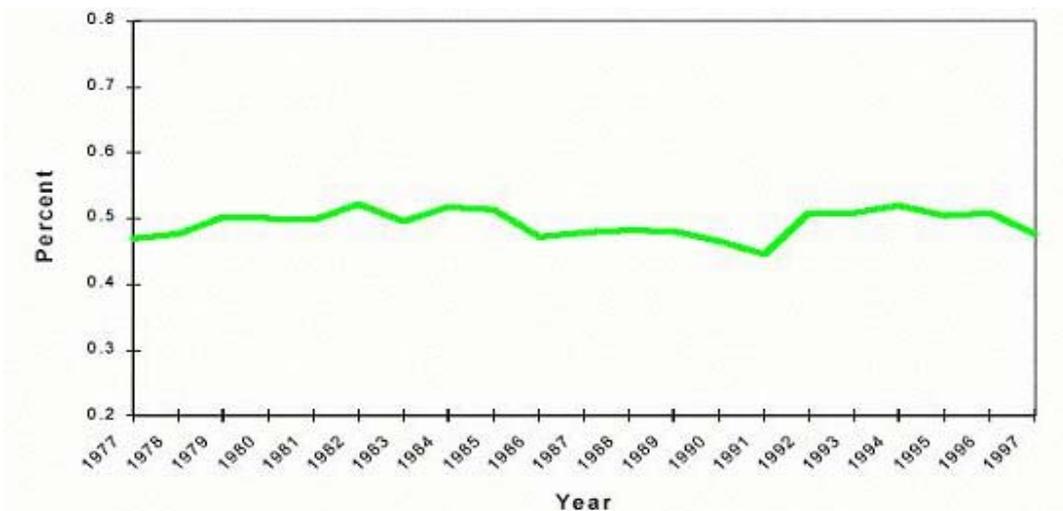
⁶⁸ Hermann Remsperger, (2001), 'Financial market trends in Germany', Member of the Directorate of the Deutsche Bundesbank, at the European Summit of Financial Journalists, Frankfurt, 29 October, pp. 1-4.

Figure 3- 8: Relative Size of the bank industry and U.S. financial sector



Source: Barth et al, 1997 and updated tables from Barth⁶⁹

Figure 3- 9: Bank Value as a percent of Financial Sector GDP



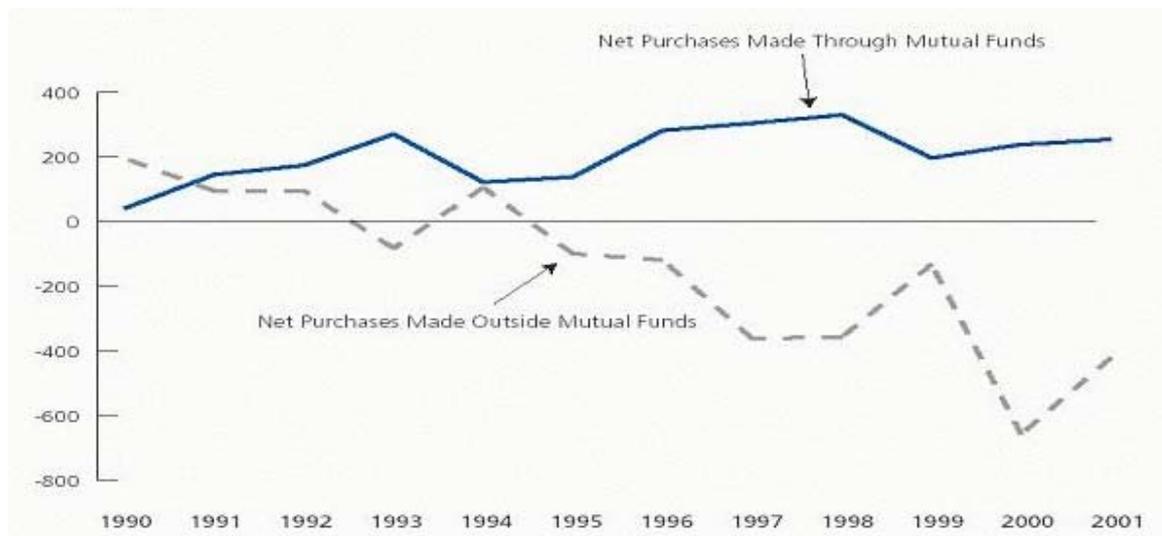
Source: Survey of Current Business, and Federal Deposit Insurance Company, historical Statistic on Banking.1997

Here arises the question to know how these two conclusions can be coordinated into one. In order to answer this question, a fact must be noted, that financial assets can be divided into three mutually exclusive subsets. The first is those held by banks or more properly depository institutions; the second is those held by non-bank intermediaries such as pension funds and mutual funds; and the third is those primary financial assets which are directly owned by householders, such as stocks and bonds. If banks are shrinking relative to other intermediaries,

⁶⁹ Barth J.R., Caprio Jr G and Levine R. (2001), 'The Regulation and Supervision of Banks Around the World A New Database', Working Paper, World Bank

but keep stable relative to total financial assets, then this implies that there is a switch from the directly held assets by household to non-bank intermediaries. This is consistent with the long-term decline in the individual ownership of primary corporate equities. According to the “Flow of fund account”, U.S. households remain net buyers of stocks and bonds through mutual funds and net sellers of these securities through other means (Figure 3-10). In 2001, mutual funds purchased an estimated \$120 billion of stocks on behalf of U.S. households, while households sold an estimated \$295 billion of stocks held outside mutual funds. Funds also acquired an estimated \$130 billion of bonds for households, while households sold an estimated \$132 billion of bonds held directly or through other means.

Figure 3- 10: Net purchases of Stocks and Bonds by Households 1990—2001 (billions of Dollar)

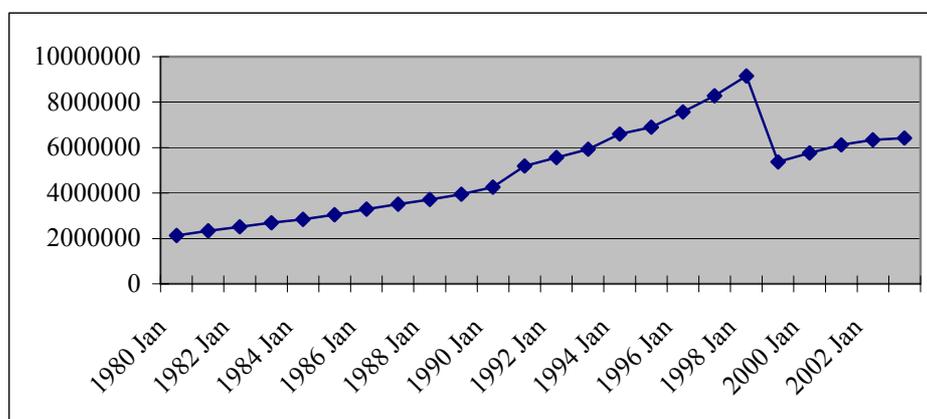


Source: Federal Reserve of Board and Investment Company Institute

This reflects the new tendency of institutionalization in the financial market. That means most households increasingly deal with intermediaries, such as pension and mutual funds that invest in markets on their behalf. The change has occurred because intermediaries are using markets more extensively than before. In Germany, a stable growth of the bank asset has also been illustrated clearly in the following figure 3-11. On the other hand, total assets in the financial system as a percentage of the Gross Domestic Product has declined slightly in the U.S. but grown in Germany. Part of this could be explained by the prolonged economic growth cycle experienced by the U.S. over the past decade while in Germany the unification and its subsequent burden

slowed the growth in GDP to less than expected (Table 3-8).

Figure 3- 11: The whole assets of Germany bank industry from 1980 to 2002



(Note: the turn point is because of the different Currency Unit, the D-MARK and EURO)

Source: BVI, Deutsche Bundesbank, Stichtag jeweils Jahresende

Table 3- 8: Total asset to GDP

Measure	USA		Germany	
	1990	1999	1990	1999
Total asset to GDP	80.8%	73.7%	158.9%	230.8%

Source: Bank of International Settlement

2.3 Bank's traditional business versus the non-traditional business

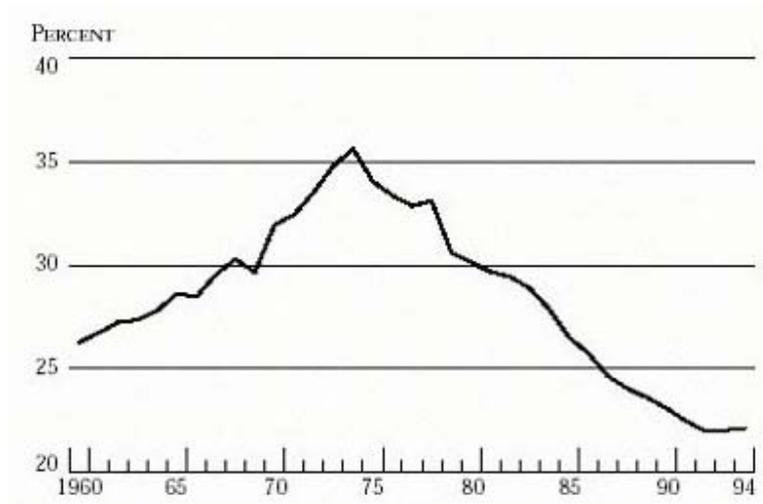
As we mentioned in the previous chapters, the traditional banks and thrift institutions make a process of asset transformation commonly referred to as “borrowing short and lending long”. In recent years, fundamental economic forces have undercut the traditional role of banks in financial intermediaries and spur it to explore the new profit resources.

2.3.1 The American Bank system—the way to the universal bank

Firstly, the importance of commercial banks and other deposited financial intermediaries as a resource of funds to non-financial borrowers has shrunk dramatically in USA. In 1974 banks provided 35 percent of these funds. Today they provide around 22 percent (Figure 3-12). Other

depository institutions (saving and loans, mutual saving bank, and credit unions) have also suffered a decline in the market shares, from more than 20 percent in the late 1970s to below 10 percent in the 1990s.

Figure 3- 12: The Commercial bank’s market share of the non-financial borrowing (1960-1994)



Source: Board of Governance of the Federal Reserve System

Secondly, the share of the depository financial institutions in the total financial intermediary’s assets has shrunken. Another way of viewing the declining role of banking in traditional financial intermediations is to look at the size of banks’ balance-sheet assets relative to those of other financial intermediaries (Table 3-9). Commercial banks’ share of total financial intermediary assets fell from around the 40 percent range in the 1960-99 periods to below 23.5 percent by the end of 1999. Similarly, the share of total financial intermediary assets held by thrift institutions declined from around 20 percent in the 1960s-90s periods to below 5 percent by 1999.

Table 3- 9: Relative Shares of Total Financial Intermediaries Assets

	1960	1970	1980	1990	1999
Insurance companies	24	19.1	16	17.4	15.4
Life insurances	19.6	15.3	11.5	12.5	11.8
Property and casualty	4.4	3.8	4.5	4.9	3.6
Pension funds	9.7	13	17.4	21.6	29.6
Private	6.4	8.4	12.5	14.9	18.2

Public	3.3	4.6	4.9	6.7	11.4
Finance Companies	4.7	4.9	5.1	5.6	3.7
Mutual funds	2.9	3.6	3.6	10.5	21.5
Stock and bond	2.9	3.6	1.7	5.9	15.6
Money market	0.0	0.0	1.9	4.6	5.9
Banks	58.7	59.3	57.9	44.9	29.8
Commercial banks	38.6	38.5	36.7	30.4	23.5
S&L and mutual saving banks	19.0	19.4	19.6	12.5	4.6
Credit unions	1.1	1.4	1.6	2.0	1.7

Source: Federal Reserve Flow of Fund Account

Thirdly, the rise of the non-traditional business---the way to the universal banks:

However, Bodie (1995) correctly points out “the decline in the share of total financial intermediary assets held by banking institutions does not necessarily indicate that the banking industry is decline, because banks have been transferring their activity from the traditional business to non-traditional business activities. We may not understand their role in financial market if we look solely at the on-balance-sheet activities”⁷⁰.

In an attempt to survive and maintain adequate profit levels, many banks face two alternatives. First, they maintain the traditional business by expanding into new and riskier areas of lending, for example, corporate takeover, real estate and leveraged buyout. The second way banks have sought to maintain former profit levels is to pursue new non-traditional business. For example, as a means of avoiding dis-intermediation and with the fastest development of the mutual fund industry in U.S.A over the past 20 years, banks and their affiliates perceive mutual funds to be a natural extension of the investment management and fiduciary services offered by bank trust departments.

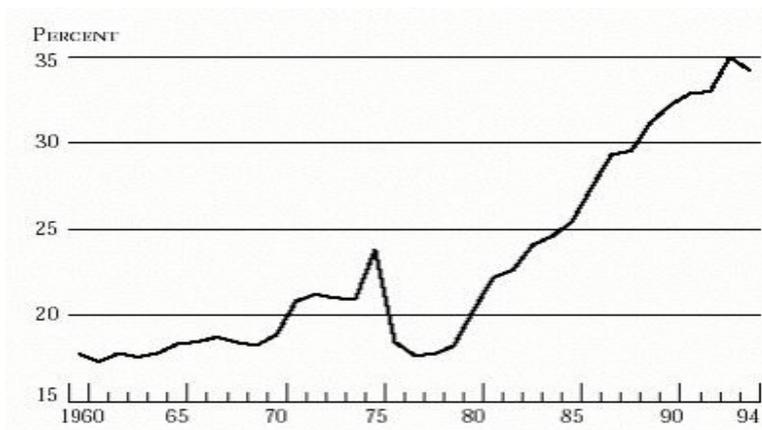
This is also largely because of regulatory changes and competitive factors. The Glass-Steagall Act of 1933 largely prohibited banks from engaging in most securities activities before 1972. Although the Federal Reserve Board began deregulating bank mutual fund activities in 1972, the restrictions placed on banks deterred significant growth in bank mutual fund activities until 1992 when the Fed eased certain restrictions on bank mutual fund activities.⁷¹

⁷⁰ A Conceptual Framework for Analyzing the Financial System, Chapter 1, in the Global Financial System: A Functional Perspective, Harvard Business School Press, 1995.

⁷¹ The Federal Reserve Board allowed eligible bank holding companies to act as fund investment advisers, transfer agents, and custodians in 1972 (upheld in the Supreme Court in Board of Governors of the Federal Reserve System

Although low interest rate levels and less regulated activities are the main root causes of bank mutual fund expansion, three other factors help to further explain their recent surge (Kaufman and Mote: 1994)⁷². First, bank mutual fund activities generate sales commissions and fee income that can partially offset declining net interest margins. Secondly, mutual fund activities may reduce bank unsystematic risk through diversification into new lines of business (Brewer, 1989). Thirdly, those banks that already possess the infrastructure to provide the array of services identified with large mutual fund operations may attain economies of scale and/or scope. As a share of total bank income, non-interest income derived from off-balance-sheet activities, such as fee and trading income and custody, average 19 percent in the 1960-80 period. By 1994, this source of income had grown to about 35 percent of total bank income (Figure 3-13).

Figure 3- 13: Share of non-interest income in total income 1960-1994

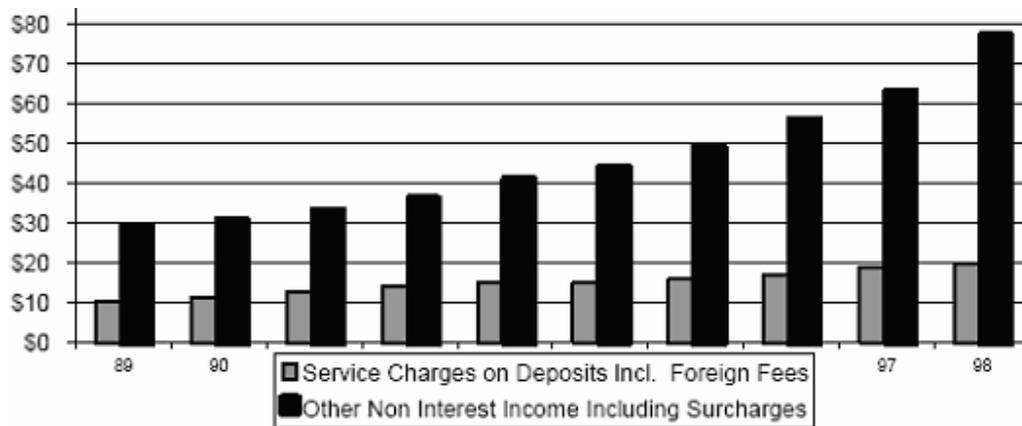


Source: Board of Governance of the Federal Reserve System

vs. Investment Company Institute, 45 U.S. 56, 1981). In 1992 the Federal Reserve eliminated a prior restriction that prohibited banks from advising mutual funds located on the bank's premises (12 C.F.R. Part 255, September 4, 1992). However, BHCs are still required to disclose their relationship to the mutual fund and to advise customers that mutual fund deposits are not insured. Furthermore, bank mutual funds must be organized and distributed by an unaffiliated third party.

⁷² Kaufman, George G. and Larry R. Mote, (May/June 1994), 'Is Banking a Declining Industry?', Economic Perspectives, Federal Reserve Bank of Chicago pp. 2-21.

Figure 3- 14: Increase in Service Charges (including foreign ATM Fees) and other Fee Income (including surcharges) 1989 –1998 Commercial Banks (Billions of Dollars)



Source: the FDIC

Based on the above description, the developing of the bank industry in USA can be divided into two episodes, in the first period the traditional business dominated most of the profit, and then, from the middle 1980s the new business have become the highlight.

All in all, we can see clearly that U.S. depository institutions have suffered a falling trend in terms of relative financial assets to whole financial intermediary assets for many years. And their businesses have changed very much from the tradition lending to a universal one, such as the fee, commission and other off-balance-sheet business.

2.3.2 The universal banks in Germany—a way to transformation

Although the universal banks play a dominant role in the financial system in Germany, however, the phrase ‘universal banking’ should not be used as if it were a well-defined and static principle. In reality, the practices of universal bank through which the certain financial functions are executed have changed over time. Just like Merton and Bodie (1995) argued from a functional perspective, the institutional form is not the essential to the financial function and might therefore change over time. So, the facts, which have changed behind the surface situation of universal banks, should be given more attentions. The past two decades have witnessed a considerable change in Germany’s universal banks.

1. The Status of the German financial service in the worldwide

If we observe Germany’s economic history and the performance of German banks, we find that

the first four decades after the end of the Second World War are a success story. Germany became one of the world's major economies. German banks played a crucial role here and – until the beginning of the 1990s at any rate – also operated successfully. For a long time, the universal banks were evidently the right type of bank under the prevailing circumstances. Frankfurt-based Deutsche Bank and its fellow German giants--Frankfurt-based Dresdner Bank and Commerzbank and Munich-based HypoVereinsbank⁷³--were once counted among the undisputed masters of Continental banking. They had the financial muscle to acquire any bank in Britain or on the Continent, and had grand plans for global expansion.

But now, table 3-10 shows us, among the largest 15 financial services firms, which were ranked in terms of the revenues, American financial firms account for almost one thirds of the whole number. In contrast, only three German financial firms appear in this rank. At the same time, compared with the U.S. counterparts, their performance standards, as measured by the return on equity (ROE) and/or cost-income ratios were very small in 1990s (Table 3-11).

Table 3- 10: World's largest financial services firms, 2002 (\$ millions)

Rank	Company	Revenues	Profits	Profits as a percent of		Country	Industry
				Revenues	Assets		
1	General Electric finance	\$131,698	\$14,118	11%	3%	U.S.	Diversified financial
2	Allianz	101,930	-1,103	-1	0	Germany.	Diversified financial
3	Citigroup	100,789	15,276	15	1	U.S.	Insurance
4	ING Group	88,102	4,255	5	1	Netherlands	Insurance
5	American International Group	67,482	5,519	8	1	U.S.	Banking
6	AXA	882,051	897	1	0	France	Insurance
7	Nippon Life Insurance	61,175	927	2	0	Japan	Insurance
8	Assicurazione Generali	53,599	-713	-1	0	Italy	
9	Fannie Mae	52,901	4,619	9	1	U.S.	Insurance
10	Deutsch bank	52,133	375	1	0	Germany	Banking
11	Credit Suisse.	52,122	-2,126	-4	1	Switzerland	Banking
12	Munich Re Group	51,980	1,022	2	1	Germany	Insurance
13	BNP Paribas	51,127	3,115	6	0	France	Insurance
14	Stat Farm Insurance Cos	49,654	-2,796	-6	-2	U.S.	Diversified financial

⁷³ It based on two Muenich based commercial banks in year 2001.

15	AVIVA	49,533	-802	-2	0	U.K.	Banking
(1) Ranked by revenue. Based on an analysis of companies in the Global Fortune 500.							

Source: Fortune

Table 3- 11: Comparative performance between USA and Germany

Measure	U.S.A (\$)		Germany (DEM)	
	1990	1999	1990	1998
Pre-tax income	18.67 b	116.31 b	17.47	59.21
Pre-tax Return	0.39%	1.76%	0.48%	0.71%
Deposits to assets	78.1%	65.9%	52.1%	43.7%
Capital to assets	5.6%	8.4%	3.8%	3.9%

Source: Bank of International Settlement, 2001

In addition, according to the fiscal reports of the German banks, the earning power of German banks is dropping considerably. In the year 2002, except Deutsch Bank, all of the other three biggest banks suffered from making loss. Dresdner Bank has recorded a loss after taxes of €935 million. Although the administrative expense were cut by roughly 14% to €7.5 billion by virtue of substantial savings in both personnel and non-personal cost, but it cannot offset the dramatic dropping in the operating income (the aggregate of net interests and current income, net fee and commission incomes, and net trading incomes), which declined by €2,321 million in 2002.⁷⁴

However, what should be stressed here is, although the declining of the bank profit is a negative message for the shareholders, yet it does not necessary means that it will be harm for the macro economic efficiency, taking into account of the following facts. The high profit normally has a close connection with the high market monopoly. When the high profit is the consequence of low competition, regulatory protection, high concentration, barriers of entry etc, the shareholders will certainly benefit a lot from this good performance of the enterprise, while the whole economy and the consumer's benefit will suffer from it undoubtedly because of high prices. This has been clear exhibited in USA, which will be debated in the chapter 4.⁷⁵

2. The change of the profit structure of German bank industry

Just like what happened in U.S.A, the gross profit of the bank industry has exhibited a steadily

⁷⁴ Data came from Association of German Bank 'cost and income structure'

⁷⁵ The detailed discussion about it will be found in chapter 4, in the subsection 'a question which should not be neglected-the balance between shareholder interests and consumer interests'.

decline since the mid of 1990s, and the structure of revenue is gradually changing: net interest income is the most important source of revenue, but the income from commission is rising.

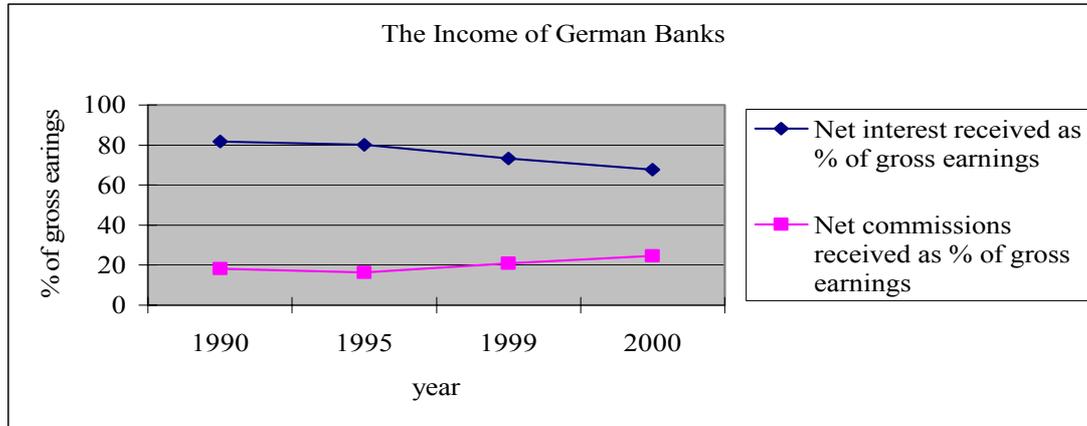
Table 3- 12: The change of the income over time

	1990	1995	1999	2000	2001	2002
Return on equity before tax (%)	11.8	14.1	11.2	9.4	6.4	4.4
Cost/income ratio (%)	70.2	63.2	66.1	68.4	71.0	67.2
Net interest received as % of gross earnings	81.7	80.2	73.2	67.8	69.9	73.4
Net commissions received as % of gross earnings	18.3	16.3	21	24.7	22.2	20.9

Source: Deutsche Bundesbank

Just like what has been illustrated in Table 3-12, up to the mid-1990s the average pre-tax return on equity of banks in Germany was just over 14%. Since then, it has fallen steadily as a result of the decline in earnings (except in 1998, when the figure was boosted by a number of exceptional factors) and was down to single figures in 2000. This puts German banks well below the European average. The net interest revenue has declined in the course of the last decade from almost 82% to 67.8% of the whole revenue (Figure 3-15). Considering the substantial contributions of interest revenue to German banks, this kind of decline has accounted for most of the reasons of the depressed profit performance of German banks over the past several years. At the same periods, net commissions received gain in importance. In 2000 they accounted for almost one quarter of total earnings, principally due to the bull market, which lasted until the spring of 2001. The sharply fall of the ratio of net interest since the mid-1990s reflects the gradual transformation of the bank business in Germany.

Figure 3- 15: The profit situation of German Banks



Source: Deutsche Bundesbank

Irrespective of these common trends, the relative performance of individual banks and banking groups differs markedly. The return on equity of the savings banks and mortgage banks is higher than that of the other categories of banks. In terms of the savings banks, this is essentially because the ratio of their gross earnings to administrative spending is more favorable than that of other categories with large branch networks. Although the credit co-operatives have the highest gross earnings as a percentage of the balance sheet total, their level of administrative spending is significantly higher than that of the other categories (Table 3-13).

Table 3- 13: The average income situation from 1998 to 2002

(1998–2002 average)	Com. Banks	Landes banks	Savings-Banks	Credit co-operatives	Mortgage Banks
Net interest income (% balance sheet total)	1.31	0.60	2.40	2.48	0.50
Net commissions received (% balance sheet total)	0.67	0.11	0.51	0.60	-0.01
Gross earnings (% balance sheet total)	1.97	0.71	2.91	3.08	0.49
Staff costs (% balance sheet total)	0.82	0.22	1.19	1.36	0.09
Other administrative spending (% balance sheet total)	0.80	0.21	0.80	0.97	0.08
Profit for financial year (% balance sheet total)	0.39	0.17	0.52	0.45	0.19

Return on equity	10.20	7.52	12.75	9.76	12.31
Cost/ income ratio	74.32	54.10	67.49	73.56	31.59
Net interest received as % of gross earnings	59.82	74.58	81.22	77.99	96.87
Net commission received as % of gross earnings	30.44	13.74	17.21	18.93	-1.50

Source: Deutsche Bundesbank

In terms of the commercial banks, the net interest received by the big banks contributes noticeably less to their gross earnings than the case for the other two sub-groups (Saving Banks and Credit Cooperative Banks). Commissions received generated in the last five years, almost 40% of gross earnings. This is principally due to the fact that the big banks do a relatively large volume of business in securities trading. Since the big banks have an extensive - and costly - branch network, their cost/income ratio is considerably less favorable than that of the other two sub-groups, which, on average, have far fewer branch offices.

3. The change of the gross balance sheet of the Bank

Similar to its U.S.A counterparts, traditional lending and deposit-taking business has begun to decline. In addition, the securities business and the foreign business have gained more and more important position in the balance sheet of the banks. Overall, keeping as the core of the business, the traditional deposit and lending business account for above 50 percent of German bank business. That means lending to the domestic enterprises is the most important source of income. At the same time, although the traditional business kept as the main source of revenue, its development appears a declining trend. Instead of it, the securities business and the foreign business have gained more and more important position in the balance sheet of the banks (Table 3-14).

Table 3- 14: Development of major balance sheet positions and the structure of German banks' balance sheets between 1990 and 2001

	Change 1990 – 2001 (billion EUR)	Percentage share of business volume/total assets at end of year	
		1990	2001
Lending to domestic banks	+ 565.7	19.4	16.9
Lending to foreign banks	+ 296.6	7.6	8.2
Lending to domestic non-banks	+ 1.379.5	51.1	42.3
Lending to foreign non-banks	+ 251.7	2.7	5.4
Securities portfolios, of which:	+ 876.3	11.6	18.5
- Domestic securities, of which:	+ 614.5	10.8	14.0
* Bank bonds	+ 387.0	7.5	9.1
* Public bonds	+ 67.5	2.3	1.8
* Investment certificates, other securities	+ 130.8	0.3	2.3
- Foreign securities, of which:	+ 261.8	0.7	4.6
Deposits			
Deposits of domestic banks	+ 572.3	19.9	16.9
Deposits of foreign banks	+ 464.0	4.7	9.8
Deposits of domestic non-banks :	+ 815.4	44.5	31.8
- Enterprises	+ 391.9		
- Private individuals	+ 203.3	28.4	19.5
Deposits of foreign non-banks	+ 273.7	1.6	5.5
Memo item: Savings deposits	+ 197.1	14.6	9.2
- At 3 months' notice	+ 206.2	10.0	7.4
* "Normal" savings deposits	- 51.5	5.8	2.2
* Special savings facilities	+ 257.7	4.1	5.1
- At a period of notice of more than 3 months	- 9.1	4.6	1.8
Bearer bonds	+ 1.052.0	17.2	23.7

Source: Deutsche Bundesbank: Statistical Supplements to the Monthly

On the assets side of the aggregate balance sheet of all banks:

Claims (loans and securities) on domestic enterprises and self-employed persons declined from 51.5% in 1990 to above 40 % in 2001. The declining trend of traditional lending is partly due to the Germany's weak economic growth. And the other reason can be explained by the fact that enterprises are increasingly raising finance by other means, on the capital markets or abroad. Among these lending, around 85% were to the private sectors. The largest group of borrowers in the private sectors is made up of individuals who are not self-employed. Three-quarters of loans to individuals are housing loans.

Because the saving banks and the credit co-operatives carry out comparatively little inter-bank business, their lending to non-banks is of far greater importance in purely statistical terms than is the case in the other categories of banks. Similarly, deposits held by non-banks also dominate on the refinancing side with the savings banks and credit co-operatives. The deposits of non-banks are also important sources of funding for the commercial banks, but they make up a significantly lower percentage of their total assets (Table 3-15). Loans to domestic non-banks show a similar picture. Here, the main reason for the lower percentage of lending to non-banks by commercial banks and Landesbanks is the relative importance of interbank and securities operations in these two categories (Table 3-15).

Table 3- 15: Percentage share of total assets in 2002

	Commercial Banks	Landes-Banken	Savings Banks	Credit Cooperatives	Mortgage Banks
Lending to banks	28.8	40.7	8.9	12.2	16.8
Lending to non-banks	42.0	36.2	60.6	60.8	60.5
Securities portfolios	15.2	16.2	24.4	20.2	19.8
Deposits of banks	34.1	35.0	21.6	13.2	12.5
Deposits of Non-banks	35.8	22.8	63.6	71.3	16.3
Bearer bonds	12.2	31.6	4.6	5.8	64.7
Regular Capital	5.7	4.7	4.5	5.1	2.1

Source: Deutsche Bundesbank and German bank association (www.german-banks.com)

In contrast to the shrink of the traditional business, Table 3-14 also show that the internationalization of banking activities is one of the major trends, which have emerged in recent years. The German banks' business with non-residents has expanded far more rapidly than their business with domestic customers. The significance of claims on foreign banks, foreign non-banks and foreign security has increased strongly. At the end of 2001, these already accounted for around 18 % of domestic banks' total assets, compared with just over 11 % at the end of 1990. Transactions with the banks' own foreign branches were the mainsprings of cross-border inter-bank dealings. In particular, business with legally dependent foreign branches rose sharply.

In terms of the internationalization, Table 3-16 illustrates that international operations (both deposits by foreign non-banks and borrowing to foreign non-bank) account for a far larger proportion of the balance sheet total of the commercial banks and Landesbanks than of the other categories of banks. The commercial banks have traditionally been very active in cross-border transactions. Moreover, they have succeeded in building up a solid market position in the EMU market. In the case of the Landesbanks, their relatively high volume of international operations is largely due to the fact that the savings banks transfer the bulk of the international business with their customers to their central banking institutions.

Table 3- 16: Percentage markets share in 2001

	Commercial Banks	Landes-Banken	Savings Banks	Credit Cooperatives	Mortgage Banks
Total assets	28	19.9	15.4	8.6	14.4
Lending to domestic enterprises and self-employed persons	28.1	17.5	22	12.2	12.6
Lending to domestic private individuals	25.9	5	29.6	18.4	9.1
Lending to foreign non-banks	36.2	22.8	1.2	0.4	17.4
Deposits of domestic private Non-banks	24.9	10.2	30.8	20	6.8
Deposits of foreign non-banks	43.9	25.7	3.8	1.9	2.1

Source: Deutsche Bundesbank and German bank association (www.german-banks.com)

On the liability side of the aggregate balance sheet of all banks:

Since the middle of 1990s, there has been a marked decline in the importance of the banks' traditional source of funding, deposits from domestic non-banks (including enterprise and private individuals). A growing number of depositors now entrust their savings to institutional investors, such as insurance companies and investment trusts, or purchase shares and bonds directly. This is considerably increasing the banks' funding costs and changing the pattern of their refinancing activities. The impact of the fundamental change in individual savings patterns is particularly noticeable in the development of savings deposits. Finally, these trends and the fact that securities business has gained great importance on both sides of banks' balance sheets show that the role of the various forms of financial intermediaries, which connect domestic savings and consumption or investment by domestic enterprises, public authorities and private households together, have shifted considerably in recent years. Although the German banking industry continues to hold a dominant position in this area, its importance has declined, while the capital market becomes more important for financial intermediation in Germany. On the other hand, the trend towards more capital market intermediation should not be overestimated.

3. The reasons for the transformation of the bank industry: Social Fund Account Analysis

Because the transaction of the social fund includes large amount of financial instruments, such as time and saving deposits, corporate bonds, equity shares, mutual funds shares and bank loans, the investigation on the Fund Account makes it possible to analyze the development of the financial instruments over time as vehicles for financing economic activity. Meanwhile, they also provide a means of tracking the role of financing intermediaries, such as banks and pension funds, and document the growth of important financial institutions, such as mutual fund, and show how these institutions have woven into the financial fabric of the economy. Thanks to all of these previous understanding, we propel our research a step further by exploring the origin and using of the Social Fund Account.

3.1 A simple model about the Social Fund Account

Generally, in a closed economy, the Social Fund Account includes three sectors, the household, the corporate and the governments. And the economic society is composed of financial surplus

sectors and the fund deficit sectors. According the historical experiences, the household belongs to the financial surplus sector. In contrast, the fund deficit sector comprises corporate and governments. That means the flow of the social fund is always from the household sectors to the corporate and government in order to make up for their gap between internal fund and their investment demand. At this process, the financial sectors are used as the intermediaries, which bridge the surplus sectors and the deficit sectors. Here, we make the following assumption that there are three economic sectors, corporate, household and financial sectors. We assume the households are the net deposit sector, and the quantity of currency hold by both the corporate sector and the households sector are zero.

In general, the corporate sector initiates and extends its business operation by the following ways:⁷⁶

1. Initiation of the production:

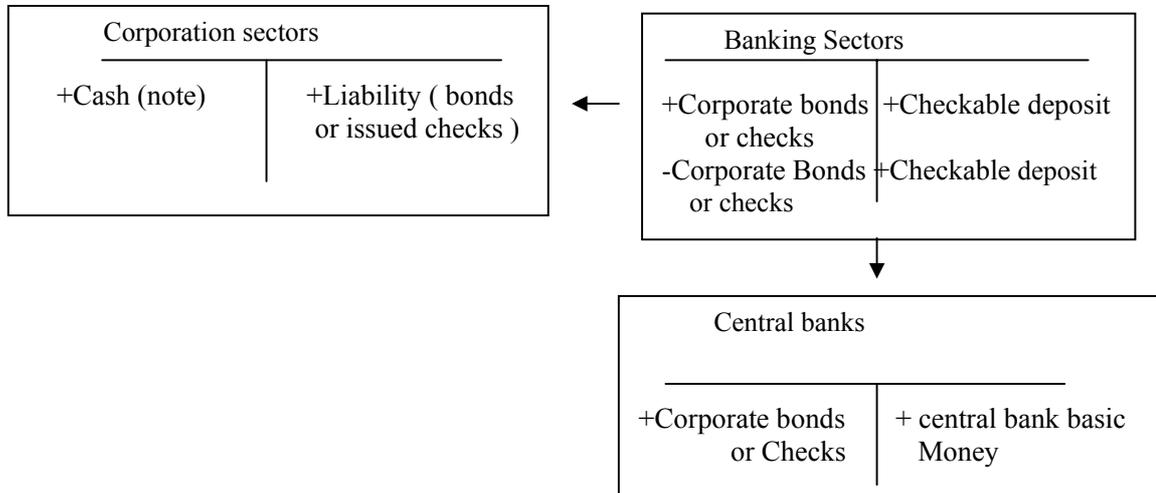
Monetarizing checks or bonds from the corporate sector by the bank sector create the money. In market economies usually two steps are carried out by commercial banks, which refinance at the central bank. In terms of the appearance of the initial money, it is a special process, which take place in different sectors simultaneously. At the beginning of the business cycle, the commercial banks lend money to the corporations and in return gets a paper written on that is the promise to pay the credits at a certain date and to pay interests. By this action the bond is created or borne! This bond *uno animo* is offered in the process of the open market policy to the central bank and thus the commercial banks refinance themselves and may give out even coins and notes at the counter to their clients (corporations). In this way, the money is created. This means:

Corporation sector: + cash / + liabilities (bonds, issued checks)

Banking sector: + bonds and/or checks / issued notes and/or deposits on a transfer account

⁷⁶ Sell, Axel, (2003), ' Nationale Wirtschaftspolitik in der Phase der Globalisierung', pp. 20-21, The Institute for World Economics and International Management, Bremen University.

Using the T-account, this process can be illustrated from the following T-account.



Until now, the corporations get the first initial money. The money is used by the corporations for transactions (Buying/selling of intermediate inputs and outputs, wages and salaries) and held in a smaller amount as precautionary cash. The money flows back to the corporations from the households since the households spend their income for consumption goods.

Under the special case that the households have a ‘propensity to consume of 1’, the process will run in the same way in the periods to come. The original amount of money thus is in a permanent flow between corporations and private households (transaction cash). And, it is called simple reproduction.⁷⁷

2. Growth:

Growth will be accompanied by investment activities. In the simplest case this means that the consumption goods are sold above their production costs, the difference forms firms’ profit. And then, the retained profit may serve as source of finance for the enlargement of the capital stock

⁷⁷Marx model of ‘simple and expanded reproduction’, the ‘reproduction’ theory assumed that there are two production sectors in a closed economy. One is for the production of consumer goods and the other is for the production of producer goods. At the same time, the output of each sector is constrained by the available producer goods in each sector. And then, under the situation of simple reproduction, in order to maintain constant level of output in both sectors, it is necessary to reproduce the same amount of producer goods that was used in the production of both commodities. At the same time, to keep the production in both sectors unchanged, producer goods must be allocated between sectors in the same proportion as in the previous period. The other condition for simple reproduction is the workers and the capitalist do not save by assumption. They both must spend all their income on purchases of consumer goods. In the process of simple reproduction, the financial intermediates only play a small role up to now.

(investment). The belief that investments are profitable and the decision to invest are both the important driving force and the essential for growth in this model. We can get more understanding from the ‘expanded reproduction theory’.⁷⁸

As illustrated in the following table, the banking system is not involved in the process.

Corporation sectors	
+ Investment	+ Profit

The company finances their investment by their own capitals. However, with a growing Gross Domestic Product due to the enlargement of capacity more transaction cash is required. And in this simple model we will find the reason why according to some money theories the growth of the money supply should follow the growth rate of the GDP. And this additional money has to be produced by the banking system in the way discussed above. Now, a new question arises. What happens when dividends are paid to the shareholders of the firms, instead of retained profits? During this process of the dividend distribution, the individual will get the money from corporate. The process will be illustrated from following T-accounts.

T-account

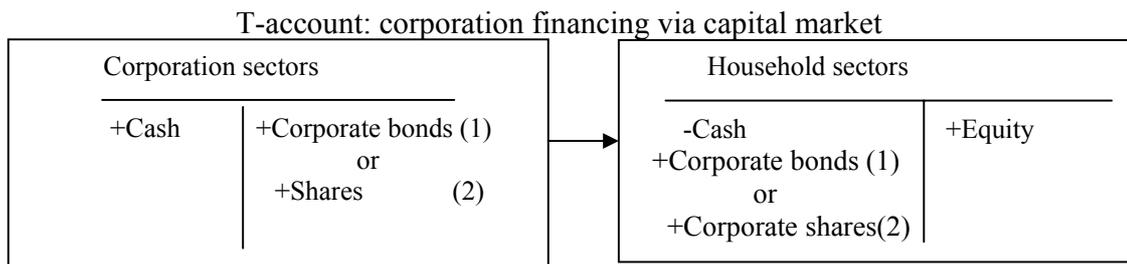
Corporation sectors		Household sectors	
Cash	liability	+Cash	+Equity
- partial cash (for dividend)	Profit		(The increase of the wealth)
	- Partial profit (for dividend)		

Under the assumption that the household’s ‘propensity to consumption’ is not equal to one,

⁷⁸ In the simple reproduction the output of consumer goods must be equal to the sum of total wages and profits. However, the discussion may not stop here because the economy has seen growth and saving. To achieve economic growth, it is necessary to produce more producer goods than is needed for simple reproduction. At the same time, in order to maintain a stable or accelerated economic growth, the quantity of the producer goods allocated to the sector for the production of producer goods should be greater than in the preceding year. In order to fulfill this condition, it implies that quantity of consumer goods is smaller than total wages and profits. Obviously somebody must make their consumption for consumer goods less than their total income. In other words, somebody must save and invest part of their total income to buy producer goods. In this respect, the decision to invest determines profit. Without investment, there is no dynamic in the economy and also no more profit and no saving. It is well known, investment and saving are equal in size in a closed economy (Marx of ‘simple and expanded reproduction’ http://econc10.bu.edu/economic_systems/lecture_notes/marxism).

then, when the household got the cash as the dividends from the enterprise sector, the households may react in different way on this surplus.

Firstly, they might buy shares directly from the corporations (probably assisted by financial institutions via the capital markets). Secondly, they might buy bonds issued by the corporations via capital markets. As the result, the corporations now can raise the external funds by the capital markets. These two possibilities can be sketched by the T-accounts.



In any case the banking sector is not directly involved as creditor, may be as service agency.

Secondly: the shareholders may deposit their money at the banks:

Households: - Cash and + deposits (bank account) at the asset side
Banking System: + Cash / Liabilities (bank accounts)

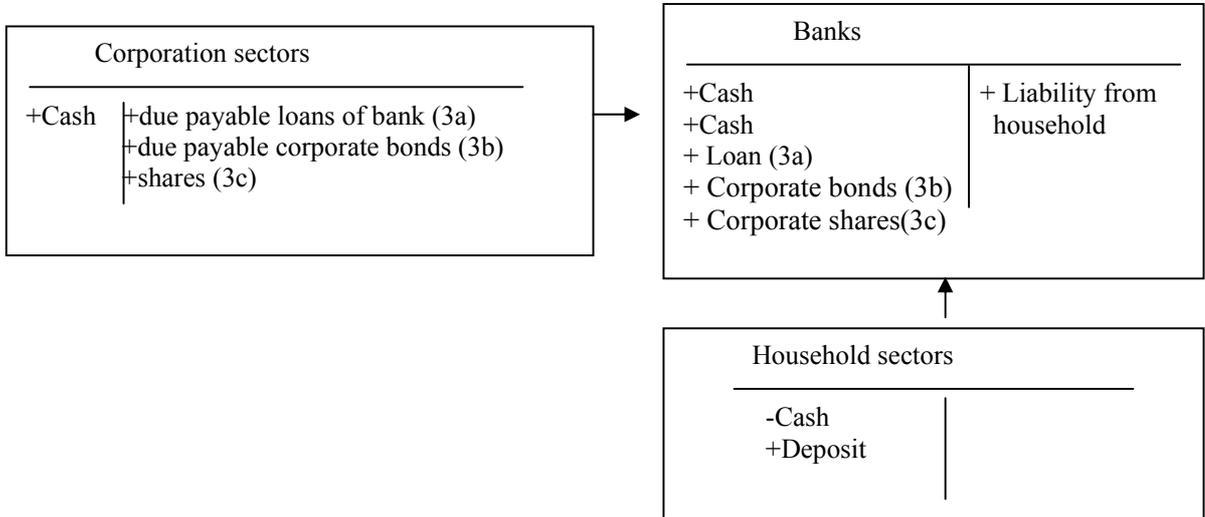
In this case the corporations may be credited by the banking sector:

Corporations: + cash / + liability (bank credit)
Banking Sectors: - cash and + debt claim

Or, the bank direct purchases the corporation securities just like what happened in the above said situation. The banking system in this case has the traditionally highlighted function as intermediate institution, channelling saving to investment activities of the corporation sector.

Case 3: The Corporation finance itself from the bank system.

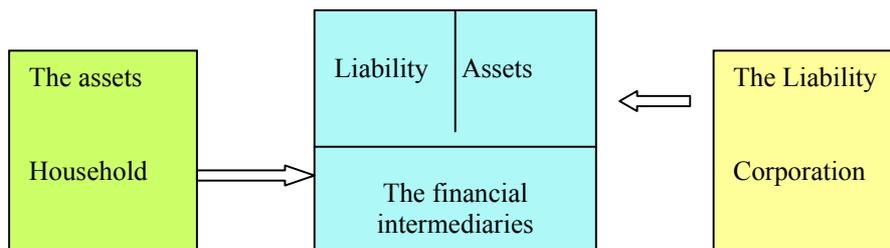
T-account



This picture will not change completely with the assumption of a positive propensity to save of the labour force. In this case, the liquidity can be channelled back to the corporation sectors in the same way like distributed profits, directly via the capital markets or indirectly by deposits at the corporate banks and banks credits to the corporations sectors.

This sketch may show the fundamental functions of the banking system and capital markets. The different ways of corporate finance (shares, bonds and bank credits) co-exist, but the importance of the different modes changes in time and between nations. Clearly, as a bridge to communicate the household sector and the corporate sector together, the liability of the financial intermediaries is the same as the asset of household, and the assets of the financial intermediaries can be observed as the liability of the corporation sector. So, the problem about the change of the financial industry can be transformed into a problem on the change of “Asset in household and the Liability in corporation”(Figure 3-16).

Figure 3- 16: The relationship of the three economic sectors



3.2 The analysis of Social Capital Flow in USA and Germany: the supply and the demand

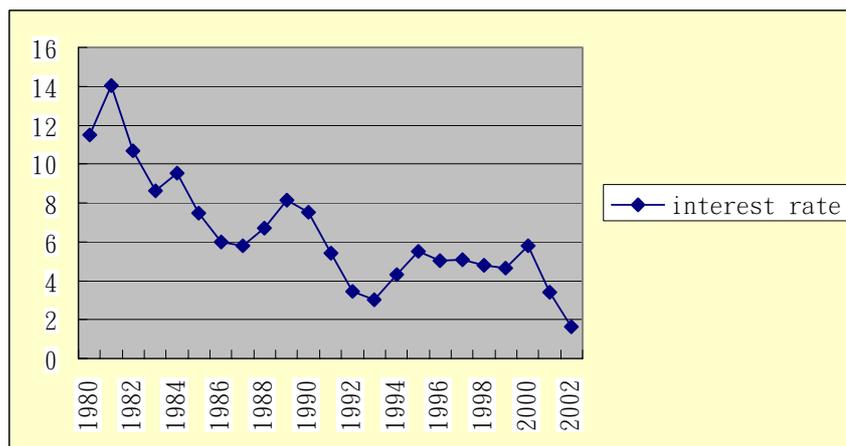
The behavior of the household and the corporations play a fundamental role in the transformation of the bank industry. So, the common transformation tendency of the bank industry in the world stemmed from the following unavoidable elements related with the behavior of the households and the corporations.

1. From the perspective of capital supply

Definitely, on liabilities side, the financial innovation has caused the bank to suffer the declines in their cost advantage in acquiring funds. The fund supply to the bank industry has been changed.

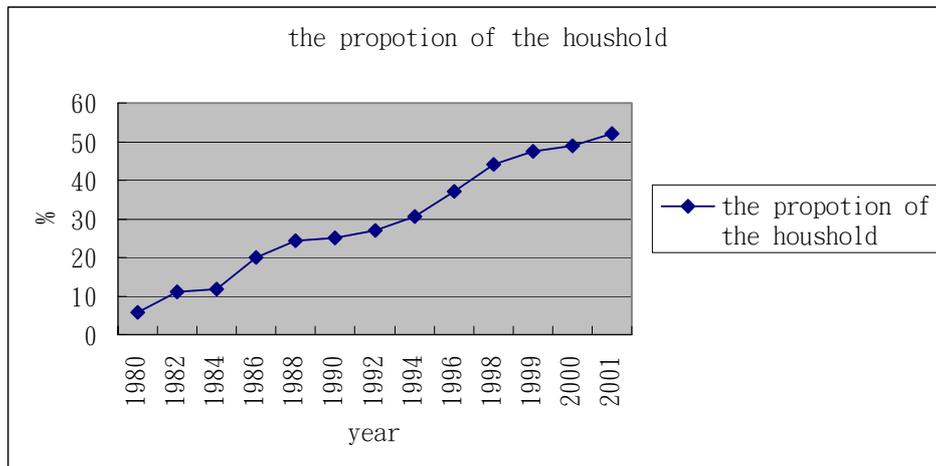
In the U.S., the development of the security markets and Mutual Funds erode the territory of the low-cost deposit. Declining interest rate levels in the late 1980s and early 1990s prompted the shift in household savings patterns. Household savings in the form of bank deposits were switched to other investment instruments, such as the mutual funds and securities in order to get more earning (Figure 3-17 and 3-18). As a result, the capital supply of the householders to the banks begins to decline and the bank lost their advantage to accumulate low cost capitals.

Figure 3- 17: Interest Rate of three month bills in U.S.A



Resource: Federal Reserve: <http://www.federalreserve.gov/releases/h15/data/a/tbsm3m.txt>

Figure 3- 18: The proportion of U.S households owning Mutual Funds, 1980-2002 (1), select year



Source: Federal Reserve Board and Investment Institute

In Germany, until the 1980s, more than half of private savings were regularly deposited with banks. This was mainly because, after the 1948 currency reform, Germans had to first build up savings again and bank deposits were their natural choice, particularly because safety was more important to them at the time than obtaining as high a return as possible. Besides this, the German capital markets, especially the stock markets have remained underdeveloped for a long time. During the 1980s, the picture began to change. Many citizens now had considerable financial assets at their disposal and began to seek ways of investment in order to obtain better returns. Securities began to attract growing interests. At the same time, improvements of the German capital markets and easier access to foreign securities gave investors a steadily growing range of investment facilities that allowed them to satisfy their own special needs. The introduction of the Euro also created a broad, liquid European financial market offering many different types of investment without any exchange rate risk. The stock market boom between 1995 and spring 2000 further boosted this trend. Besides their growing interest in securities, Germans began to turn increasingly to life insurance as a way of saving once it became clear that, due to the financial strain on the statutory pension insurance scheme, pensions from the existing system were not enough to guarantee them a standard of living after retirement that was more or less equivalent to that which they enjoyed during working life. This change in behaviors meant that, particularly in the second half of the 1980s, a much larger share of private savings was placed in insurance and securities than in bank deposits (Table 3-17).

Table 3- 17: Formation of financial assets by private households

	Billion EUR		Percentage share of financial assets (%)	
	1991/1995	1996/2000	1991/1995	1996/2000
	Cash and bank deposits	263.6	106.2	35.9
Investment in securities	195.6	212.0	26.6	31.8
Other participating interests	22.7	16.4	3.1	2.5
Claims on insurance companies	207.9	293.9	28.3	44.1
Other claims	43.8	38.0	6.0	5.7
Total	733.6	666.5	100.0	100.0

Source: Capital Finance Account of the Deutsche Bundesbank; author own calculations

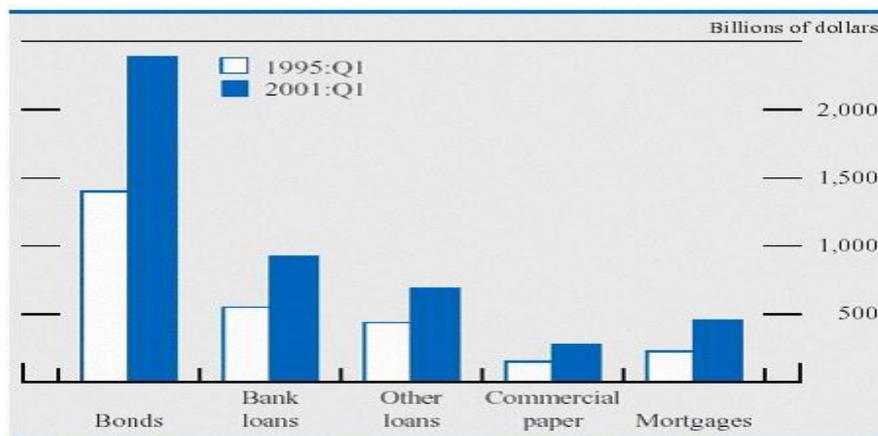
Meanwhile, savers to ensure that they have access to liquid funds and have access to bridge periods in which interest rates are low and stock market prices are sluggish, chiefly using bank deposits. Savers have also become more yield-conscious when they deposit funds in banks. The classical savings book has, for example, lost steadily in importance since the early 1990s. Savings deposits are now offered virtually only as ‘special savings facilities’, i.e. as deposits carrying a special rate of interest that the bank has to pay if the saver keeps these deposits for longer than a certain period.

2. From the perspective of demand.

On the other side, from the perspectives of demand, traditional banks also have lost income advantages on the assets side of their balance sheet. In the U.S.A, before the advent of computers and advanced telecommunication, it is difficult to acquire information about the financial situation of a firm that might want to sell securities or commercial papers. Because of the difficulty in screening out bad from good credit risk, the only firms that were able to sell bonds and commercial paper were very well established corporations that enjoy high credit rating and fame. Most of the corporations have to depend on the bank to raise their demanding capital. With the improvement in information technology in the 1970s, it became easy for investor to screen out bad from good credit risk, thus making it more likely that they would buy long-term debt securities or commercial papers from less known or small companies. That means that the companies can gradually decrease the demand for bank capital. As a result, the market share of

traditional banks and thrift institutions shrunk dramatically. As a source of fund to non-financial borrowers, the share of commercial banks has reduced from about 40% in 1974 to below 30% in 1999, while at the same time, thrift institutions declined from over 20% in the late 1970s to below 10% today. That shows us clearly that bank-making loans are no longer as important in our financial system as it ever being. Since 1995, corporations have relied most heavily on the bond markets for external funds. At the end of 2001, bond debts were about \$2.5 trillions, up from less than \$ 1.5 trillion at the beginning of 1995 (figure 3-19). Both investment-grade and below-investment-grade (junk bond) firms raised large sum of money over the periods.

Figure 3- 19: Credit Market Debt Owned by the Corporate Sector, 1995:Q1 and 2001:Q1



Source: Flow of Fund Account in U.S Note: Debt outstanding at the end of quarter. Debt includes tax-exempt industrial revenue bonds. “Other loans” are (1) loans from saving institutions, federal government, financial companies, and the rest of the worlds (that is foreign source).(2) acceptance liabilities to banks.

In Germany, the pattern of corporate financing has also changed. Traditionally, loans from domestic banks, along with trade credits, traditionally dominate the corporate market (chapter 5). However, this pattern has changed since the start of the 1990s.

Firstly, enterprises now obtain more capital in the markets than they used to. One main reason for this is the stock market booms in the second half of the 1990s. Even though the subsequent market downturn temporarily curbed enterprises' willingness and ability to obtain funds from outside, the stock markets in Germany has stirred from its slumber and external capital is likely to continue to play a more important role in the future than it has done in the past.

Secondly, European Monetary Union has made bond issues more important as a source of

corporate financing. The bigger market has greatly increased the potential for placing bonds issued by private non-banks.

Thirdly, the most serious change in the pattern of corporate financing as far as banks are concerned is that growing tendency to obtain funds through affiliates abroad. Between the end of 1995 and the end of 2001, domestic enterprises' debt with foreign affiliates grew by around EUR 270 billion. During the same period, domestic banks' total lending to domestic enterprises increased by EUR 245 billion. This goes particularly for large and medium-sized enterprises that are part of multinational groups. In contrast, small and medium-sized enterprises still raise funds mainly by borrowing from domestic banks. Besides of these preceding common elements, the pressures to push the transformation of the German banking system are manifold. The most significant one stems from the formation of the European Union and the introduction of the Euro as the single currency. The world's largest domestic financial market is in the process of being created and this has opened up possibilities for previous local players to become global players. On the other hand, the formation of the European Union has made the European market comparable in size to the U.S. market and this fact alone has brought its own pressures on the German banks. This attracts more attention of the international big banks to make competition here. Consequently, performance standards of all European banks, as measured by the return on equity (ROE) and/or cost-income ratios are now being compared with the U.S. counterparts. The larger German players now consider themselves in direct competition with the larger U.S. players in the global financial arena. Finally, the EU has also brought about increased external competition through its impact on the integration of capital markets and on price transparency.

In short, as we see from the comparative analysis, the banks in both countries are diversifying away from traditional banking as evident from the decline in the deposits to total assets ratio and relying more and more on fee-based non-traditional income sources.

4. Conclusion

Rooted in the different historical, cultural and economic backgrounds, the financial system in U.S.A and that of Germany are far from each other. However, by analyzing the transformation of bank industry in USA and in Germany respectively, we find, persistent advances in information and computing technologies, the deregulation and internationalization of banking and financial

markets has changed the balance of the financial industry in both these countries substantially. One of the most obvious characters is that the banks more and more entered into the security and non-traditional business. The banks in both countries are diversifying away from traditional banking as evident from the decline in the deposits to total assets ratio and relying more and more on security business or fee and commission business.

III. Risks and regulations of the current bank industry

1. Empirical investigation about the impact of non-traditional bank business on the risk and profit of the bank industry

1. Theoretical argument on the impact of the non-traditional bank business

As we pointed out in the previous chapter, deregulation, new technology and financial innovation have eroded banks' comparative advantages from the both assets side and liability side and made it easier for non-bank competitors to enter these markets. As a result, commercial banks' lending and deposit-taking business has declined in recent years. In response, banks have shifted their sales mix toward non-interest income. The recent increase in the importance of non-interest income has come from several sources. First, banks have expanded into less traditional fee-for-service products such as insurance and mutual fund sales, and (limited) investment banking activities. Second, banks now charge explicit fees for a number of financial services which traditionally had been bundled together with deposit accounts and which customers previously had paid for by accepting lower interest rates on deposits. For example⁷⁹, retail customers might receive higher interest rates on their deposits but have to pay explicit fees for visiting bank tellers, and correspondent banking customers might now earn interest on their compensating balances but have to pay explicit fees for data processing services. Third, with the prosperity of the security market in 1990s, bank diversifies its assets to the security market and hope to earn more from investment assets. Fourth, the growth of credit card, securitization in mortgage and other loan markets has presented banks with opportunities to earn fee income from originating and servicing loans separate from interest income earned by holding loans on the books. Further expansions of fee-based activities are likely in the near future as the legal barriers between commercial

⁷⁹ Kaufman, George G. and Larry R. Mote, (May/June 1994), 'Is Banking a Declining Industry? A Historical Perspective', Economic Perspectives, Federal Reserve Bank of Chicago pp. 17.

banking, investment banking, and insurance industries become more blurred or disappear entirely. ...Kaufman and Mote (1994) show that non-interest income comprised an even larger percentage of operating income at U.S. commercial banks after 1980s⁸⁰.

The conventional wisdom among bankers, bank regulators, and bank analysts is that fee-based earnings are more stable than loan-based earnings, chiefly because they are less sensitive to movements in interest rates and to economic downturns. Furthermore, the general feeling is that adding fee-based activities to a traditional mix of banking products will reduce earnings volatility *via* diversification effects. In addition, with an expanded investment opportunity set, firms can now seek more profitable investments in areas that were previously forbidden. Meanwhile, the ability to enter into other lines of business also allows firms to realize certain economies of scale and scope in their business and to promote efficiency. If these claims are true, banks that produce broad mixes of financial services should be less risky than pure financial intermediaries, and the typical commercial bank should be better able to weather economic downturns today than it was a decade ago. Taking this logic one step further, these arguments imply that further expansion of bank powers — to underwrite securities and insurance, to investment in security market — would reduce further the risk of commercial banks.

However, there are a number of reasons to doubt this conventional wisdom. First, banks could have qualitatively different relationships with fee-based customers than with their traditional loan-based customers. Revenue from a bank's traditional lending activities is likely to be relatively stable over time, because switching costs and information costs make it costly for either borrowers or lenders to walk away from a lending relationship. Revenue from fee-based activities is more likely to fluctuate from period to period, because banks face relatively high competitive rivalry, relatively low information costs, and less stable demand in a number of these product markets (e.g., investment advice, mutual fund and insurance sales, data processing services). For example, fee income in the banking industry from mutual fund sales fell by about 50 percent in 1994, a short-run fluctuation in revenue that would be unthinkable in the lending business where, even during an economic downturn, only a small percentage of

⁸⁰ Kaufman, George G. and Larry R. Mote, (May/June 1994), 'Is Banking a Declining Industry? A Historical Perspective', *Economic Perspectives*, Federal Reserve Bank of Chicago, pp. 2-21.

loans stop making interest payments.

Second, the input mix needed to produce fee-based financial services can be quite different from that needed to produce more traditional intermediation-based products. The key here is that a high ratio of fixed-to-variable expenses increases the bank's operating leverage, which turns any given amount of volatility in revenues into an even greater amount of earnings volatility.

Once a bank has established a lending relationship with a customer, increasing the amount of credit actually requires the bank to increase its variable costs (interest expense), which reduces its operating leverage. In contrast, expanding the production of certain fee-based services can require the bank to hire additional fixed labor inputs, which increases its operating leverage. This point is underscored by a quotation from a Standard & Poors analyst regarding J.P. Morgan & Co.: "Over the last decade, the company's business mix has evolved, so that it has become increasingly reliant on...underwriting, advisory services, and trading. This profile has rendered earnings more volatile. The expense base has also become quite high, so that earnings could be vulnerable to revenue declines". Third, bank regulators do not require the bank to hold any capital against many fee-based activities and banks that take advantage of this can increase their returns to equity. For example, a Dean Witter Reynolds analyst concluded that Mellon Bank Corp. redeemed \$160 million of its in preferred stock in the aftermath of purchasing securities giant Dreyfus Corp. because the combined firms "...don't need as much capital for their fee business as they have for the spread business"⁸¹. Although most banks will internally allocate some capital to these activities, the lack of a regulatory capital requirement suggests a higher degree of financial leverage -- and thus earnings volatility -- for these products. Finally, there is evidence from the academic literature. Over the past two decades, a substantial number of studies have investigated whether a repeal or revamp of the Glass-Steagall Act would allow commercial banks to reduce risk by diversifying into currently non-permissible, nontraditional financial services. Although most of these studies, which we will review below, find that combining banking and

⁸¹ Kenneth Spang , (1999), 'Narrow Banks: An Alternative Approach to Banking reform' , Federal Reserve Bank of Kansas City

non-bank activities creates the *potential* for risk-reducing diversification, these studies also find that some non-bank activities tend to increase bank risk; that the returns to diversification quickly diminish; and that any risk reduction achieved via diversification can be undone by taking other risks, such as increased financial leverage. These observations lead us to reconsider the popularly held belief that increased fee-based activity tends to reduce the volatility of earnings at commercial banks. So, it looks that it is an empirical task to get a conclusion to this long-run argument.

2. The objective and the character of this chapter

2.1 The brief introduction on bank risk

According to the conception of Zvi. Bodie and Robert C. Merton, the uncertainty brings forward risk. That means the word ‘risk’ is usually used to describe the loss coming from the uncertainty in the economic operation.⁸² Because of the special roles played by banks in the macro economic development, bank risk always draws more attention of the regulator. Normally, the following three kinds of bank risks are discussed in relevance to the non-traditional business. First is the interest risk. The asset-liability mis-matches cause bank interest risk normally. If, for instance, the interest rate rises up, banks’ revenue coming from the fixed interest bond and loan will decrease, which damages the market value of bank asset and leads to lower profits and higher risks of default. Second is the market risk. It is well known, that the financial market is volatile. When the bank makes its transaction in the financial market, it is always exposed to market risk in the form of asset-liability mismatches or wrong anticipation in its proprietary trading. What is more, none of them can avoid from the systematic risk in the financial market. Finally, the default risk of the bank is frequently mentioned. The default risk of the bank means the risk of the bankruptcy.

2.2 The brief introduction about the objective and the structure of the empirical study

Since 1970s, there has been a wide range of empirical studies testing the risk impacts of

⁸² Zvi. Bodi and Robert C. Merton, (2000), ‘Finance’, Prentice – Hall, inc, pp. 248.

regulatory changes and the business transformation. However, to the best of our knowledge, up to now, no empirical studies have systematically addressed the non-traditional business's impact on bank risk exposure and profitability factually. One of the reasons should be that the overall deregulation happened only a few years ago around the world. So, the focus of this study, however, is on the effects of a set of non-traditional business, in particular, the security business, which enjoys the rapidest development in recent years in the bank operations, on bank's risk exposure and profitability respectively. By examining the performance of banks in U.S.A, Germany and Japan in risk and profitability during the 1993-2001 periods, which captures the recent financial deregulation worldwide, this paper will employ a panel equations model to simultaneously test impact of different kinds of non-traditional activities on bank risk exposure and profitability.

In order to build up the relationship between the various bank business lines and the bank risk exposure, a model is built, in which the 15 different kind of bank business are used as the explanatory variables; meanwhile, the market risk sensitivity, the interest risk sensitivity, the default risk exposure and the bank profitability serve as the dependent variables. What should be noted here is, the variables of banks' different business lines can be easily drawn out from the banks' balance sheet or income statement. However, some of the dependent variables here (the market risk sensitivity, the interest risk sensitivity...) will have to be concluded by another expanded CAPM model in advance. Consequently, the whole regression process is named as the two-step statistic regression model. In the first step, all of the dependent variables are drawn out. And then, the second step will make the investigation on the relationship between the explanatory variables (the different bank business lines) and the dependent variables here (the market risk sensitivity, the interest risk sensitivity...).

In comparison with other previous literatures (Dimson, E., 1979 and Flannery, M. and C. James, 1984), which investigated the relationship between the banks' composite return (the independent variable) and the different bank business lines (the dependent variable) simply, the advantage of the two-step statistic regression model looks obvious.

Firstly, the aggregate risk exposure of the bank is decomposed into two different parts, the average market risk exposure and the interest risk exposure. And then, the relationship between the different bank business lines and the different risk exposures can be tested

respectively. Finally, in order to get an overall impression about how the different bank business lines influence the aggregate risk exposure of the bank, a special variable is added into this two-step model. That is the ‘Default Risk Variable’.

The structure of the present study is arranged as follows. Section 3 discusses how the dependent variables can be derived from the expanded CAPM model and other data source. In addition, the proxy of explanatory variables and the research methodology are addressed as well. Section 4 presents the data. Section 5 reports the empirical results. Section 6 contains the conclusions and implications. Finally, section 7 will take the research a step further by discussing the impact of the extension of the bank business lines on the consumer interests.

The source of Data:

The data used in the whole research consist of monthly stock return data for 68 banks in U.S, 79 banks in Japan, and 14 banks in Germany, whose stocks were traded publicly during the period 1993.01 to 2001.12, to induce the banks’ different kinds of risk exposures and profitability as dependent variables. Yearly data of balance sheet ratios and income statements for each bank are then used as explanatory variables. The sample databank was constructed by matching banks listed in the 2003 and 2001 Bankscope database for their yearly financial statement with those from the Datastream for their monthly stock return data. The sample databank includes nearly all the largest banks in the three countries, as well as many smaller ones. Datastream provides other financial data, like the interest rate and the stock market return, too.

3. Methodology

3.1 Calculation of the dependent variables

3.1.1 Two Factor Market Regression Model of bank stocks

The foundation for the calculation of the dependent variables in this paper is a two factors

model regressions of the return on a bank's common stock ($R_{j,t}$) to the return on the market ($R_{m,t}$) and a term designed to capture changes in interest rates ($R_{i,t}$). The first term is a typical CAPM model, the second term, change of interest rate, is added here to address the particular importance of interest risk to the banking industry. If we acknowledge banks as financial institutions who collect short term money from the depositors and lend them to the borrowers, we also acknowledge the unmatched of banks' asset and liability, which exposes banks to the risk of interest rate change. If, for instance, the interest rate rises up, banks' revenue coming from fixed interest bond and loan will decrease, which damages the market value of bank asset and leads to lower profits and higher risks of default. The basic form of the regression⁸³ is:

$$R_{j,t} = b1_{j,t} * R_{m,t} + b2_{j,t} * R_{i,t} + c + e_{j,t} \quad (1)$$

$R_{j,t}$: the composite stock return of bank j at the special time period t ,

$R_{m,t}$: the market return at the special time period t ,

$R_{i,t}$: the change of interest rate at the special time period t ,

$b1_{j,t}$: regression coefficient reflects the individual bank's exposure to the market risk at the special time period t ,

$b2_{j,t}$: regression coefficient represents the individual bank's exposure to the interest risk at the special time period,

j : represents the individual banks respectively, and $j = 1, 2, \dots, 68$ for U.S.; 79 for Japan; 14 for Germany,

$t = 1, 2, \dots, 12$ for 12 months in each year

c : absolute term

The variables used in the model are calculated and explained as follows:

$R_{j,t}$ is the composite stock return of bank j at the special time period t , which consists of the average dividend (D_j) in each month and the capital gain from the stock price variation ($p_{j,t} - p_{j,t-1}$).

So,

$$R_{j,t} = [(D_j / 12) + (p_{j,t} - p_{j,t-1})] / p_{j,t-1}$$

(Note: the D_j means the annual dividend.)

Among the above formular, we assume,

$$d_{j,t} = D_j / (12 * p_{j,t-1})$$

83 Note: In the formula (1), all of the data of $R_{j,t}$, $R_{m,t}$ and $R_{i,t}$ will be given in the form of percentage in the following calculation.

$d_{j,t}$ is named as dividend yield. The dividend yield expresses the dividend share as a percentage of the share price⁸⁴. At the same time, here, what should be explained is, according to Taylor rule, when $(p_{j,t} - p_{j,t-1})$ is quite small, $\ln(p_{j,t} - p_{j,t-1})$ can be used to substitute for $(p_{j,t} - p_{j,t-1})$.

$$R_{j,t} = [(D_j / 12) + (p_{j,t} - p_{j,t-1})] / p_{i,t-1} = d_{j,t} + (p_{j,t} - p_{j,t-1}) / p_{i,t-1} = d_{j,t} + \ln(p_{j,t} / p_{i,t-1})$$

$R_{m,t}$ is the market return, defined by:

$$R_{m,t} = (M_{i,t} - M_{i,t-1}) / M_{i,t-1} = \ln(M_{i,t} / M_{i,t-1}),$$

While $M_{i,t}$ is the stock market index at the time period t , which equals Wilshire index for U.S.A, DAX 30 performance indexes for Germany and NIKKEI 500 price index for Japan. The Wilshire 5000 Index is a market capitalization-weighted index that includes virtually all stocks traded in the U.S. It is considered to be the most broad-based domestic market proxy available (Radcliffe: 1994, p. 105). The reason why we choose Wilshire index instead of the Dow Jones Index lies in the point that the 68 sample banks in U.S. are listed in several different stock exchanges like the New York Stock Exchange, the American Stock Exchange as well as local stock exchanges countrywide. So the Wilshire index is used as a proxy for a composite market index for all the sample banks in American.

$R_{i,t}$ is the change of interest rate, defined by $R_{i,t} = i_t - i_{t-1}$. Although there is a series of different kinds of interest rates in each country, we choose the 1 month inter bank interest rate as the proxy for the general interest rate level used in the equation. The coefficient of market return $b_{1j,t}$ is a proxy for the banks' exposure to the market risk. The coefficient of interest rate term $b_{2j,t}$, measures the return of bank's stock to changes in interest rates, controlling for changes in the return on the market. In that sense, it can be interpreted as a measure of bank's interest rate risk exposure. A positive interest rate beta implies that the return of the individual bank should increase with the rising of the interest rate, while a negative beta implies the opposite. Thus, the sign and magnitude of the interest rate beta give an indication of the direction and extent of the re-pricing mismatches inherent in a BHC's on and off-balance

⁸⁴ The dividend yield can be got from the Data stream as a monthly-based data.

sheet positions.⁸⁵

Using the two factors market model raises a major problem: There is probably a simultaneous relationship between the rate of market return and the change of interest rate. When interest rate picks up, the market is quite likely to go down due to different kinds of channels; on the contrary when the interest rate is cut, the market usually responds positively. That indicates a possible interaction between $R_{m,t}$ and $R_{i,t}$.

In order to “purify” the interaction between $R_{m,t}$ and $R_{i,t}$ and therefore get a *total* measure of each BHC interest rate risk exposure and market risk exposure, previous literatures use two methods according to an arbitrary logic relationship between the market return and interest rate. On the one hand, if change of interest rate is arbitrarily chosen as prior to the market, we can decompose the market return variable, $R_{m,t}$, into two portions by regressing it on a constant and $R_{i,t}$

Assuming a linear relationship between $R_{i,t}$ and $R_{m,t}$.

$$R_{m,t} = f(R_{i,t}) + e = a R_{i,t} + c + e_{i,t}$$

The residuals $e_{i,t}$ from this regression capture the portion of $R_{m,t}$ that is uncorrelated with the interest rate term, $R_{i,t}$. By substituting these residuals for $R_{m,t}$ in the market model equation, the coefficient on $R_{i,t}$ will reflect the total influence of the interest rate to the bank stock return. On the other hand, if the market return is chosen as prior to the interest rate, we might decompose $R_{i,t}$ and then use the residuals to capture the portion of $R_{i,t}$ that is uncorrelated with $R_{m,t}$.

But these two methods both requires a right choice of the logic priority, otherwise it may lead to the wrong direction. Like Giliberto (1985) elaborated, the arbitral choice of the priority would induce a bias in the t-statistics. At the same time, both these two methods induce a measurement error, which may increase the inaccuracy of the model. Taking account of this shortage, the correlation between R_m and R_i is firstly calculated.

⁸⁵ The interest risk comes from the mismatch of the asset and liability of the bank.

Table 4- 1: correlation between Rm and Ri:

all 3 countries	Rm	Ri
Mean	0.608293	-0.03625
Median	1.058687	-0.01036
Maximum	16.15808	1.07125
Minimum	-18.3816	-1.00125
Std. Dev.	5.528831	0.230705
Correlation		-0.05095
U.S.	Rm	Ri
Mean	0.616172	-0.02342
Median	1.424117	0
Maximum	11.78287	1.07125
Minimum	-12.828	-1.00125
Std. Dev.	4.369171	0.27273
Correlation		-0.06878
Germany	Rm	Ri
Mean	0.652485	-0.04982
Median	1.4326	-0.0255
Maximum	14.33891	0.62
Minimum	-23.0896	-0.76
Std. Dev.	6.761714	0.188763
Correlation		-0.00793
Japan	Rm	Ri
Mean	-0.09934	-0.03619
Median	-0.37653	-0.02033
Maximum	16.15808	0.76928
Minimum	-14.5102	-0.70143
Std. Dev.	5.894553	0.19789
Correlation		-0.08435

Fortunately the correlations of Rm and Ri for all the three sample countries here in the model are all below 10% (see Table 4-1), so that we can just ignore the multi-co-linearity without causing big problems. Therefore, here we just use the original form of $R_{i,t}$ and $R_{m,t}$ in two factors market regression model.

3.1.2 Calculate the coefficients $b_{1,j,t}$ and $b_{2,j,t}$

Now, using the Ordinary Least –Squares (OLS) regression estimation and a matrix calculation to the basic linear model, the coefficient $b_{1,j,t}$ and $b_{2,j,t}$ can be found out. Our target is to draw out the $b_{1,j,t}$ and $b_{2,j,t}$ for every company in every different year respectively. Just like what has been explained above, the equation (1) can be written here once again.

$$R_{j,t} = b_{1,j,t} * R_{m,t} + b_{2,j,t} * R_{i,t} + C + e_{j,t} \quad (1)$$

$R_{j,t}$: the composite stock return of bank j at the special time period t ;

$R_{m,t}$: the market return at the special time period t ;

$R_{i,t}$: the change of interest rate at the special time period t ;

$b_{1,j,t}$: regression coefficient reflects the individual bank's exposure to the market risk at the special time period t ;

$b_{2,j,t}$: regression coefficient represents the individual bank's exposure to the interest risk at the special time period;

j : represents the individual banks respectively, and $j= 1,2...68$ for U.S.; 79 for Japan; 14 for Germany;

$t = 1,2...12$ for 12 months in each year;

c : absolute term.

In order to draw out $b_{1,j,t}$ and $b_{2,j,t}$ from equation (1) for every company in every different year respectively. The following matrix calculations are carried out step by step. This also just reflects the mathematic theoretical idea behind the OLS regression method.

First step:

Assuming a certain company k , the $b_{1,k,t}$ and $b_{2,k,t}$ for this certain company k in a certain year can be calculated as following: In terms of this certain company k and a certain year, the previous equation (1) can be transformed to equation (2):

$$R_t = b_1 * R_{m,t} + b_2 * R_{i,t} + C + e_t \quad (2)$$

R_t is the monthly stock return of company k in every month for this certain year, where $t=1,2...12$ for 12 months in this year. So, R_t has 12 observations in this certain year for company k ;

$R_{m,t}$: the average market return in every month of this certain year;

$R_{i,t}$: the change of interest rate in every month of this certain year;

b_1 , the regression coefficients represents the market risk exposure of company k in this certain year;

b2, the regression coefficients represent the interest risk exposure of company k in this certain year;

c: absolute term.

Making use of the ‘time series regression’ based on the methods of OLS matrix equation, the definite results of b1 and b2 for company k in a certain year can be calculated out.

Second step:

If we would like to get the $b1_{k,t}$ and $b2_{k,t}$ for this certain company k in 9 consecutive years, we just repeat the above said step one for nine times according to the different data each year respectively. And then, the $b1_{k,t}$ and $b2_{k,t}$ for this certain company k in 9 certain year can be calculated out.

Third step:

Now, taking into account of that we have the data of 161 sample companies in three countries (68 for U.S.; 79 for Japan and 14 for Germany), the above-side ‘time series regression’ has to be repeated for 1449 (161 * 9) times, so that the 1449 different $b1_{j,t}$ and $b2_{j,t}$ can be drawn out respectively for 161 companies in consecutive 9 years. Until now, our target has been achieved. That is the $b1_{j,t}$ and $b2_{j,t}$ for every sample company in every year can be drawn out.

Now, we give out three examples to show how to use the above-said method to calculate the $b1_{k,t}$ and $b2_{k,t}$ for the certain company k in a certain year. And then, if the whole $b1_{k,t}$ and $b2_{k,t}$ for all the 161 sample banks in 9 year would like to be got, what we need is repeating the process for 1449 times.

One example: calculation the $b1_j$, $b2_j$ and C in the Deutsche Bank in Germany in 1999

Estimation Equation:

$$R_{j,t} = b1_j * R_{m,t} + b2_j * R_{i,t} + C$$

Table 4- 2: The data of the samples in 1999 in Deutsche Bank:

Obs	$R_{j,t}$	$R_{m,t}$	$R_{i,t}$
1999:01	-0.229879	4.511339	-0.479290
1999:02	1.778468	3.697588	-0.107570
1999:03	-6.317646	-8.154987	-0.004000
1999:04	6.874660	2.686652	-0.159000
1999:05	18.42027	9.002641	-0.395000
1999:06	-5.415729	-6.855782	0.003000
1999:07	18.77281	8.746833	0.060000
1999:08	-2.437803	-6.613706	0.005000

1999:09	12.79820	3.592361	-0.031000
1999:10	-1.260686	-3.688909	0.032000
1999:11	10.08930	7.522605	0.255000
1999:12	-1.715328	7.140279	0.620000

The regression results:

Dependent Variable: $R_{j,t}$				
Method: Least Squares				
Date: 07/06/04 Time: 15:53				
Sample: 1999:01 1999:12				
Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
$R_{m,t}$	1.071669	0.279158	3.838932	0.0040
$R_{i,t}$	-6.707484	6.342389	1.064531	0.3178
C	2.239612	1.787499	1.252930	0.2418
R-squared	0.635399	Mean dependent var		4.279720
Adjusted R-squared	0.554377	S.D. dependent var		8.881619
S.E. of regression	5.928928	Akaike info criterion		6.609882
Sum squared resid	316.3697	Schwarz criterion		6.731108
Log likelihood	-36.65929	F-statistic		7.842258
Durbin-Watson stat	0.960577	Prob(F-statistic)		0.010670

Substituted Coefficients:

$$R_j = 1.07166921 * R_m - 6.707483699 * R_i + 2.239611729$$

Example two: calculation the b_{1j} , b_{2j} and C in the Bank of American in USA in 2000

Estimation Equation:

$$R_{j,t} = b_{1j} * R_{m,t} + b_{2j} * R_{i,t} + C$$

Table 4- 3: The data of the samples in 2000 in Bank of American:

Obs	$R_{j,t}$	$R_{m,t}$	$R_{i,t}$
2000:01	-13.67460	5.911483	-0.656250
2000:02	4.130000	-2.344256	0.082500
2000:03	-1.739578	2.219091	0.021250
2000:04	23.33529	3.080171	0.205000
2000:05	-6.436002	-2.835752	0.160000
2000:06	16.28894	-2.647883	0.371250
2000:07	-18.86499	2.818717	-0.022500
2000:08	10.50592	-2.856725	-0.018750
2000:09	13.87914	6.985912	0.007500
2000:10	5.281018	-5.801458	-0.008750
2000:11	-4.603684	-2.014272	0.000000
2000:12	-14.00767	-9.617197	0.158750

The regression results:

Dependent Variable: $R_{j,t}$				
Method: Least Squares				
Date: 07/06/04 Time: 16:33				
Sample: 2000:01 2000:12				

Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
R _{m,t}	1.183400	0.817916	1.446848	0.1819
R _{i,t}	36.23724	16.23400	2.232182	0.0525
C	0.968943	3.411378	0.284033	0.7828
R-squared	0.366183	Mean dependent var		1.174482
Adjusted R-squared	0.225335	S.D. dependent var		13.30073
S.E. of regression	11.70664	Akaike info criterion		7.970508
Sum squared resid	1233.410	Schwarz criterion		8.091735
Log likelihood	-44.82305	F-statistic		2.599842
Durbin-Watson stat	2.823664	Prob(F-statistic)		0.128481

Substituted Coefficients:

$$R_j = 1.183400338 * R_m + 36.23723938 * R_i + 0.968943$$

Example three: calculation the b_{1j} , b_{2j} and C in Aichi Bank in Japan in 2001

Estimation Equation:

$$R_{j,t} = b_{1j} * R_{m,t} + b_{2j} * R_{i,t} + C$$

Table 4- 4: The data of the samples in 2001 in Aichi Bank:

Obs	R _{i,t}	R _{m,t}	R _{j,t}
2001:01	-5.103478	-6.372258	-0.165710
2001:02	-1.914671	2.024771	-0.110720
2001:03	-3.535961	-9.850228	-0.101430
2001:04	-3.382604	5.615075	-0.209170
2001:05	9.088566	11.21453	-0.039230
2001:06	-0.276979	-5.965493	-0.011540
2001:07	2.359023	-3.362353	0.006150
2001:08	7.952226	-6.925674	-0.002300
2001:09	-13.86638	-14.51017	0.004610
2001:10	10.14705	-2.266033	-0.010000
2001:11	-1.079958	4.061182	0.000000
2001:12	2.978317	-0.480650	0.032310

The regression results:

Dependent Variable: R _{j,t}				
Method: Least Squares				
Date: 07/06/04 Time: 17:33				
Sample: 2001:01 2001:12				
Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
R _{m,t}	0.543426	0.244872	2.219219	0.0536
R _{i,t}	37.69100	22.69534	1.660737	0.1311
C	3.401494	2.140867	1.588839	0.1466
R-squared	0.420805	Mean dependent var		0.280429
Adjusted R-squared	0.292095	S.D. dependent var		6.805547
S.E. of regression	5.725990	Akaike info criterion		6.540226
Sum squared resid	295.0827	Schwarz criterion		6.661453
Log likelihood	-36.24136	F-statistic		3.269403

Durbin-Watson stat	3.454680	Prob(F-statistic)	0.085647
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Substituted Coefficients:

$$R1 = 0.5434255462 * Rm + 37.69099503 * Ri + 3.401493513$$

Undoubtedly, the above said method is too complicated, because this calculation has to be repeated 1419 times. This makes the calculation become almost impossible. In fact, in order to simplify the above said method, the mathematic character of the matrix calculation can be introduced here.

1. The $b1_{j,t}$ and $b2_{j,t}$ of the 68 sample banks in American market from the year 1993 to 2001 can be approached according to the following measures.

Step one: in order to calculating the $b1_{j,t}$ and $b2_{j,t}$ of all these 68 USA sample banks in the certain year 1993, the above said equation (1) $R_{j,t} = b1_{j,t} * Rm,t + b2_{j,t} * Ri,t + C + e_{j,t}$ can be rewritten in the matrix notation, named equation (3)

$$(R_{t,j}) = (Rm,t, Ri,t, 1) (b1_j, b2_j, C) \quad (3)$$

t: describe the different month in 1993;

j represent the different sample company in American market ($j= 1,2,\dots,68$);

$R_{t,j}$: the composite stock return of bank j at the special month t in year 1993;

Rm,t : the market return at the special month t in year 1993;

Ri,t : the change of interest rate at the special month t in year 1993;

$b1_j$, the regression coefficients represents the market risk exposure of company j in the year 1993;

$b2_j$, the regression coefficients represent the interest risk exposure of company j in the year 1993;

c: absolute term.

This matrix notation, in which the data of company j in 12 month of year 1993 is set as a column, is composed of 12 rows (12 months in year 1993) and 68 columns (68 sample companies). Then a matrix of 12 * 68 can be sketched.

$$\begin{bmatrix} R1,1 & R1,2 & & R1,68 \\ R2,1 & R2,2 & & R2,68 \\ & & \dots & \\ R12,1 & & & R12,68 \end{bmatrix} = \begin{bmatrix} Rm1 & Ri1 \\ Rm2 & \\ & \dots \\ & \dots \\ & \dots \\ Rm12 & Ri12 \end{bmatrix} \times \begin{bmatrix} b1,1 & b1,2 & & & & b1,68 \\ b2,1 & \dots & \dots & \dots & & b2,68 \end{bmatrix}$$

That is just similar as the traditional matrix ordinary –Least –Squares (OLS) regression equation:⁸⁶

$$Y = X B$$

Y: the independent variable matrix

X: the exogenous variables matrix

B: the regression coefficient matrix

Then, in order to draw out of the matrix B, the ordinary –Least –Squares (OLS) estimator introduces the following Criterion function, by which the minimum of this function was calculated:

Criterion function:

$$\min_{\beta} [Y - XB] (Y - XB)'$$

From the criterion of this function, the Solution B can be received by the formula (4):

$$\hat{B} = (X'X)^{-1} X'Y \quad (4)$$

Following the similar method, then, b1_j and b2_j in American market for every 68 companies in certain year 1993 can be drawn out in the form of a matrix B.

Step two: calculating b1_{j,t} and b2_{j,t} of all USA bank in every nine years, from 1993 to 2001.

In order to get the b1_{j,t} and b2_{j,t} of all 68 USA bank in nine years, the previous procedure should be repeated nine times in different year, making using of different data in different year. So, we can get 612 (68 sample companies 9 year) b1_{j,t} and b2_{j,t} for all USA bank in nine years respectively (The definite data can be see in Appendix chapter 4).

Table 4- 5: The basic description about the all of the b1_{j,t} , b2_{j,t} and C in U.S.A:

	B1	B2	C
Mean	0.653254	1.882168	2.974939
Median	0.631287	0.000000	2.693354
Maximum	3.992258	75.36270	20.42591
Minimum	-4.037158	-53.66073	-7.263362
Std. Dev.	0.796576	1.369457	2.924642
Skewness	-0.092890	0.629823	0.939622
Kurtosis	7.244541	5.202396	6.510838

⁸⁶ The traditional OLS matrix regression method is detail explained in the ‘Basic Econometrics’ Damodar N. Gujarati 1995 by McGraw-Hill, Inc. P41

Observations	612	612	612

2. Calculating $b_{1,j,t}$ and $b_{2,j,t}$ of banks in German market

Repeating the above said step one and step two for the banks in Germany once again, the corresponding $b_{1,j,t}$ and $b_{2,j,t}$ can be accessed wholly.

For Germany: The basic description about the all of the $b_{1,j,t}$, $b_{2,j,t}$ and C:

	B1	B2	C
Mean	0.336309	0.759300	2.632070
Median	0.152438	0.033002	2.522817
Maximum	1.468236	36.42089	11.64182
Minimum	-0.581176	-31.79916	-4.803928
Std. Dev.	0.453206	0.9154679	2.124002
Skewness	0.604579	0.621022	0.321288
Kurtosis	2.476258	6.815697	5.935660
Observations	126	126	126

3. Calculating $b_{1,j,t}$ and $b_{2,j,t}$ of banks in Japan market

Repeating the above said step one and step two for the banks in Japan once again, the corresponding $b_{1,j,t}$ and $b_{2,j,t}$ can be accessed wholly.

For Japan: The basic description about the all of the $b_{1,j,t}$, $b_{2,j,t}$ and C:

	B1	B2	C
Mean	0.366003	-1.521348	0.448535
Median	0.278247	-0.869527	0.502017
Maximum	6.156727	89.08102	8.203552
Minimum	-0.934879	-82.28674	-9.641643
Std. Dev.	0.504655	1.479196	1.894370
Skewness	3.243700	-0.034324	-0.531690
Kurtosis	30.80430	11.18383	6.532460
Observations	711	711	711

Until now, all of the $b_{1,j,t}$ and $b_{2,j,t}$ for all the 161 sample companies (68 in American, 79 for Japan, 14 for Germany) in every year, from 1993 to 2001, are available.

3.1.3 Calculate the Z-score of default risk: $Z_{j,t}$

Since both $b_{1,j,t}$ and $b_{2,j,t}$ measures a certain kind of bank risk exposure, we still need a risk measurement, which calculates the overall risk of the banks' operation. That is the Z-score (Boyd and Graham: 1999) that we will introduce here as another risk dependent variable. Z-

score measures the default risk of a bank. Given the banks' characteristics as providers of the semi-public goods like the liquidity and settlement, banks' default risk has always one of the greatest concerns of both the banks themselves and the regulator or supervisors. This fact, added by the simplicity of the construction of the indicator, Z-score soon becomes one of the most frequently cited measurements of bank risks in the relevant literature.

Bank default is defined as bankruptcy. Take π as the losses (negative profit), A as the assets and E as the bank equity, we assume:

Return on assets can be described as: $r = \pi / A$

Equity on assets can be described as: E/A

The probability of the bank under the situation, where the losses exceed the banks' equity, so that all equity are eliminated by the losses and banks go default, is:

$$r < k \rightarrow \pi / A < -E/A \quad (\text{note: The sign of } \pi / A \text{ is negative})$$

$$P(\pi < -E) = P(r < -k) = \int_{-\infty}^k \Phi(r) dr \quad (1)$$

Here, $r = \pi / A$ (return on assets)⁸⁷

$$k = E/A$$

$P(\cdot)$ is the probability function and $\phi(r)$ is the density probability function of r .

If r , as usually assumed, is normally distributed, it can be standardize to the 'standard normal distribution' by constructing

$$r' = (r - f) / \sigma$$

Here, f is the true mean of the r distribution, σ is the true standard deviation, so that $r' \sim N(0, 1)$. And then, from the assumption:

$$r < -k$$

The other formula can be drawn out:

$$r < -k \rightarrow (r - f) / \sigma < (-k - f) / \sigma \rightarrow r' < -z \quad (\sigma > 0)$$

Here, $z = (k + f) / \sigma$. z is equal to standard deviation below the gap between equity on Assets and return on assets.

If profits fall to eliminate equity, the sign of z is negative, indicating the bankrupt. In this sense, z is an indicator of the probability of bankruptcy. Then the former equation (1) may be

⁸⁷ Note: here, when the bank makes a loss, the return on assets will be negative.

written as:

$$P(r' < -z) = \int_{-\infty}^{-z} N(0,1) dz$$

This equation indicates the probability of the bank under the situation, where the losses exceed the banks' equity, so that all equities are eliminated by the losses and banks go default.

Here, we substitute sample estimates for f and σ in the following equation and give the estimated value of z , where ϕ is the estimated standard deviation of r :

$$z = (k + f) / \sigma = (E/A + \pi / \bar{A}) / \sigma$$

Here, $k = E/A$;

f : the mean of the return on assets (equal to return on average asset)⁸⁸

E : equity of the bank

π : the return of the bank

σ : It is the standard deviation⁸⁹

Note that the z-Score increase with the increase of 'ratio of equity to assets', and with the increase of 'mean rate of return on assets f '; it decreases with the volatility of asset returns, σ .

Therefore big values of z are associated with low probabilities of bank failure.

One reason why we introduce Z-score as an important risk measurement in the model is that, from a public policy perspective, the risk of failure of bank and bank holding companies is the primary concern regarding bank's expanding into security business. Another reason for using of Z is that it directly test the overall risk of bank, which may not be shown by only looking into $b1_{j,t}$ and $b2_{j,t}$, which measure only one certain kind of bank risk respectively.

Table 4- 6: The basic description about the $Z_{j,t}$ in USA, Germany and Japan:

	USA	Germany	Japan
Mean	1.670021	8.297022	1.383314
Median	1.435630	1.388186	0.894795
Maximum	20.92303	91.43360	38.29049
Minimum	0.443593	0.000000	-0.241020
Std. Dev.	0.833958	4.401719	2.198442

⁸⁸ Due to the lack of the return of asset in every month, the return on average asset is used as an alternative of the mean of the return on assets.

⁸⁹ Due to the lack of return of asset in every month, the standard deviation of monthly stock return is used as an alternative.

Skewness	3.046856	3.040281	0.463683
Kurtosis	19.16318	13.47319	3.080236
Observations	553	103	597

Note: the $Z_{j,t}$ is the annual based data

3.1.4 Calculate the banks' profitability: $P_{j,t}$

The return on average equity each year, ROAE, equal to the earning of certain year divided by average equity in that year, is employed as the dependent variable for bank profitability. Compared with ROE, an alternative measure of profit is the banks' equity market rate of return. Another proxy is the rate of return on average assets (ROAA) (e.g., see Avery and Berger: 1991; Kolari et al: 1996). There is ample precedent for all three of these measures of profitability in the banking literature. With respect to our proxy, we make use of the ROAE. Bankscope provides ROAE for each Bank in each year, with a united global detailed format for all the banks from different countries. So we just simply extract the data from 1993 to 2001 for all sample banks.

Table 4- 7: The basic description about the all of the $P_{j,t}$ (ROE) in USA, Germany and Japan:⁹⁰

	U.S.A (%)	Germany (%)	JP (%)
Mean	15.75652	7.680472	-1.820114
Median	15.64000	7.945000	2.220000
Maximum	54.13000	25.40000	65.78000
Minimum	-2.640000	-64.83000	-357.1100
Std. Dev.	4.475669	8.085950	22.24974
Skewness	1.019869	-6.757887	-8.658188
Kurtosis	13.61215	62.55133	119.7963
Observations	586	106	613

Note: the $P_{j,t}$ is the annual based data

In summary, until now, five dependent variables for the regression in following section can be obtained from the previous contents:

$b_{1,j,t}$: proxy for the individual bank's exposure to the market risk at the special time period t ;
 $b_{2,j,t}$: proxy for the individual bank's exposure to the interest risk at the special time period;
 $Z_{j,t}$: stands for the Z-score of individual bank in every certain year;

⁹⁰ ROAA (net income divided by average assets) is yearly data provided by database Bankscope from 1993 to 2001; (version 2002).

$P_{j,t}$: the only profitability variable for every individual bank at the special time period, equal to ROAE.

Each of the four dependent variables is a series of yearly data for each sample banks in each year. So for all the 161 banks (68 in U. S., 79 in Japan and 14 in Germany) during the whole 9 years period, altogether 1449 data for each variable are extracted so that the panel regression will be carried out in the coming contents.

3.2 Bank's risk exposure and their security business

In this section, we examine the relationship between banks' different kinds of risk exposure estimated above and banks' on- and off-balance sheet activities to get a sense of security business's contribution to Banks' risk exposures. The approach used is based on the methodology developed in Flannery and James (1984), with extensions to banks' several different kinds of security activities. In particular, the risk exposure of banks' is regressed on a series of variables that reflect the composition of the banks' on and off- balance sheets asset and the scope of their security activities. Therefore this analysis can provide insight into the relative risk sensitivity of various categories of assets as well as into the contribution that security business makes to the bank's risk exposures.

3.2.1 Banks' involvement in security business

Banks may involve in security business through three basic forms: The first, or the most important security business that the banks may engage, is the transaction of securities which stand in the banks' balance sheet as banks' own asset, in order to earn the trading margin. The scope of this transaction could be measured with the ratio of security assets trading income over total operating income in the perspective of the income statement; or measured by the ratio of trading security assets to total assets in the perspective of bank balance sheet item.

The second form that banks may involve in the security business is, as agency, providing underwriting service in the primary market and brokerage service in the secondary market. As this agency income from underwriting and brokerage are put into the item of "fee and commission income" by Bankscope, this second security business will be measure in our model by the ratio of fee and commission income to the total operating income of the bank.

The Banks' third security business is the assets management and fiduciary activities, with measurement of other operating income to total operating income, as the income through this channel are mainly included in the other operating income by Bankscope's global detail form of financial statement. Actually with the rapid development of the pension fund and mutual fund industry, in which the banks actively serve as the fiduciary or fund manager, the income from this source has increased steadily in recent decades.

3.2.2 Model and control variables:

The basic estimation model is a panel regression that decomposes the risks of each bank -- as calculated in the market model regressions -- into the contributions made by the various on- and off-balance sheet security activities described above. Previous studies typically regress bank risk and profitability measures on bank activity ratios to separately examine the impact of bank activities on risk (Flannery and James: 1984; Berger and Udell: 1990; Gallo, Apilado and Kolari: 1996). Here we follow this approach. Notice that although our major concern is the impact of security business on bank's risk, a full range of bank activities, not only the security business, but also other kinds of bank traditional activities like credit loan business, liquidity investment, fixed asset investment as well as the off balance sheet derivative investment are used as explanatory variables, so that we might avoid bias of lacking of necessary explanatory variables. In this way, the full range of bank activities including the security business are viewed as "input", while the banks' risk exposures and profitability are taken as the "output".

The control variables are selected from a series of balance sheet ratio and income statement ratio including: FIA, INA, NLA, EQA, OFA, TRA, LTA, ITI, SEI, FEI, OPI. FIA is equal to bank (long term) fixed assets divided by total asset. It serves as a proxy for the impact of operating leverage on bank risk. The higher FIA is, the lower is the operating leverage. So FIA is expected to be negatively related to each of the risk measures and to the profitability. INA is the ratio of investment grade securities to banks' total assets (e.g., see Avery and Berger: 1991; Kolari et al.: 1996). Banks are restricted to holding investment grade securities, which lowers the default risk in the securities portfolios. As such, *ITA* might be negatively

related to each measure of bank risk. Besides that, INA may also be viewed as a proxy for bank liquidity. To measure the impact of loan activities on bank risk, we use the ratio of banks' net loans to total assets, NLA (e.g., see Brewer: 1989; Espahbodi: 1991). Bank loans are relatively illiquid and subject to higher credit risk than other bank assets, implying a positive relationship between NLA and the risk measures. In particular, bank loans are highly interest sensitive assets. Yet the relationship between NLA and interest risk is not clear-cut. When the interest rate increase, the long term, fixed interest loans suffer from depreciation. However, the banks' liability-----deposit also depreciates. So how the bank react to the interest risk depends on the time-structure and the relative amount of bank interest bearing asset and liability.

The natural logarithm of bank total assets, LTA serves as the last balance sheet variable. LTA adjusts for size differences in the aforementioned relationships between the risk control measures and bank risk. However, LTA has also been shown to be a proxy for bank diversification potential (Brewer: 1989). EQA is the ratio of banks' equity investment to total asset. All the investment in the related companies, which are not included in the bank consolidation financial statements, is put into the equity investment. So this is used as a diversification indicator for bank, to shows how much the bank is diversified into other financial firms and other industries. So the EQA is expected to be positive with the banks' market risk exposure and negative with other risks. OFA measures the ratio of bank off balance sheet asset to total asset. This variable is introduced to address the increasing impact of banks off balance sheet asset on the banks' risks and profitability. As the data shows, the average OFA for sample banks reaches the level of 10% and therefore should not be neglected.

TRA equals the proportion of bank trading account asset in the total asset. It is a rough proxy for the scope of banks' trading security, given that other trading account asset like the foreign exchange and precious metals are comparatively small. ITI is equal to net interest revenue over total operating income. It use the net interest Margin as a proxy for bank loan activity, given the fact that loans are major resource of banks' interest revenue. However, this proxy is correct only when other interest bearing asset like the bonds and treasury bills are small.

SEI is the ratio of bank trading security income to total operating income. It measures the contribution of security transaction to banks profitability to serve as a measurement of the relative scale of banks' security transaction activity. FEI equals the banks' net fee and commission income divided by bank total operating income. It reflects the contribution of bank underwriting and brokerage activity to bank profitability, as incomes from underwriting and brokerage are generally put into the item of fee and commission income.

OPI: The extent of bank asset management and fiduciary activity is described by OPI, the ratio of bank other operating income (as bank incomes from this channel are put into the other operating income by Bankscope 2003) to total operating income. Banks earn advisory fees for managing pension fund and mutual fund assets and other fiduciary assets of clients. Since the fund shareholders incur the market risk and credit risk, mutual funds tend to be a low risk activity for banks (Mack, 1993). Therefore, OPI is expected to be positively related to the profitability measure and not significantly correlated with the risk measures. Among the former listed 11 variables, 7 of them come from the bank balance sheet to measure the asset ratio while the other 4 come from the bank annual income statement to measure the income proportion of different bank business. The reason that both asset variables and income variables are used here lies in the fact that some of bank businesses (like the underwriting, brokerage, and asset management) focus on providing services which are highly intelligence, technology and information intensive and therefore can not be measured by simply calculate the tangible asset they possess. Therefore, variables from income statement are introduced to serve as a necessary supplement of variables from balance sheet.

Yet, by introducing income variables and asset variables, another problem rises: the overlap of the control variables. As there are always some bank activities, which would be measured either through the asset composition variables or through income ratios, the criteria to make choices between the two kinds of variable is the accuracy. For instance, security transaction would be measured both through SEI and TRA, while SEI is usually a little bit more accurate than the TRA, which may include the other trading assets like foreign exchanges and precious metals. But as the SEI is lack from the income statements of most German banks, TRA is used in Germany as a second-best choice. On the other hand, in general, the NLA is regarded as more accurate than the ITI as measurement of bank's loan

activities, as the latter might include the interest revenue from bond and treasury bills. But, as Japanese's banks keep writing off a great deal of non-performing assets, which may seriously affect the value of the net loan. ITI is used in Japan as an alternative. Therefore, by incorporating both the balance sheet ratio and income statement ratio, then deleting the overlapped variables for the reason of multicollinearity, we now have altogether 9 control variables: LTA, EQA, OFA, INA, FIA, NLA (ITI is used for Japan for better accuracy), SEI (TRA is used for Germany as an alternative for the lack of data in SEI, and for Japan for the sack of accuracy), FEI and OPI.

4. Data

The data used in the model consist of monthly stock return data for 68 banks in U.S, 79 banks in Japan, and 14 banks in Germany, whose stocks were traded publicly during the period 1993.01 to 2001.12, to induce the banks' different kinds of risk exposures and profitability as dependent variables. Yearly data of balance sheet ratios and income statements for each bank are then used as explanatory variables. The sample databank was constructed by matching banks listed in the 2003 and 2001 Bankscope database for their yearly financial statement with those from the Datastream for their monthly stock return data. The sample databank includes nearly all the largest banks in the three countries, as well as many smaller ones. Datastream provides other financial data, like the interest rate and the stock market return, too. A possible bias may rise from the small number of sample banks in Germany, which is a representative for European continental countries who differs institutionally from U.S. and Japan in their long history of universal banks. But given the particular German financial system that only the big commercial banks who operations nationwide are publicly listed, the 14 banks are all the sample banks we could find in Datastream for their stock return data.

Each control variables are extracted from the Bankscope 2003 and 2001, which provides yearly financial data covering all the 161 sample banks for the whole 9 years period. So, 1449 observations are ready for each variable on the purpose of panel regression. All the variables are automatically tested by STATA to eliminate the multi-collinearity problem. The correlations for most of the control variables used in the model are below 40% (see table 4-9),

so that the method of panel linear regression can be used here.

Table 4- 8: The descriptive statistics of the dependent variables and control variables (for all 3 countries)

	Mean	Median	Maximum	Minimum	Std. Dev.
B1	0.484744	0.380604	6.156727	-4.03716	0.656656
B2	0.114479	0	89.08102	-82.2867	14.01165
Z	2.078175	1.176034	91.4336	-0.24102	5.23019
P	0.609586	0.28	4.06	-4.73	0.805565
Nla	70.14763	69.6	100.5102	13.9	14.35806
Ofa	6.092294	2.275363	130.6682	0	12.85681
Ina	17.01326	15.731	73.95625	0	11.27877
Fia	1.497221	1.427395	4.468855	0	0.692216
Eqa	0.620272	0.004064	10.26469	0	1.141675
Lta	8.618919	8.331393	13.37264	4.380776	1.472717
Fei	7.428883	6.588421	60.86182	-8.68762	6.876676
Sei	1.01722	0.059487	20.7127	-17.9959	3.050951
Opi	18.7041	15.57377	82.84195	-1.25217	14.00632
Fui	5.429417	4.341534	57.04787	0	6.427828

Note:

b1 represent all of the 1149 $b1_{j,t}$ (68 sample companies \times 9 years);

b2 represent all of the 1149 $b2_{j,t}$ (68 sample companies \times 9 years);

Z represent all of the 1149 $Z_{j,t}$ (68 sample companies \times 9 years);

P represent all of the 1149 $P_{j,t}$ (68 sample companies \times 9 years);

Table 4- 9: correlation between control variables (for all 3 countries)

	Nla	Ofa	Ina	Fia	eqa	Lta	fei	Sei	opi
Nla	1								
Ofa	-0.20117	1							
Ina	-0.46095	-0.0545	1						
Fia	-0.05863	-0.01143	0.226749	1					
Eqa	0.350152	-0.05104	-0.38665	-0.19149	1				
Lta	-0.31245	0.116026	-0.00079	-0.25208	-0.18277	1			
Fei	-0.33346	-0.02169	-0.03917	0.082327	-0.08056	0.114037	1		
Sei	-0.19735	0.016733	-0.07972	-0.18768	-0.01914	0.217722	0.239447	1	
opi	-0.51589	0.305113	0.070531	0.172532	-0.2299	0.288642	-0.13903	-0.03755	1

5. Empirical results

5.1 The second regression model: the relationship between the different bank risks and the different kind of bank businesses

Just like above-said, the two factors market regressions model was estimated annually between 1993 and 2001 for each bank whose stock traded publicly. This process results in a series of $b1_{j,t}$, $b2_{j,t}$, $b3_{j,t}$, and $b4_{j,t}$ for every bank (j) in each year (t) respectively. So Taking into account of our 161 samples banks (68 for U.S., 79 for Japan, 14 for Germany) for 9 years, the previous regression calculation generates 1449 (161 × 9) observations for each control variable ($b1_{j,t}$, $b2_{j,t}$, $b3_{j,t}$, and $b4_{j,t}$) in panel form.

In the model (1) each of the five dependent variables are independently regressed on all the 9 explanatory variables and a constant. Written in the form of matrix, the model is expressed as:

$$(b1_n \ b2_n \ Z_n \ P_n) = (LTA \ EQA \ OFA \ INA \ FIA \ NLA \ SEI \ FEI \ OPI \ L) \ P \quad (1)$$

Assume:

C = LTA, D= EQA, E= OFA, F= INA, G= FIA, H= NLA, I= SEI, J= FEI, K= OPI, L=1; In terms of these 10 controlled variable, every of them have 1149 observation (161 sample banks × 9 years)

•

And then,

$b1_n$: proxy of $b1_{j,t}$, It represents the proxy for the individual bank's (j) exposure to the market risk at the special year t. $b1_n$ have 1149 observations (161 sample banks × 9 years).

$b2_n$: proxy of $b2_{j,t}$, It represents the proxy for the individual bank's (j) exposure to the interest risk at the special year t. $b2_n$ have 1149 observations (161 sample banks × 9 years).

Z_n : proxy of $Z_{j,t}$: It stands for the Z-score of individual bank (j) in special year t. Z_n have 1149 observations (161 sample banks × 9 years).

P_n : proxy of $P_{j,t}$: It describes the only profitability variable, equal to ROAE. P_n have 1149 observations (161 sample banks × 9 years).

So, we can rewrite the equation in this simplified form.

$$(b1_n \ b2_n \ Z_n \ P_n) = (C \ D \ E \ F \ G \ H \ I \ J \ K \ L) \times P$$

In detail, that means:

$$\begin{bmatrix} b_{11} & b_{21} & Z_1 & P_1 \\ b_{12} & b_{22} & Z_2 & P_2 \\ b_{13} & b_{23} & Z_3 & P_3 \\ \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots \\ b_{1n} & b_{2n} & Z_n & P_n \end{bmatrix} = \begin{bmatrix} C_{11} & D_{11} & E_{11} & F_{11} & G_{11} & H_{11} & I_{11} & J_{11} & K_{11} & L_{11} \\ \dots & \dots \\ \dots & \dots \\ \dots & \dots \\ \dots & \dots \\ C_{1n} & D_{1n} & E_{1n} & F_{1n} & G_{1n} & H_{1n} & I_{1n} & J_{1n} & K_{1n} & L_{1n} \end{bmatrix} \times [P]$$

where ($b_{1n} b_{2n} Z_n P_n$) is a 4*1449 matrix, which reflects every sample bank's three kind of risk exposure variables and one profitability variable in each year from 1993 to 2001.

($C D E F G H I J K L$) is a 10*1449 matrix which incorporate 9 control variables and a 1 vector to describe constance. This matrix reflects the 9 different kind of bank business for every sample bank in each year from 1993 to 2001. So, P is the matrix of parameter with 4* 10 matrix size, which reflects the relationship between the different bank risks and the different kind of bank businesses.

The structure of the following paragraph is arranged in two steps. Firstly P is estimated by firstly regressing data from all the 161 samples in three countries. Secondly, P is regressed according to samples in each country independently.

5.2 Empirical results for all the 161 banks from U.S. Germany and Japan

P matrix:

	Lta	Eqa	Ofa	Ina	Fia	Nla	<i>Sei</i>	<i>Fei</i>	<i>Opi</i>	C
(b1)	-0.13	0.01	0.002	0.004	0.078	-0.003	0.019	-0.025	-0.006	1.88
(p-value)	0.049	0.737	0.69	0.428	0.201	0.588	0.119	0.011	0.208	0.002
(b2)	1.484	0.857	0.0142	-0.323	-0.111	0.0836	-0.73	0.337	0.166	-16.679
(p-value)	0.291	0.189	0.899	0.005	0.934	0.474	0.011	0.122	0.127	0.289
(Z)	-0.616	0.094	0.057	-0.002	-0.237	-0.057	-0.09	-0.0316	-0.051	9.336
(p-value)	0.185	0.65	0.106	0.965	0.566	0.108	0.27	0.665	0.129	0.023

(P)	-0.05	0.038	0.005	-0.001	-0.005	-0.004	0.025	<i>-0.005</i>	0.001	1.537
(p-value)	0.021	0.018	0.002	0.85	0.047	0.277	0.004	<i>0.182</i>	0.002	0

Note: FIA is equal to bank (long term) fixed assets divided by total asset; INA is the ratio of investment securities to banks' total assets; NLA measure the impact of loan activities on bank risk, means the ratio of banks' net loans to total assets; TRA equals the proportion of bank trading account asset in the total asset; EQA is the ratio of banks' equity investment to total asset; OFA measures the ratio of bank off balance sheet asset to total asset; LTA represent the natural logarithm of bank total assets; ITI is equal to net interest revenue over total operating income; SEI is the ratio of bank trading security income to total operating income; FEI equals the banks' net fee and commission income divided by bank total operating income; OPI: The extent of bank asset management and fiduciary activity is described by OPI; b1 represents all of the 1149 $b1_{j,t}$ (68 sample companies \times 9 years); b2 represents all of the 1149 $b2_{j,t}$ (68 sample companies \times 9 years); Z represents all of the 1149 $Z_{j,t}$ (68 sample companies \times 9 years); P represents all of the 1149 $P_{j,t}$ (68 sample companies \times 9 years)

The results of the panel regression provide support for the argument of the bank's security business. A significant negative relationship between interest risk, $b2$, and security transaction activities, SEI , is found ($p = 0.011$). This result indicates that one percent increase in bank security activities reduces bank financial-services industry interest risk by about 0.73 percent. With respect of the relationship between market risk, $b1$, and security transaction activities, SEI , ($p = 0.119$), because this result is not statistically significant, there is no proof that security transaction activities will affect bank market risk. The regression results also suggest that security transaction activities increase the profitability of banks ($p = 0.005$).

Banks' underwriting and brokerage service (FEI), according to the panel analysis, could significantly reduce banks' market risk ($p = 0.011$). The intuitive explanation would be that banks' underwriting and brokerage service could provide banks information advantages through closer contacts with listed companies or trading clients which help banks to better cope with their market risks. However, underwriting and brokerage do not significantly affect banks' interest risk exposures ($p = 0.122$). Addition to that, the impact on banks' profitability is still non-significant.

The empirical results also show that asset management and fiduciary activities (OPI) could significantly increase banks' profitability ($p = 0.006$) without any apparent impact on the risks.

All in all, in terms of the default risk, all of the impacts from the above-said three non-traditional businesses are non-significant. That means, there is no proof, the non-traditional business will increase the risk of bank's bankruptcy.

5.2 Sub-sample empirical analysis

5.2.1 Sub sample analysis for U.S.

Coef.	eqa	Fia	ina	Ofa	lta	<i>Fei</i>	<i>Sei</i>	<i>opi</i>	nla	_cons
(b1)	0.039	0.213	0.005	0.004	-0.108	-0.033	0.05	-0.002	-0.004	1.53
(p-value)	0.602	0.207	0.63	0.55	0.293	0.065	0.016	0.786	0.66	0.19
(t-statistics)	0.5	1.26	0.48	0.6	-1.05	<i>-1.85</i>	<i>2.41</i>	<i>-0.27</i>	-0.44	1.3
(b2)	0.804	-0.962	-0.239	-0.028	1.304	<i>0.321</i>	-1.236	<i>0.246</i>	0.238	-24.1
(P-value)	0.575	0.764	0.32	0.829	0.498	<i>0.364</i>	0.004	<i>0.161</i>	0.24	0.31
(T-statistics)	0.56	-0.3	-0.99	-0.22	0.68	<i>0.91</i>	<i>-2.91</i>	<i>1.4</i>	1.17	-1
Coef.	eqa	Fia	ina	Ofa	lta	<i>Fei</i>	<i>Sei</i>	<i>opi</i>	nla	_cons
(Z)	0.033	0.185	-0.014	0.004	-0.557	-0.028	0.027	-0.025	-0.032	7.23
(P-value)	0.795	0.48	0.452	0.714	0.001	0.32	0.314	0.066	0.06	0
(T-statistics)	0.26	0.71	-0.75	0.37	-3.29	<i>-1</i>	<i>1.01</i>	<i>-1.84</i>	-1.89	4.46
(P)	-0.214	-0.717	0.013	0.006	-0.438	<i>-0.018</i>	0.134	0.152	0.003	15.13
(P-value)	0.284	0.4	0.003	0.034	0.19	<i>0.431</i>	0.05	0.03	0.03	0.02
(T-statistics)	2.49	-0.6	-2.96	2.18	-5.01	<i>-0.86</i>	<i>6.01</i>	<i>3.86</i>	-2.31	3.47

Note: FIA is equal to bank (long term) fixed assets divided by total asset; INA is the ratio of investment securities to banks' total assets; NLA measure the impact of loan activities on bank risk, means the ratio of banks' net loans to total assets; TRA equals the proportion of bank trading account asset in the total asset; EQA is the ratio of banks' equity investment to total asset; OFA measures the ratio of bank off balance sheet asset to total asset; LTA represent the natural logarithm of bank total assets; ITI is equal to net interest revenue over total operating income; SEI is the ratio of bank trading security income to total operating income; FEI equals the banks' net fee and commission income divided by bank total operating income; OPI: The extent of bank asset management and fiduciary activity is described by OPI

The examination of the U.S. bank group provides evidence of a significant increase ($p = 0.016$) in market risk as well as significant decrease ($p = 0.004$) in interest rate for the banks, which involve more in the security transaction activities (SEI), which is consistent with the results of the total sample regression. The only difference is that the increase of market risk in the U.S. bank group seems statistically more significant ($p = 0.016$) than the total sample

banks ($p = 0.119$). The banks' profitability is enhanced with the increasing proportion of security trading income (SEI). The impact on banks' default risk is so insignificant that conclusion can only be drawn that the security transaction will affect default risk. Underwriting and brokerage activities (FEI), as suggested by the overall-sample regression, will reduce the market risk ($p = 0.065$). The intuitive explanation would be that banks' underwriting and brokerage service could provide banks information advantages through closer contacts with listed companies or trading clients which help banks to better cope with their market risks.

Asset management and fiduciary (OPI) will significantly enhance banks' profitability and reduce the default risk ($p = 0.066$), which differs a little bit from the conclusion on default risk for the total sample regression, in which the impact is quite non-significant ($p = 0.129$). Perhaps it indicates the particularly high involvement of U.S. banks in the pension funds and mutual funds management, which contribute to the increased significance of the impact on default risk by the OPI.

5.2.2 Subsample analysis for Germany

Coef.	eqa	Fia	ofa	ina	fei	Lta	<i>TRA</i> (pro <i>xy of sei</i>)	<i>opi</i>	Nla	Cons
(b1)	-0.14	0.05	-0.03	0.025	0.016	-0.02	0.022	0.006	0.01	-0.44
(p-value)	0.87	0.95	0.55	0.031	0.009	0.54	0.01	0.049	0.07	0.47
(t-statistics)	-0.16	0.06	-0.59	2.15	2.61	-0.61	-2.58	1.97	1.77	-0.72
(b2)	-0.36	-0.90	-0.11	-0.073	0.269	1.62	-0.36	0.013	0.13	-22.6
(p-value)	0.86	0.61	0.45	0.78	0.062	0.01	0.048	0.826	0.31	0.07
(t-statistics)	-0.17	-0.5	-0.76	-0.28	1.87	2.56	-1.98	0.22	1.01	-1.78
(Z)	3.86	2.95	0.05	-0.479	-0.248	-0.13	0.575	-0.267	-0.10	17.2
(p-value)	0.34	0.37	0.85	0.346	0.376	0.91	0.13	0.05	-0.67	-0.5
(t-statistics)	0.94	0.89	0.18	-0.94	-0.89	-0.1	1.5	-1.94	-0.42	0.67
(P)	1.31	2.42	-0.19	0.39	0.12	-0.07	0.39	-0.04	0.12	-0.37
(p-value)	0.70	0	0.017	0.425	0.031	0.85	0.04	0.967	0.64	0.80
(t-statistics)	0.41	4.67	-2.53	0.79	2.07	-0.21	-1.68	-0.04	0.46	0.24

Note: FIA is equal to bank (long term) fixed assets divided by total asset; INA is the ratio of investment securities to banks' total assets; NLA measure the impact of loan activities on bank risk, means the ratio of banks' net loans to total assets; TRA equals the proportion of bank trading account asset in the total asset; EQA is the ratio of banks' equity investment to total asset; OFA measures the ratio of bank off balance sheet asset to total asset; LTA represent the natural logarithm of bank total assets; ITI is equal to net interest revenue over total operating income; TRA is equal to the banks' total security minus government security; OPI: The extent of bank asset management and fiduciary activity is described by OPI

In the case of Germany, the asset ratio of trading security TRA (which equals the banks' total security minus government security) is used as a proxy for SEI, as most German banks do not report security trading income, perhaps due to the different accounting principle. The impacts of security business on risk and profitability of German banks generally follows the same trend as they do in the total sample bank groups.

However, significant parameters are found for FEI, TRI and OPI on b1, indicating the increased market risks when banks profit from underwriting, brokerage (FEI); asset management (OPI) and direct securities investment (TRI). This is different from the situation in American, in which the impact of FEI is negative.

As what has been stated in the previous literature review, the fee and commission income coming from the underwriting business (FEI) (also the other operating income, which is essentially quite similar with the fee income) could either increase or decrease the volatility of banks, from different respective of views: On one hand, fee-based activities may increase the banks' risk because revenue from fee-based activities is more likely to fluctuate from period to period than the loan business, due to the more fragile relationship between bank and its customers in comparison with the loan business. At the same time, there is a high ratio of fixed-to-variable expenses that increases the bank's operating leverage, which turns any given amount of volatility in revenues into an even greater amount of earnings volatility.

Yet on the other hand, fee-based activities may also lower the banks' risk for fee-based earnings are more stable than loan-based earnings, chiefly because they are less sensitive to movements in interest rates and to economic downturns. Apparently, the empirical regression here in Germany supports the former view of high risks brought by fee and similar activity in security business. In addition, what is remarkable here is, the relationship between FEI, TRI, OPI and b1 follows almost the same trend.

All of these three variables have a positive influence on the market risk. The reason of

this similar changing tendency might lie in the close relationship between German bank and the listed company. Normally, one company is in charge of almost a full range of the financial services for certain company, from underwriting, brokerage to security transaction and assets managements.

5.2.3 Subsample analysis for Japan

Coef.	Eqa	Lta	Fia	Ofa	Ina	Fei	Tra	opi	Iti	_cons
B1	0.04	0.097	-0.04	0.003	-0.01	0.14	0.05	0.13	0.13	-14.0
(p-value)	0.05	0.003	0.18	0.84	0	0	0.03	0	0	0
(t-statistics)	1.93	0.183	-1.33	0.2	-3.74	3.59	2.06	3.64	3.67	-3.7
B2	0.415	0.057	0.277	-1.01	-0.02	-1.5	-1.10	-1.28	-1.29	129.9
(p-value)	0.25	0.91	0.66	0.71	0.64	0.04	0.03	0.07	0.06	0.07
(t-statistics)	1.14	0.11	0.43	-0.36	-0.46	-2.03	-2.17	-1.79	-1.82	1.81
Z	0.055	-0.60	-0.33	-0.05	0.013	0.04	0.006	0.09	0.087	-2.13
(p-value)	0.68	0.03	0.16	0.67	0.57	0.84	0.97	0.67	0.68	0.92
(t-statistics)	0.4	-2.07	-1.38	-0.41	0.56	0.19	0.04	0.42	0.4	-0.1
P	0.74	5.17	0.71	-2.38	0.098	-3.41	-6.93	-2.11	-1.87	15.9
(p-value)	0.45	0.001	0.681	0.003	0.001	0.07	0.61	0.24	0.30	0.87
(t-statistics)	-0.51	3.8	-0.97	-2.69	0.01	-1.93	-0.76	-1.68	-0.96	0.81

Note: FIA is equal to bank (long term) fixed assets divided by total asset; INA is the ratio of investment securities to banks' total assets; NLA measure the impact of loan activities on bank risk, means the ratio of banks' net loans to total assets; TRA equals the proportion of bank trading account asset in the total asset; EQA is the ratio of banks' equity investment to total asset; OFA measures the ratio of bank off balance sheet asset to total asset; LTA represent the natural logarithm of bank total assets; ITI is equal to net interest revenue over total operating income; FEI equals the banks' net fee and commission income divided by bank total operating income; OPI: The extent of bank asset management and fiduciary activity is described by OPI;

In comparison with the case of U.S. and Germany, the parameter of TRA is used as a proxy for SEI in Japan. Given the monotonous fall of Nikkei 500 index in the sample years, the SEI for most Japanese banks are negative so that we have to use the TRA as a proxy for SEI to better avoid the bias imposed by the going down of stock market in Japan.

The empirical result shows almost the same result as what we have seen for the total sample regression. Yet what quite interesting is, the FEI and OPI follow almost the same trend as the TRA, no matter which kind of risk is taken into account, indicating that the

underwriting, brokerage and asset management service of Japanese banks are highly correlated with the security transaction. This interesting phenomenon could partly due to the “Main House Bank System” in Japan that enables the close tie between a company and its bank, which provides a full range of financial services including asset management, underwriting, brokerage as well as holding the company’s equity and trading it. Among these businesses, the most influential might be the exclusive selling right.

6 Summary of the empirical test

The banks’ security business can be divided into three different types and the impact of banks’ involvement in each type of security business on bank risk and profitability over the 1993--2001 period was examined.

Firstly, from the empirical test, there is no proof show us, the three kinds of security businesses will affect banks’ default risk. The policy implication here is bank regulators do not have to worry about the systematic financial risk brought about by the banks’ involvement in security business.

At the same time, the following conclusions are still suggested by the empirical results: First, in terms of the security transaction, all of the empirical tests reflect the same kind of tendency. Security transactions (SEI) reduce the exposure of banks to interest risk. Secondly, underwriting and brokerage activities (FEI) reduce the banks’ market risk in American, while enhance the market’s risk of bank in Germany and Japan. This indicates, if the bank deeply involved into the security business of some certain company, this will easily expose the bank into more market risk. Undoubtedly, these conclusions should be investigated further.

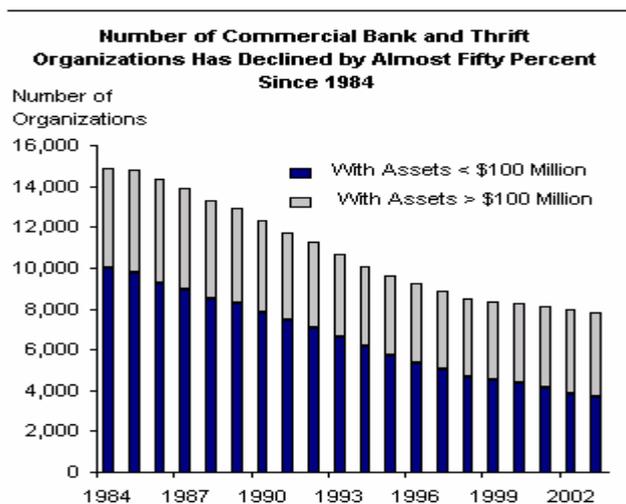
7. A question which should not be neglected — the balance between shareholder interests and consumer interests

Until now, the papers concentrated a lot on the risk and profit concerning the individual banks’ welfare. And the previous empirical statistic are also favorable with the conclusion that the securities business, fee and commission business will help individual banks to promote the interest of their shareholders, at the same time without any visible impact on the whole

financial risk. This looks like a good evidence to encourage the bank to extend their business lines into the non-traditional business by the merge and acquisition and to justify bank regulator’s decision about deregulations, consolidation and liberalization.

Based on this understanding and thanks to the support of the deregulation policy, over the last quarter of a century, the structure of the U.S. banking industry has undergone an almost unprecedented transformation which is marked by a substantial decline in the number of commercial banks and savings institutions and a growing concentration of industry assets among a much smaller number of extremely large financial institutions. At the beginning of 1984, there were 15,101 banking and thrift organizations (defined as commercial banks, thrifts, and bank and thrift holding companies). By year-end 2003, that number had fallen to 7,842—a decline of almost 50 percent (Figure 4-1).

Figure 4- 1: The number of commercial bank and thrift organizations has declined



Source: FDIC Financial Report

Naturally, the bulk of the decline in the number of organizations from 1984 through 2003 was due to two main causes, which are bank failures and bank mergers. Statistics show that, between 1985 and 1992, failures contributed significantly to the decrease in the number of banks. Still, they actually accounted for less than half of the 3000 bank drop. Since 1992, the number of bank failures has accounted for less than 15 percent of total decline in the number of banks. The remaining part of the reduction can be explained by the growing trend towards larger banks and bank consolidation, so that the shareholder’s value can be maximized.

Distributed by size, nearly all the decline occurred in the community-bank sector (organizations with less than \$1 billion in assets), and especially among the smallest size group (less than \$100 million in assets). Now, in 2000, around 80 percent of the total U.S. bank assets have been concentrated in 4 percent of the banks (in 1983, 3 percent of the banks held 63 percent of the total assets)⁹¹. This kind of deregulation-orientated policy really helps American bank wins bigger market share around the world and creates more profit for its shareholders in comparison with its counterpart in Germany.

Table 4- 10: Comparative performance between USA and Germany

Measure	U.S.A (\$)		Germany (DEM)	
	1990	1999	1990	1998
Pre-tax income	18.67 b	116.31 b	17.47	59.21
Pre-tax Return	0.39%	1.76%	0.48%	0.71%

Source: Bank of International Settlement, 2001

However, a discussion of the performance of a company is only one aspect of this problem and the shareholders' point of view dominates. From the perspective of an economy other criteria are of relevance. From this point of view, aspects like credit conditions (interest rate, fees, availability of credits for Small and Medium Enterprises, innovators, venture capital) in an economy should be stressed. The high profit of the bank normally depends on two different aspects. One is related with a high growth rates in the home market in the periods discussed, in the different importance of business units (degree and diversification), and last not least also quality of the management makes a difference. On the other side, the high profit most probably has also a close connection with the high market monopoly. When the high profit is the consequence of low competition, regulatory protection, high concentration, barriers of entry etc, the shareholders will certainly benefit a lot from this good performance of the enterprise, while the whole economy and the consumer interest will suffer more from it undoubtedly because of high prices.

⁹¹ Source: Bank for international settlement 2001

7.1 The impact on the small firm financing and economic efficiency by the consolidation of bank industry

In the former chapters, the critical role of intermediaries in the credit supply process has been emphasized. It is now well established that financial intermediaries have a fundamental role in determining the amount and distribution of credit to the economy. There is less agreement, unfortunately, about the precise way in which alternative structures of the banking industry manifests their influence on the economy.

Emma Jahreskog, Babson College (1999)⁹² has shown that, a positive relationship between the amount of loans to small borrowers and the degree of competitiveness of the banking industry is existed. The intuition is that if many banks compete to finance small firms, then small firms will have the option of switching lenders. This implies that the existence of many banks may shelter small firms from the negative asymmetric information, whereas a significantly concentrated banking industry may penalize them.

Emma Jahreskog used the index ‘The Herfindahl Hirschmann Index’ (HHI) to describe the bank concentration. The index is simply equal to the sum of squares of the market shares for the banks in the market times 10000. Market share is measured by the amount of demand deposits in one bank divided by the total amount of demand deposits in each state.

According to the index HHI, the range of Concentration can be exhibited as follows:

0-1000: low concentration;

1000-1800: moderate concentration;

1800+ :high concentrations;

10000: (maximum) monopoly;

Then, in the following states in USA, the comparison results can be got in the following.

⁹² Emma Jahreskog, Babson College, (1994), ‘Does Size Matter? The Effects of Bank Mergers on Small Firm Financing across the United States’, working paper, pp. 2-16.

Table 4- 11: Bank Concentration – The Herfindahl Hirschmann Index (HHI)

States	HHI index (June 30.1998)	Loans to Small Businesses (December 31, 1998) Amount in 000's of Dollar
California	829	100,218,106
New York	759	178,035,436
New Jersey	608	12,139,619
Florida	689	13,479,878
Texas	378	39,600,142
Wisconsin	201	11,365,942
Michigan	795	28,811,046
Oregon	1462	800,629
New Hampshire	1025	842,926
Wyoming	1719	668,087
Alaska	2650	765,821
Nevada	1325	582,956

Source: <http://www.fdic.gov> and Emma Jahreskog, Babson College, (1994), 'Does Size Matter? The Effects of Bank Mergers on Small Firm Financing across the United States', working paper, pp. 2-16

Table 4-11 illustrates the HHI index is low for example, in California and New York. In these and other states there are a significant amount of loans being granted to small businesses. This is supported by economic theory according to which competition increases the quality of services offered for any given price.

The opposite is also true, for example in Alaska, Nevada, and Wyoming. In those states, the decline in banking competition decreases the availability of small business loans. Because an increase in the size of banks may lead to less information being known about the potential customers, increasing the distance between decision making and the local environment prevents long term customer-bank relationships from being established. Consequently, the problems caused by asymmetric information are increased, i.e. moral hazard and adverse selection, and the likelihood of loans being made to small businesses is further reduced.

In comparison with this situation in USA, in Germany we should stress that the Sparkassen and Co-operatives in part are justified by offering a better performance for Small

and Medium Enterprises.⁹³ And the former ‘Bank für Gemeinwirtschaft’, which once had been the fourth biggest bank in Germany was founded from trade unions and leftist parties with the aim to intensify the competition in the market against the great commercial banks. This is indeed important to make contribution to whole economy, despite not so much associate with the profit of an individual bank.

In addition to this negative impact on the small firms loaning by the consolidation of the bank industry, the other impact should still not be neglected. That is the impacts on the macro economic efficiency. Just like what has been mentioned, the financial industry with the central function in modern economies as intermediate institutions should fulfill the function of promoting economic efficiency at low costs. For the evaluation of this function, therefore the Spread between interest for savings and interest for loans are taken as indicator for the performance of the industry in the interest of the economy as a whole.

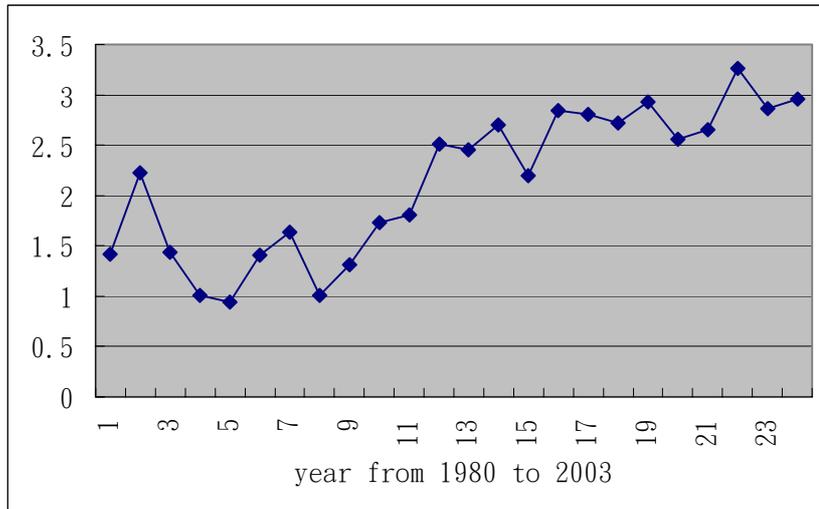
Table 4- 12: The spread between the Deposits rate and Loan rate in USA

Year	Prime loan rate	Deposit rate	Gap	Year	Prime loan rate	Deposit rate	Gap
1980	15.26	13.84	1.42	1992	6.25	3.80	2.45
1981	18.87	16.64	2.23	1993	6.00	3.30	2.7
1982	14.85	13.41	1.44	1994	7.15	4.95	2.2
1983	10.79	9.78	1.01	1995	8.83	5.99	2.84
1984	12.04	11.1	0.94	1996	8.27	5.46	2.81
1985	9.93	8.52	1.41	1997	8.44	5.72	2.72
1986	8.33	6.69	1.64	1998	8.35	5.42	2.93
1987	8.21	7.20	1.01	1999	8.00	5.44	2.56
1988	9.32	8.01	1.31	2000	9.23	6.58	2.65
1989	10.87	9.14	1.73	2001	6.91	3.65	3.26
1990	10.01	8.20	1.81	2002	4.67	1.81	2.86
1991	8.46	5.95	2.51	2003	4.12	1.16	2.96

Source: Federal Reserve Saving System. Deposit rates means CDS 6 months, Loan rats means US bank prime loan rate <http://www.federalreserve.gov/releases/h15/data.htm#fn8>

⁹³ The detail asset and liability analysis can be traced back to chapter 3, in the subsection ‘the universal bank in Germany –a way to transformation’

Figure 4- 2: The spread between the Deposits rate and Loan rate in USA from 1980 to 2003



Source: the Federal Reserve System

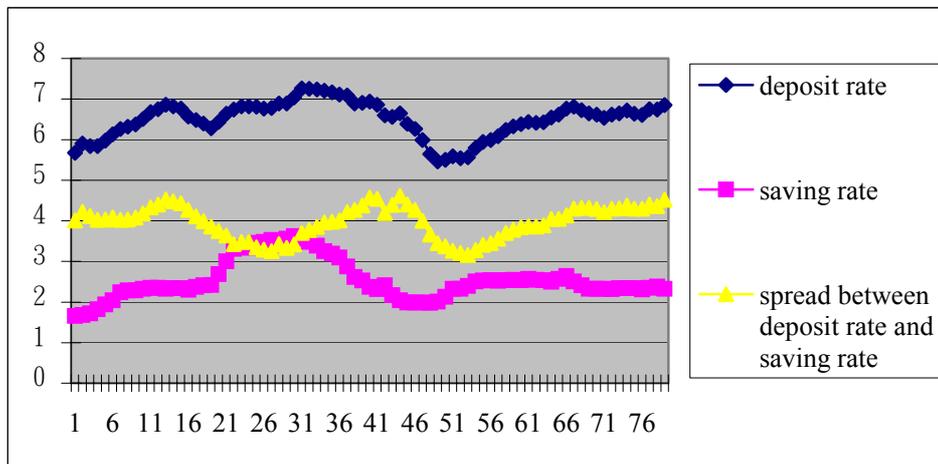
From the above figure 4-2, a conclusion can be drawn quite clearly, that the spread between the bank loan rate and the bank deposit rate in USA has become bigger and bigger in USA since the 1980. That means, in terms of the evaluation to the macro economic operation, the cost, at which the bank system fulfils its function, increases. Despite there are a lot of factors to affect the spread between bank loan interest rate and bank deposit interest rate, yet one factor among them should be reasonable. That is, with the quick developing tendency of bank consolidation, the bank charges their clients more for their service than they supply for the customer's deposits.

In contrast to this situation in American, the concentration rate in German bank industry is lower. In terms of size distribution, unlike the U.S., there are only five large banks in Germany and over 3000 small banks and these top five banks own less than 20% of the industry's total assets. However, in American, as of 1997, around 80 percent of the total U.S. bank assets have been concentrated in 4 percent of the banks (in 1983, 3 percent of the banks held 63 percent of the total assets).⁹⁴ At the same time, there is not such a substantial merge and acquisition surge happened in German financial fields. Associated with this lower concentration rate and lower consolidation rate, the spread between loan rate and deposit rate

⁹⁴ The detail analysis about the concentration rate can be founded in chapter 3, the subsection, 'the different organization between USA and Germany'.

in German bank kept a comparatively stable over the past 10 years (Figure 4-3).

Figure 4- 3: The deposit rate, the loan rate and the spread between these two rate from 1996 to 2003 (every month) (%)



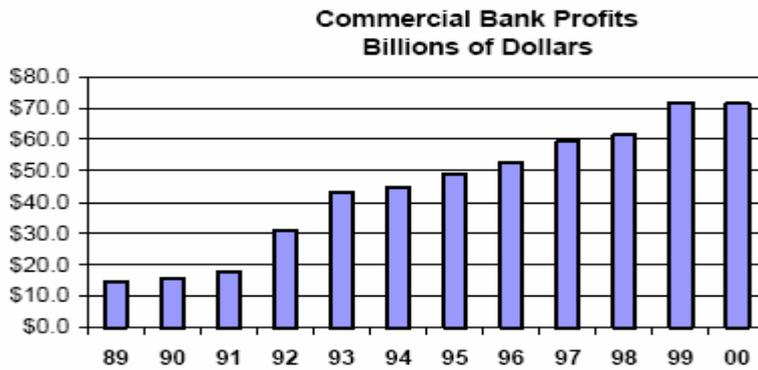
Source: http://www.bundesbank.de/statistik/statistik_zeitreihen.php ; Loan rate means the average Long-term loans to enterprises and self-employed (excl. housing); Deposit rate means average current account deposit rate (below 50.000 Euro)

7.2 The fact behind the high profit--gap between fee and commission in different banks in USA

As what has been debated in previous chapters, the revenue structure of American banks has changed greatly over the past two decades. In 1999, banks had their ninth straight year of record profits. The \$71.7 billion reported to the FDIC exceeded the previous 1998 record \$61.8 billion by 16%, or \$9.9 billion. In 2000, the string was narrowly broken, when bank profits suffered a tiny decline of about \$300 million from the previous record, but were still the second highest ever.

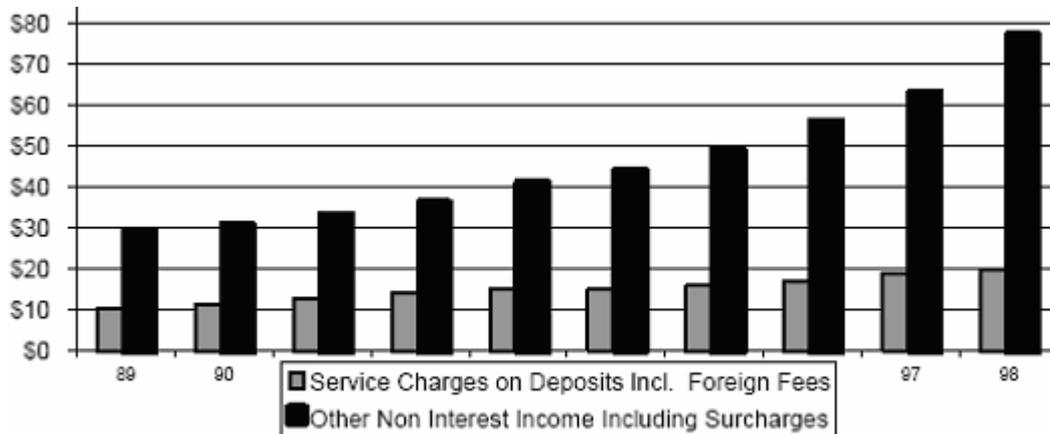
Fee income continues to drive a significant amount of bank income. According to the FDIC, “continued strength in non-interest revenues, particularly fee income,” is a critical part of commercial bank income. For example, non-interest income accounted for 44% of net operating revenues in the fourth quarter 1999. Data on deposit account fee income are limited, because bank-reporting forms combine many non-interest income categories. The following charts illustrate the increased role of fee income on bank profits.

Figure 4- 4: Commercial bank profits



Source: the FDIC

Figure 4- 5: Increase in Service Charges (including foreign ATM Fees) and other Fee Income (including surcharges) 1989 –1998 Commercial Banks (Billions of Dollars)



Source: the FDIC

The high profit is naturally good news for the shareholder, however, how about the other side of this bank 's big profit, if we take into account of the consumer's interest. With the consolidation and expanding of the bank, the bank enjoys more and more benefit from their economics of scale and scope. On this process, one thing which is worthwhile to be concerned is, whether the banks transfer some of their benefit coming from this economics of scale to its client or they only seek for more profit by taking advantage of their promoted market status.

Unfortunately, the fact is, in 2001, more than 12 million American families can't afford bank accounts. The rest of them are paying too much, especially if they bank at big banks.⁹⁵ Firstly,

⁹⁵ 2001 national survey, prepared by the state PIRGs with assistance from state and local member groups of the Consumer Federation of America (CFA),

according to the estimation of PIRG (Public Interest Research Groups), the cost to a consumer of maintaining a regular checking account continued to rise. Nationally, in 2001, consumers who couldn't meet balance minimums to avoid fees could have paid an average of \$228 annually to maintain a regular checking account, up 5% from \$217 in 1999. Meanwhile, if banks are broken down into big banks and small banks, the cost of banking at small banks actually declined 6%, while the cost of banking at big banks increased 13%, largely due to increased monthly maintenance fees, higher ATM fees, and higher bounced check fees. Here, the index "Big Bank Fee Gap" is introduced. It is measured as the difference in annual cost to bank at large and small banks. For regular checking accounts, it increased from \$32 in 1999 to \$75 in 2001, or 135%.⁹⁶

Table 4- 13: Regular Checking Account

Regular Checking Account—Annual Fee Index Big Bank Fee Gap Goes From \$32 in 1999 to \$75 In 2001			
	1999	2001	Change
Bigger banks	\$235	\$266	13%
Smaller banks	\$203	\$191	-6%
All banks	\$217	\$228	5%
Credit unions	\$112	\$101	-10%
The Big Bank Fee Gap is calculated as the difference between the big bank index (\$266) and the small bank index (\$191), or \$75 in 2001.			

Source: The FDIC and PIRG (Public Interest Research Groups)

At the same time, the following chart, for example, shows that credit union customers are only required to maintain a \$345 minimum balance to avoid fees, while big bank customers, on average, must maintain a \$703 minimum balance.

⁹⁶ Board of Governors of the Federal Reserve System. *Annual Statistical Digest*.

Table 4- 14: Balance Requirement to Avoid Monthly Fee Regular Checking

	Minimum Balance	Average Balance
BIG BANKS	\$703	\$1355
SMALL BANKS	\$465	\$980
ALL BANKS	\$587	\$1190
CREDIT UNIONS	\$345	\$433
Most institutions require a minimum balance to avoid fees.		

Source: Board of Governors of the Federal Reserve System, Annual Statistical Digest.

In addition to this fee concerning the regular checking account, the big bank still use the other way to charge their customer. Firstly, The average fees charged by big banks for their own customers to use other banks' ATM machines in national ATM networks—also known as off-us fees--increased to \$1.49 in 2001 from \$1.27 in 1999. At small banks, national network off-us fees increased to \$1.09, up from \$0.91 in 1999. The average off-us national fee for all banks increased to \$1.31 in 2001⁹⁷. Secondly, in terms of the bouncing check, nationally, big banks raised their fees for bouncing a check to \$26.18 in 2001, from \$23.08 in 1999, or an increase of 13%. At small banks, bounced check fees rose just 3%, to \$21.74 in 2001, from \$21.19 in 1999. Overall, bounced check fees for all banks increased 8% to \$23.79 in 2001, from \$22.01 in 1999⁹⁸. All in all, it looks the judgment, the bigger bank and bigger fee, is reasonable.

Fee income accrues disproportionately to big banks. Bigger banks have been continually carrying out fee-generating strategies include three attacks on consumers' wallets. (1) Raise existing consumer account fees. (2) Invent new fees. (3) Make more consumers pay more fees. And this tendency does not show any sign of diminishing.

(1) Raising Existing Fees. The Federal Reserve has identified a growing gap between fees charged by big and small bank. The multi-state (big) banks charge "significantly higher" fees than locally owned banks. In testimony to the House Banking Committee, Federal Reserve Board Chairman Alan Greenspan reported he was "troubled" by rising bank fees [11 Feb 1999, in answer to question from member].

⁹⁷ FDIC and Public Interest Research Groups 2001

⁹⁸ Ibid.

(2) Inventing new fees such as the ATM surcharge. Several banks have created new types of fees, such as human teller fees, deposit-item-returned fees (charged to consumers or businesses who deposit someone else's bounced checks) and fees charged for calling computerized account computers.

(3) Making it harder for consumers to avoid fees. Several banks are making it harder to avoid fees by, for example, changing "average" balance requirements on checking accounts to "minimum daily balance" requirements, as well as raising those minimums dramatically.

8. Conclusion

The impact of these expanded financial services on banks' individual risk and profitability is a particular concern of bank regulators and researchers. On one hand, our results indicate that there is no evidence against bank's security activities, given the fact, that no proof from empirical investigation shows the increased bank's default risk. Thus, the result suggests that security activities represent a desirable avenue of expansion for banks. Yet on the other hand bank security activities also raise certain kinds of risk exposure, which indicate a higher possibility of losses in certain fields. Therefore, banks involvement in the security business becomes a coin with two faces.

In addition to this, a problem with statistics is that they offer answers for his questions, which are quiet in respect to our direct concern. This is only one aspect of the problems, in which the shareholders' point of view dominates. From the other perspective of this topic, the point of the economic efficiency should not be neglected. The above-mentioned arguments also exhibit, on the course of the bank seeking profit, the interest of the small company; the consumer and the efficiency of the macro efficiency are damaged.

So, taking into account of the previous two points, the challenge facing the regulator becomes clear. And, the choice whether to play with this coin or not is a hard trade-off between many kinds of different goals of banks management and regulations.

2. The changes of the regulatory system

1. Introduction

As we discussed in the previous chapters, persistent advances in information and computing technologies, the deregulation and internationalization of banking and financial markets has changed the landscape of the bank industry substantially. One of the most obvious characters is that the banks more and more entered into the security and non-traditional business. Like a two-face coin, this brings not only new opportunities to bank industry, but also changes the risk structure of this business. As the most strictly regulated industry, bank industry differs itself from other industries by imposing system risk and supplying capital and settlement for the whole economic development. So, this evolution of financial industry has also meant that supervision and regulation must be continually updated in order to respond adequately to these developments and prevent the system risk. Therefore, how to cope with all these sweeping changes if financial industry becomes the most crucial topic facing every government. Regulatory authorities and central banks are struggling hard to define more suitable principles, change regulatory practices, and to up-grade institutional capacities to face the changes and risks of the financial liberalization and globalization. Because of the transformation of the bank industry stemmed from the technological advance and internationalization, it looks certain that this kind of transaction would be accompanied by most of the countries, even if they come from the different starting point. In light of this unmistakable trend, it seems reasonable to expect that the evolvement of financial regulation system also follow some similar common tendency. However, what it should be recognized from the start is that there is no single “optimal” model for the organizational structure of financial regulation. Therefore, the objective of this chapter is to shed some light on the general principles about financial regulatory transformation, and then, to go on to discuss some special problem in USA and Germany, which arises on the course of transition towards a more liberalized financial system. In order to fulfill this objective, this chapter will be organized from the following three perspectives: Firstly, why the bank should be supervised

and the normal regulation framework will be argued. Then, the paper will explain why the traditional regulation system is not compatible with the current situation. Based on these theoretical arguments, the third part will shift to some German and U.S.A bank regulation system so that some historical experiences and lessons can be understood.

2. The theory of the financial regulation

2.1 Rationale for the financial supervision

The topic of the financial supervision has been discussed in my literatures (Berger, Allen N. 2000; Allen, Franklin, 1997...). Because of the discrepancy between social and private returns on assets (risk), which can create an incentive for bank owners and managers to engage in excessive risks, the need for a bank regulation system is becoming more and more acute nowadays. So, regulation becomes a public goods. It asks for the intervention of the government to fulfill the following three targets: Guarding against systemic risks, protecting the investors, and enhancing the efficiency. Over time, the relative priorities of each of these objectives may have differed across the countries.

1. Financial systemic stability

Avoiding systemic risk and keeping financial stability are normally the prime objectives of banking regulation. Mishkin referring to the asymmetric information problem provide a definition of what a financial crisis⁹⁹ is: a financial crisis is the disruption of the financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities. The asymmetric information problem reveals two reasons why the banks system might not function well. First, a bank failure means that depositors would have to wait to get their deposit funds until the bank is liquidated and its assets turned into cash, and at that time, they would be paid only a fraction of the value of their deposits. Unable to learn if bank managers were taking too much risk or were outright crooks, depositors would be reluctant to put money in the banks, thus making banking

⁹⁹ Frederic .S. Mishkin,(2001), ‘The Economics of Money, Banking and Financial Markets’, Columbia University, sixth edition, pp.203 –205.

institutions less viable. Second is that depositor's lack of information about the quality of bank assets can lead to bank panic, which have harmful consequences for the economy. When a shock occurs in financial market, problems in one institution or sector of the market can spread to other institutions or markets. In the absence of clear and convincing evidence to the financial institutions, market participants are reasonable to worry that the institutions are not able to withstand a shock, which has been imposed on it. So, they will attempt to protect themselves by liquidating their claims on the suspected institutions. Then, the markets size up. When markets seize up, they cannot perform their essential function of channeling funds to those with the most productive investment opportunities. Some institutions or sectors may lose access to the markets. Investment spending may suffer in both quality and quantity. Indeed, if the shock affects the payment system, it may reduce consumption directly as well. As a consequence, the whole economic operation will be hampered. Taking account of these, a substantial government intervention by regulatory measures, namely prudential regulation, has been justified on grounds that they help safeguard the financial system from systemic risk.

2. Consumer protection

The second fundamental rationale for financial regulation is the protection of investors against abuse of power by financial institutions. Customers face a problem of asymmetric information in evaluating financial services. Consequently, they are vulnerable to adverse selection, the possibility that a customer will choose an incompetent or dishonest firm for investment or agent for execution of a transaction. They are also vulnerable to moral hazard, the possibility that firms or agents will put their own interests or those of other customers above those of the customer or even engage in fraud. In short, unsophisticated consumers are vulnerable to incompetence, negligence and fraud. In order to ease these asymmetric information problems, regulations are often imposed on financial firms to affirm their quality ex ante and ex post. Strict enforcement of conduct of business rules with civil and criminal sanctions will deter firms from exploiting asymmetric information vis-à-vis customers.

3. Financial system efficiency¹⁰⁰

¹⁰⁰ Allen, Franklin, and Anthony M. Santomero, (1997), 'The Theory of Financial intermediation', *Journal of Banking and Finance* 11, pp. 1461-85.

In addition to the system risk prevention, and the investor protection, the other principal goals of regulating and supervising banking organizations are to promote and to enforce sound practices while allowing, and encouraging, banks to innovate and fairly compete. In other words, to create an environment that promotes healthy, disciplined risk-taking by banks.

In addition to encouraging innovation and competition, the issue of efficiency also arises because regulation imposes a wide range of costs, which are ultimately reflected in the price of financial services. If these costs are so “excessive” that they exceed the economic benefits from achieving the objectives behind regulatory services, then financial regulation ends up by imposing a net burden on the economy. Therefore, a main objective for financial authorities should also be to adopt and implement a regulatory and supervisory approach that contributes to the efficient operation of the financial sector.

2.2 The traditional bank regulation system

As we have mentioned previously, the asymmetric information problem makes a discrepancy between social and private returns on assets (risk) in bank industry, which asks for the intervention of the government to fulfill the following three targets, guarding against systemic risk, protecting the investors, and enhancing the efficiency.

Traditionally, there are seven basic ways in U.S.A. and other countries to offer banking regulation¹⁰¹: The government safety network; restrictions on bank asset holding; capital requirement; charting and safety net; disclosure requirement; consumer protection and restriction on competition.

1. Government safety network

Generally speaking, bank panic was a substantial act of American life in the nineteenth and early twentieth centuries, with major ones occurring every 20 years i.e. in 1819, 1837, 1857, 1873, 1884, 1893, 1907, 1930-1933, and 1980. So, government safety network was built to short-circuit runs on banks and bank panic. The most major form of the safety net is deposit insurance, a guarantee that provided by the FDIC in which depositors are paid off in full on the first \$100,000 they have deposited in bank no matter what happened. Deposit insurance is

¹⁰¹ Franklin Allen, (2001), ‘Banking Regulation versus Securities Market Regulation’, The Wharton Financial Institutions Center, pp. 2-19.

not the only way in which the government provided a safety net for depositors. In some countries, government has often stood ready to provide supports for domestic banks when they face runs even in the absence of explicit deposit insurance. This support is sometimes provided by lending from central bank and is often referred to as the ‘the lender of last resort’ role of the central bank. In other case, funds are provided directly by the government and government guarantee that depositors will receive their money in full.

2. Restrictions on bank asset holding; capital requirement

Bank has the incentive to take too much risk. Risky assets may provide the bank with higher earnings when they pay off, but if they do not pay off and the banks fail, depositors are left holding the left bags. In order to protect investors, bank regulator imposes bank regulations that restrict bank from risky assets, for example, common stock, in U.S.A, or restrict bank from engaging in other financial activities, such as security underwriting, insurance or real estate. Bank regulators also promote diversification, which reduce risk by limiting the amount of loans in particular categories or to individual borrowers. In addition, requirements that bank have sufficient bank capital are another way to change the bank’s incentives to take on less risk. So, around the world, the bank is subject to capital requirements.

3. Chartering and examination

Overseeing who operates banks and how they are operated is an important method to reduce adverse selection and moral hazard in the bank business because new banks are screened to prevent undesirable people to control it. Regular on-site bank examination, which allows regulator to monitor whether the bank is complying with capital requirements and restrictions on asset holding, also functions to limit moral hazard. Bank examiners give banks a so-called CAMELS rating (the acronym is based on the six arrears assessed: capital adequacy, asset quality, management, earning, liquidity, and sensitive to market risk). With this information about a bank’s activity, regulator can enforce regulation to alter the bank’s behavior or even close a bank if its CAMELS rating is sufficiently low.

4. Disclosure requirements

The free-rider problems indicated that individual depositors and other bank creditors would not have enough incentive to produce private information about the quality of bank assets. To ensure that there is better information for depositors and the marketplace, regulators can

require that banks adhere to certain standard accounting principles and disclose a wide range of information that helps the market assesses the quality of bank portfolio and the amount of the bank's exposure to risk.

5. Consumer protection

The existence of asymmetric information suggests that consumers may not have enough information to protect themselves fully. Consumer protection regulation has taken several forms. First is 'truth in lender', which requires all lender, not just bank, to provide information to consumer about the cost of borrowing and total charges on the loans. At the same time, the U.S.A congress also passed the law to reduce the discrimination in credit market, including discrimination based on race, gender, marital status, and area.

6. Restriction on Competition

Although promoting efficiency is one of the main objectives of the bank regulation, increased competition can also increase moral hazard incentive for bank to take on more risk. Declining profitability as a result of increased competition could tip the incentives of bank towards assuming greater risks in an effort to maintain former profit level. Thus, government in many countries has instituted regulations to protect banks from competitions. Normally, these regulations have taken two forms. First was restrictions on branching, such as in U.S.A and Germany, which reduced competition between banks. The second form involved preventing non-bank institutions from competing with banks by engaging in banking business.

3. The necessity for updating the old regulation system: Theoretical analysis

From what has been outlined so far, persistent advances in information and computing technologies, the deregulation and internationalization of banking and financial markets has changed the landscape of the bank industry substantially. This progress of financial industry means that supervision and regulation must be continually updated in order to respond adequately to these developments and prevent the new financial risk. The following reasons illustrate the new requirements for updating the old regulatory system¹⁰²: The drawbacks of the old descriptive regulations, the drawback of the government safety network and the

¹⁰² James R. Barth, Gerard Caprio, Jr. and Ross Levine,(2002), 'Bank Regulation and Supervision: What Works Best?', Auburn University and Milken Institute. pp 4-26.

financial innovations, global competition, economic efficiency and old bank regulation system.

3.1 The drawbacks of old descriptive regulations

Traditionally, the financial regulations are highly prescriptive roles, which have focused primarily on assessment of the quality of the bank's balance sheet and loans at a point in time and then determine whether the bank complies with capital requirements and restrictions on asset holdings. Because this kind of prudential supervision is based on regulatory rules, it is often referred to as the 'regulatory approach'. Although the traditional 'regulatory approach' is important for reducing excessive risk taking by banks, it looks not suitable enough under today's world in which complex financial innovation has been produced¹⁰³. On one side, new markets and instruments make it easy for bank to make huge bets quickly. In this new financial environment, a bank that is quietly healthy at a particular point in time can be driven into insolvency extremely rapidly from trading losses, as forcefully demonstrated by the failure of Baings I (1995). On the other side, with the blur of the boundary between the bank and the Security Company, the assets of bank become more and more diversified. The old regulatory methods evaluate risk on the basis of an assessment of each asset become gradually outdated, because the risk faced by the bank is a result of the correlation among all the risks. For example, a bank portfolio consisting of a large number of highly correlated but relatively low-risk assets may in fact be far riskier than a bank portfolio consisting of high-risk assets that are negatively correlated or not correlated at all. This, of course, is the point of risk diversification. So, you can see, although these precise rules have their attractions for both regulators and regulated firms, they become more and more difficult to be consistent with the current financial situation in the following aspects.

- a. Risks are often too complex to be covered by simple rules.
- b. Balance sheet rules reflect the position of an institution only at a particular point in time, and its position can change substantially within a short period.
- c. An inflexible approach based on a detailed rulebook has the effect of impeding firms from

¹⁰³ James R. Barth, Gerard Caprio, Jr. and Ross Levine, (2002), 'Bank Regulation and Supervision: What Works Best?', Auburn University and Milken Institute, pp. 10-39.

choosing their own least-cost way of meeting regulatory objectives.

d. Detailed and extensive rules may stifle innovation.

e. A prescriptive regime tends to focus upon firms' processes rather than outcomes and the ultimate objectives of regulation. The rules may become the focus of compliance rather than the objectives they are designed to achieve. In this regard, it can give rise to a perverse culture in regulated firms. The letter of the regulation may be obeyed but not the spirit or intention.

f. A prescriptive approach is inclined towards "rules escalation" whereby rules are added over time, but few are withdrawn.

g. A highly prescriptive approach may create a confrontation relationship between the regulators and regulated firms, or alternatively cause firms to overreact and engage in excessive efforts at internal compliance out of fear of being challenged by the regulators. In this sense, regulation may become more prescriptive and detailed than is intended by the regulators because of the culture that a rules-based approach generates.

h. In the interests of "competitive neutrality", rules may be applied equally to all firms, although they may be sufficiently heterogeneous to warrant different approaches. A highly prescriptive approach to regulation reduces the scope for legitimate differentiations. Treating as equal firms that in practice are not equal is not competitive neutrality.

i. A prescriptive rules approach may in practice prove to be inflexible and not sufficiently responsive to market conditions.

j. A potential moral hazard arises in that firms may assume that, if something is not explicitly covered in regulations, there is no regulatory dimension to the issue.

k. Detailed rules may also have perverse effects if they are regarded as actual standards to be adopted rather than minimum standards with the result that, in some cases, actual behavior of regulated firms may be of a lower standard than without rules. This is most especially the case if each firm assumes its competitors will adopt the minimum regulatory standard.

3.2 The drawbacks of the government safety network

Although a government safety network has been successful at protecting depositors and preventing bank panic, it is a mixed blessing. Firstly, the most serious drawback of the safety

net stems from moral hazard, because the existence of insurance provides increased incentives for banks to take a greater risk than they otherwise would, especially, when they are aware of the fact that they are too big to fail. Moral hazard is a prominent concern in insurance arrangement. Because with a safety network, depositors know that they will not suffer losses if a bank fails, they do not impose the discipline of market place on a bank by withdrawing deposits even when they suspect that bank is taking on too much risk.

Secondly, a further problem with a government safety net arises because of adverse selection. The main problem is that people who are likely to engage in activities that may cause bank failure are those who mostly want to take advantage of the insurance. Because depositors that are protected by a government safety network have little reason to impose discipline on the banks, risk-loving entrepreneurs might find banking industry a particularly attractive business to invest in. They know that they will be able to engage on highly risking activities.

Thirdly, in USA, with the passage of the Riegle-Neat interstate Banking and Branching and Efficiency Act of 1994 as well as the Gramm-Leach-Bliley Financial Services Modernization Act in 1999, financial consolidation has been proceeding at a rapid pace, leading to both large and more complex banking organizations. Financial consolidation poses two challenges on bank regulation because of the existence of the government safety. First, the increased size of bank as a result of consolidation increase the too-big-to fall problem because of these much larger institutions whose failure exposes the financial system to systemic risk. Thus, much bigger banking institutions are likely to be treated as too-big-to fall, and the increased moral hazard incentives for those large institutions to take on greater risk can then increase the fragility of the financial system. Second, financial consolidation of banks with other financial services firms means that the government safety network may be extended to new activities such as securities underwriting, insurance or real estate activities, thereby increasing incentives for greater risk taking in these activities that can also weaken the fabric of the financial system. Limiting the moral hazard incentives or the large, more complex financial organizations that are resulting from recent changes in legislation will be one of the key issues facing bank regulator in the future.

3.3 The financial innovation, global competition, economic efficiency and old bank regulation system

With the development of technology and globalization, the domestic bank industry has to face two kinds of challenge. One comes from the financial innovation, the other from the global competition. These inner and exterior pressures become the other important impetus, which encourage regulator to update their own regulation system.

As we saw in preceding chapters, improvement in information technology helps to provide the possibility for the rapid rise of the junk bonds, commercial paper markets and financial securitization. Because with the development in information technology, it becomes easier for investors to screen out bad from good credit risks, thus making it more likely that they would buy long term or short term debts securities from less well known corporations with lower credit rating. On the other side, it also means that it makes it easier for corporations to issue debt securities. So, many corporations that used to do their short term borrowing from bank now frequently raise funds in the commercial paper or money market fund market. All of these cause the decline of the bank profitability and force the banks regulators to think about adequate means of changing the adverse situation of banks.

In addition, particular problems in bank regulation occur when banks are engaged in international banking and thus can readily shift their business from one country to another¹⁰⁴. First, although restricting business regulation propped up the health of the bank in some individual countries, restrictions on business and competitions also had serious disadvantages. On one side, they lead to higher charges to consumers and decrease the efficiency of banking institutions. On the other side, the domestic banks have to suffer from the unfair competition, when it is in face of the foreign banks, which are not subject to this business restriction. These become a more and more serious problem in EU markets and in some emerging markets, which open its financial industry to the world.

Second, with the globalization of the financial industry, bank regulators, who can closely examine the domestic operation of bank in their country, often do not have the knowledge or

¹⁰⁴ Lawrence J. White,(1996), ‘Technology change , financial innovation and financial regulations in the U.S.: The challenges for public policy’, Stern School of Business New York University. pp. 12-17.

ability to keep a close watch on bank operations in other countries, either by domestic bank's foreign affiliates or by foreign banks with domestic branches. In addition, when a bank operates in many countries, it is not always clear which national regulatory authority should have primary responsibilities for keeping the bank from engaging in overly risky activities. These difficulties inherent to regulating international banking were highlighted by the BCCI scandal in 1992.¹⁰⁵ Finally, in order to keep the stability of the bank industry, the old regulations encourage the consolidation between banks, so that the bank can keep the competitive capability in the world financial markets. However, with the appearance of the more and bigger institutions, the customers' interest and the efficiency of the macro economic is usually not highlighted. This will affect the developing potentiality of the financial institutions in the long run.

4. Understanding the bank regulation in Germany and in the U.S.A

Now, using regulatory system in Germany and U.S.A as an example, this paragraph would like to shed some light both on the character and the development of financial regulation system in these two countries.

4.1 The characters of German financial regulation after the Second World War

The recent global economic slowdown has increased pressure on the German financial system. The banking sector, the backbone of the German financial system, has been facing strains. Bank profitability has deteriorated further, and losses on loan and equity portfolios have mounted, forcing banks to step up efforts to cut costs and to review business strategies. This has apparently had some negative repercussions on the real economy, by contributing to a tightening of lending conditions in particular for small and medium-sized enterprises (Kreditanstalt für Wiederaufbau 2002). What is the reason about it?

Tight financial regulation is frequently seen as one, if not, the major factor that prevents innovation in the German financial system and in particular the development of financial

¹⁰⁵ The detail description about BCCI (the bank of credit and commerce international) can be found in Mishkin, (2001), 'the Economic of Money, Banking and Financial Market', Boston, pp. 292.

markets (Allen and Gale: 1999)¹⁰⁶.

Regulation seems to have delayed the adjustment of the German banking sector. Lack of competition from the security markets reduces pressures to price individual products and services – and in particular loans – appropriately. Public ownership of banks has complicated consolidation and cemented cost structures, lowering bank profitability and the capacity to assume exposure. The following contents will illustrate how the German financial regulation affects the development of German financial industry.

4.1.1 The influence of public sector

The public sector assumed an important role in the German financial system. This occurred directly through public ownership of financial institutions and indirectly through publicly financed social security schemes¹⁰⁷

1. The public ownership in bank system

Firstly, just like what we have addressed in our third chapter, publicly owned banks account for more than 40% of total bank assets. The thirteen state banks (Landesbanken) are, with 20% of total bank assets, the largest sub-group among publicly owned banks.

State ownership in saving banks and state banks has been the most important channel for public influence on the financial system. In general, Savings and state banks have two characteristics that potentially affect financial intermediaries. First, they enjoy the privilege of being guaranteed by the respective public owners. The guarantee mechanism comprises a liability guarantee and an institutional guarantee. The liability guarantee applies to the legal relationship between the bank and its creditors (Gewährträgerhaftung). And, the institutional guarantee means the government guarantees the ability of the bank to carry out its functions (Anstaltslast).¹⁰⁸ The second factor is the function and corporate governance. The state and

¹⁰⁶ Allen, F., and Gale, D, (1999a). ‘Comparing Financial Systems’, MIT press, Cambridge (forthcoming).

¹⁰⁷ What should be noted is, credit allocation through administered lending, the classical type of government interference in the financial sector never occurred on a significant scale. Only exceptions are export guarantees or specific lending programmes carried out by specialized institutions (*Hermes* in case of credit guarantees of the Kreditanstalt für Wiederaufbau (*KfW*) for loans to new enterprises).

¹⁰⁸ Related is the support of the state banks through the transfer of capital from other public institutions. In the context of the fourth amendment of the banking act in 1993, the transfer of the capital of their respective regional residential housing associations to the balance sheet of banks augmented the capital of six state banks. The German Bankers Association (Bundesverband deutscher Banken), the umbrella organization of commercial banks, lodged a complaint with the European Commission on this issue. The Commission completed its

saving banks have very broadly defined public functions. Moreover, they do not have individual shareholders; elected officials or government members represent the public owners in the supervisory boards.¹⁰⁹ Although saving and state banks can (and do) largely operate like private banks, both objectives and representation may favor nonprofit maximizing business strategies, for example gaining a large market share (IMF: 1999). This kind of ownership structures limits the scope for bank mergers. The Savings Bank Acts of the individual states are provided only for mergers of local savings bank if the municipalities or counties agree it.¹¹⁰ At the same time, the local saving banks are protected from competition of other saving bank by legal restrictions of geographic reach – the so-called regional principle (Regionalprinzip). What should however be noted is that this kind of ownership structures are not against the competition from other commercial banks and the cooperative banks. The competition in German bank industry is serious.

2. The public social security system

The pay-as-you-go based social security systems (public pensions, health insurance and unemployment insurance schemes) that were (re-) established after the Second World War have affected the demands for capital markets instruments as saving vehicles and the need for related financial services substantially. Firstly, by substituting the accumulation of wealth in funded schemes for an inter-generational transfer of income, pay-as-you-go based social security systems have limited the overall demand for financial assets. The impact has been substantial. For example, the net present value of accumulated claims on the public pension scheme (Gesetzliche Rentenversicherung) is estimated to be about 7.5 trillion euro. (Eitenmüller and Hain, 1998). This implies that, if pensions were fully funded, financial assets

investigation into the integration of the public housing development agency WfA into Westdeutsche Landesbank in July 1999. The Commission ordered the Westdeutsche Landesbank to pay about 129 million euro state aid for the years 1992–1998, and to pay an annual dividend of 9.3% on capital of WfA it used to meet its regulatory capital requirements to the state of North Rhine Westphalia. The savings banks acts are being revised substantially in the light of the future removal of the liability guarantee and the abolishment of the institutional guarantee. In July 2001, the European Commission reached a compromise with the German government that Anstaltslast and Gewährträgerhaftung can be maintained in their present form until 2005, thus assuring a four-year transition period during which the state banks can restructure and prepare for the complete removal of the support mechanisms of the German states.

¹⁰⁹ For a more detailed description of the corporate governance of the state banks, see IMF (1999).

¹¹⁰ See, for example, paragraph 17 Hessisches Sparkassengesetz or paragraph 28 Brandenburgisches Sparkassengesetz. Legislation does not generally provide for private participation in savings banks; an exception is Hesse, where the savings bank act allows private non-active interest of up to 49% of capital (paragraph 22 Hessisches Sparkassengesetz).

of the non-financial sectors would be about 50% higher than they actually are. Secondly, pay-as-you-go financed social security systems have strengthened the relative position of banks. By reducing the need for long-term saving, these systems reduced primarily the demand for non-bank financial assets, such as shares in pension funds or direct investments in securities.¹¹¹ Based on this background, the legislative bodies saw little, if any, need to develop a regulatory framework for the supply and trading of such instruments and for corporate control through financial markets.

4.1.2 The preference for bank system

German banks have maintained a dominant position in financial intermediation. However, bank profitability had declined since the mid-1990s and reached new bottom in 2001. A major factor behind this trend has been deteriorating interest margins and high provisioning for non-performing loans.¹¹² As regard financial regulation, the following perspectives are contributing to reducing competition in bank industry and deterring the development of security markets.

1. The preference for private information

Regulation both of the financial sector and of non-financial corporations favored long-term financial relationships primarily based on private information. Relationship management reduces the incentives for monitoring by outside investors and, consequently, the incentives to develop mechanisms for price discovery and formation in open capital markets. This includes infrastructures for trading, clearing and settlement of securities,¹¹³ as well as the establishment of entities specializing in generating information for investors in financial markets, for example rating agencies.¹¹⁴ The other related aspect is that corporate law in post-war

¹¹¹ Corporate pension (defined benefit) schemes exist mainly in the case of large corporations. The company's assets directly cover the pension liabilities. Pension reserves are an important direct source of *internal* funding for large corporations.

¹¹² In chapter 3, the detail description can be founded.

¹¹³ The financial infrastructure in Germany has experienced considerable consolidation, but is still characterized by some fragmentation. This is particularly evident with respect to securities trading. There are eight stock exchanges, with the turnover in floor trading concentrated in Frankfurt (about 90%). The Frankfurt Stock Exchange is operated by Deutsche Börse, which also runs the electronic trading platform Xetra. Derivatives are traded on Eurex. Clearing for all securities transactions on German exchanges and OTC trades is processed through Clearstream Bank Frankfurt (CBF), Eurex derivatives trades are cleared through Eurex Clearing, a subsidiary of the Eurex exchange. CBF also provides securities settlement for all trades on German exchanges.

¹¹⁴ Rating penetration in Germany is low. According to Standard and Poor's, only 38 companies were rated by

Germany increasingly stressed stakeholder value – the interests of all groups involved in an enterprise, including employees and creditors – instead of shareholder value. Most importantly, the introduction of codetermination strengthened the role of employees and trade unions, as opposed to equity holders, on supervisory boards of corporations.¹¹⁵ Another feature involving a stakeholder element is that universal banks, which are often simultaneously lenders and shareholders, have been represented on the supervisory boards of most large German public companies.¹¹⁶ Finally, accounting standards that emphasized creditor protection by retaining earnings and smoothing earnings favored relationship financing.

The German commercial code (Handelsgesetzbuch) gives stakeholders a conservative picture of a company's earnings, for example by allowing accounting on historical cost basis and buffering fluctuations of earnings through changes in hidden reserves. Such reserves are difficult to estimate for outsiders on the basis of publicly available information and pose an obstacle to firm evaluation by financial markets. Since 1998, companies have had the option of preparing their financial statements in accordance with internationally recognized accounting standards such as IAS.¹¹⁷ Concentration of ownerships in publicly listed firms has traditionally been high and inter-corporate networks have been dense. Block shareholding can be seen as one mechanism to deal with weak disclosure and minority shareholder protection. However, at the same time concentrated share ownership tended to reinforce the gaps left by security market regulation by suppressing a market for corporate control, as visible in the low number of hostile takeovers (Höpner and Jackson: 2001). A bilateral relation of banks and corporations in the case of small, in many cases non-incorporated and frequently family-owned firms, complements the prevalence of block shareholdings in large firms. Over time, and as result of repeated interaction, banks accumulate private information, which results in

the end of 2001 (Standard and Poor 2002).

¹¹⁵ Under the industrial constitution act (Betriebsverfassungsgesetz) of 1952, one third of the members of the supervisory boards of stock corporations and limited liability companies with more than 500 employees is appointed by the employees and two thirds by the shareholders. According to the co-determination statute (Mitbestimmungsgesetz) of 1976, half of the members of the supervisory board are elected by employees and trade unions in corporations and limited liability companies, outside the iron and coal industries, with more than 2,000 employees.

¹¹⁶ Baums (2000) mentions that representatives of Deutsche Bank, Dresdner Bank and Commerzbank held about 16% of the approximately 230 positions reserved for stockholders on the supervisory board of the 24 non-financial companies included in the DAX 30.

¹¹⁷ A mandatory switch to IAS is now planned for 2005.

close ties between lenders and borrowers (Elsas: 2002). The “hausbank” principles can be seen as one specific form of relationship banking, in which one (universal) bank provides the full range of financial services to a corporate customer. According to survey data, 40% of small and medium-sized companies in Germany have one banking connection only (Harhoff and Körting: 1998).

2. The competition restriction in retail business market

In retail business market, the domestic protection becomes more obvious. Restrictions on geographic reach, deposit insurance (and in this context, public ownership of savings banks) and minimum reserve requirements are contribution to decreasing competition in retail markets. The restrictions on geographic reach for savings banks and their role of major shareholders of the state banks encouraged a specialization within the saving bank sector.¹¹⁸ While the saving banks focus on local markets, state banks act as the saving banks agent in wholesale and international markets.¹¹⁹ Deposit insurance became a relevant factor in bank competition after the collapse of Private Bankhaus Herstatt in 1974. With only rudimentary deposit protection, the Herstatt bankruptcy involved substantial losses. Herstatt’s collapse was followed by a (persistent) shift of funds from private banks to the savings bank and the cooperative bank sector. Deposits with saving banks were covered by the public liability guarantee, while the cooperative banks had regional deposit protection funds.¹²⁰ Kaserer (2000) shows that the commercial banks lost between 2.6% and 3.7% in market share in the aftermath of the Herstatt crisis, which was equivalent to 9%–13% of their deposits.¹²¹ However, deposits of saving and cooperative banks grew up paradoxically. This

¹¹⁸ General restrictions on geographic reach for banks, with the objective were to ensure a regional separation of the big commercial banks, existed until 1957.

¹¹⁹ Parts of the differences across banking groups disappear when consolidating the two-tier structure in the savings and in the cooperative bank sector. For example, the combined net interest margin of savings and state banks was about 1.4% in 2001, 25 basis points higher than that of commercial banks.

¹²⁰ See Kaserer (2000) for a detailed discussion of deposit protection schemes at the times of the *Herstatt* default.

¹²¹ Concerns about the confidence of depositors led to initiatives for the creation of a depositor protection scheme. The private banks organised in the Federation of German Banks (Bundesverband Deutscher Banken) created its scheme to anticipate a public deposit protection scheme. The membership in a deposit protection scheme became mandatory with the second amendment to the banking act in 1976. Kaserer (2000) also argues that mandatory membership in the deposit protection scheme was used by the larger commercial banks to put pressure on smaller private banks through excessively tight auditing procedures by the auditors of the German Bankers Association established in the context of the scheme.

suggests that depositors had a preference for banks with deposit insurance in general, but not specifically for the guarantee mechanism of the savings banks. Minimum reserve requirements had a direct impact on the competition for short-term funds. They resulted in a relative advantage for banks with a large share of retail depositors, for which regulatory arbitrage was hardly possible. First, a shift of deposits into – reserve-free – DM-accounts offshore would have been prohibitively expensive. In contrast, banks with large-size deposits from non-banks (in particular commercial banks) faced fierce international competition, which they countered by offering DM-accounts with subsidies particularly in Luxemburg. Moreover, DM-Money Market Funds, an important substitute for retail deposits, were not available until 1994. Their authorization increased competition for retail deposits significantly. After August 1994, banks adjusted interest rates on smaller term deposits significantly faster than before the introduction of Money Market Funds, and the spread between retail deposit and inter-bank rates narrowed (Domanski: 1997). Banks apparently also increased the interest paid on “traditional” saving accounts in order to prevent outflows. Taken together, deposit insurance and minimum reserve requirements seem to have accentuated the funding advantages of locally active banks with a strong retail base, in particular with respect to short-end medium-term deposits that were subject to minimum reserves.¹²²

4.1.3 The regulatory biases for security market

As we stated earlier, the arrangement of the ‘pay-as-you-go’ social security systems and the preference of the inner information between bank and other non-financial company hampered the development of the security markets in Germany. However, such regulations were in general less important than taxation and corporate law.

1. Specific restrictions, taxation and corporate law

The markets for DM-denominated short-term debt instruments were those most affected by

¹²² The markets for long-term saving instruments – such as life insurance policies, certificates of bond or equity funds or long-term bank deposits – have been much more affected by taxes and subsidies for specific forms of old age provisioning than by financial regulation. For example, life insurance contracts (which in Germany usually involve a savings component) have enjoyed considerable tax privileges, as contributions to life insurances have been deductible from the personal income tax base.

direct restrictions. These supply-side restrictions were primarily motivated by the Bundesbank's concerns about the effectiveness of monetary control. One worry was that private short-term paper would be used as substitute for bank deposits and hence undermine the effectiveness of minimum reserves.¹²³ For this reason, the Bundesbank opposed the authorization of money market funds.¹²⁴ They were only permitted in 1994 (with the second financial market promotion act).¹²⁵ At the same time, the Bundesbank also objected to the issuance of short-term government securities until 1996.¹²⁶ This reflected concerns about potential conflicts of interest between monetary and fiscal policy, which were seen as more likely if a substantial part of government debts were linked to short-term interest rates. Now, the money market continues to be dominated by inter-bank activities. One explanation for this is the thin secondary market trading, which is at least in part related to the lack of liquid government bills that could act as benchmark (Deutsche Bundesbank 1997b).

In addition to these regulations, administrative hurdles and taxation reduced the attractiveness of short-term securities for issuers and investors. Secondary market activity was hampered by the securities transfer tax (at a rate of 0.1% payable with each transaction).

The securities transfer tax was abolished in 1991. Some activities have developed in the money markets since the early 1990s. However, the outstanding amounts of short-term debt securities, such as government bills and commercial paper are still small. The local business tax (Gewerbsteuer)¹²⁷ discouraged the issue of corporate bonds.¹²⁸ When calculating this tax, 50% of interest on long-term debt (with a maturity of more than one year) is included in the

¹²³ See Deutsche Bundesbank (1992a).

¹²⁴ For DM-issues of non-residents the "statement of the Bundesbank concerning Deutsche Mark issues" (Erklärung der Bundesbank zu DM-Emissionen) stipulated a minimum maturity of two year until 1992 (Deutsche Bundesbank (1992b)).

¹²⁵ From the perspective of the Bundesbank, the relaxation of restrictions with respect to short-term debt securities became possible because of the substantial lowering of minimum reserve ratios in 1993 and 1995, which reduced the incentives to substitute bank deposits with money market funds.

¹²⁶ The legal basis for this objection provided paragraph 20 of the Bundesbank act, which stipulated that government debt securities had to be issued only in conjunction with the Bundesbank. In 1996, the Bundesbank and the Ministry of Finance agreed on the issue of "BuBills" up to an amount of DM 20 billion. This was seen as a compromise, taking into account the needs of public debt management and keeping the risk of conflicts of interest low.

¹²⁷ Historically, the local business tax was established as a municipal tax on corporate income inclusive parts of interests on long-term loans. Nowadays it is intergrated into the corporate tay systems.

¹²⁸ Corporate bonds were also subject to the cumbersome issuing authorization procedure. However, the inflexibility introduced by this bureaucratic hurdle was arguably less important than in the case of the short-term commercial paper.

tax base, whereas interest on short-term loans is tax exempt.¹²⁹ To circumvent this disadvantage, large German enterprises arranged long-term borrowing – including the issuance of corporate bonds – through foreign finance subsidiaries. This finance subsidiary could then extend revolving short-term loans to the German parent company free of local business tax. However, even when taking into account the bonds issued through foreign subsidiaries, the overall importance of corporate bond finance is limited (about 85 Billion euro by the end of 2001). This underscores that the absence of a coherent regulatory framework for market-based corporate control was crucial for the sluggish development of markets for corporate securities. Several specific regulations – mainly outside financial regulation – made equity finance unattractive, in particular for small and medium sized enterprises. The German securities act (Aktiengesetz) has traditionally been tailored to large public limited companies (PLCs). It subjects such companies to stricter rules and regulations than other legal forms with respect to the formation of a firm and corporate governance (for instance the holding of shareholders meetings), and co-determination. Access to equity finance entailed more extensive information and disclosure obligations than for companies in other legal forms. The 1994 reform of the companies act aimed at promoting the “small public limited companies” by simplifying the formation of a small PLC and equalizing worker co-determination stipulations with that of private limited companies (Gesellschaften mit beschränkter Haftung). Money market papers of private issuers were subject to the issuing authorization procedure until the end of 1990.¹³⁰ This procedure required approval of individual issues by the Ministry of Finance and involved extensive documentation. The issuing authorization procedure removed much of the flexibility particularly important for short-term issues used to cover short-term financing needs. Differences in tax treatment still existed for PLCs vis-à-vis non-listed firms in terms of inheritance and gift tax (Erbschafts- und Schenkungssteuer).¹³¹ In addition, the local business tax favors borrowing, rather than raising equity, as earnings are fully taxable (compared to 50% of interest on debt, as

¹²⁹ For example, applying a tax rate of 16% to 50% of a nominal interest rate of 8% would imply an increase in effective financing costs of 64 basis points.

¹³⁰ According to paragraphs of the 795 and 808 Civil Code.

¹³¹ The relevant equity price is in the case of PLCs the market price, while it is a (usually lower) estimated “fail market value”.

mentioned above). Taxation was also an obstacle to the reduction of equity cross holdings, as capital gains from their sale were subject to full taxation under corporate income tax. The corporate tax reform that became effective by the beginning of 2001 abolished the taxation of capital gains.

2. The leading role of banks in securities markets

The German market for bank bonds is large and has grown rapidly since the 1980s. Against the background of the minor importance of bonds of non-financial private issuers, this may come as a surprise. In the case of bank bonds, regulation has played an important role in overcoming major hurdles that have discouraged the issuance of corporate bonds. As a consequence, banks have increasingly relied on bonds as a means of refinancing the still bank-based lending to the non-financial sectors. Information asymmetries have been less of an issue in the case of bank bonds than for non-financial corporations. First, special laws provide the basis for the issuance of Pfandbriefe.¹³² These are collateralized by claims on the government (Öffentliche Pfandbriefe) or a pool of residential mortgages (Hypothekenpfandbriefe). Pfandbriefe were exempt from the issuing permission procedure because of the judgment that paper of such high quality does not require an additional investor protection.¹³³ Moreover, Pfandbriefe have enjoyed a preferential regulatory treatment as far as investments in securities are concerned. In particular, the limit that investment funds and insurance firms can invest in Pfandbriefe has been the same as for government bonds (10% of the overall portfolio, compared to 5% for other bonds of private issuers such as non-collateralized bank bonds or corporate bonds).¹³⁴ Second, the government's guarantee has enhanced the credit quality of bonds issued by the state banks. For example, all state banks enjoy the highest (AAA) ratings by Fitch IBCA on their long-term debts. The advantage resulting from the government guarantee is of relevance in particular for un-collateralized bank bonds (i.e. bonds other than Öffentliche Pfandbriefe issued by the state banks).¹³⁵

¹³² Pfandbriefe is the generic term for both types of collateralized bonds. The legal basis is provided by the Hypothekbankgesetz (for Hypothekenpfandbriefe) and the Gesetz über die Pfandbriefe und verwandten Schuldverschreibungen öffentlich-rechtlicher Kreditanstalten (for Öffentliche Pfandbriefe).

¹³³ The market for un-collateralized bank bonds has grown rapidly since 1991, when the issuing authorization procedure was abolished; this is an indication that the issuing permission procedure actually posed a considerable obstacle.

¹³⁴ See Gesetz über Kapitalanlagegesellschaften, paragraph 8a(2).

¹³⁵ The issuance of non-collateralized bank bonds by the state banks has increased sharply in the past few years.

4.1.4 A special deposit insurance regulation and the other bank safety network.

It is well known, German banks take very low risks, compared to other countries and do not seem to take advantage of an implicit subsidy extended to them by the financial safety network, as shown in a recent paper by Laeven (2000)¹³⁶. Several features of German bank system contribute to this stability. Firstly, the special private deposit insurance scheme:

With respect to deposit insurance, there are significant differences between the U.S. and German systems. The current U.S. system of federal deposit insurance was actually introduced in the Glass-Steagall Act with the creation of the FDIC, with only slight changes being made in recent years for linking it to the riskiness of the bank in some ways. Under this system, all member banks pay a deposit insurance premium related to the riskiness of their portfolios and the Bank Insurance Fund (BIF) maintains contributions. The BIF is allowed a maximum capitalization of \$1.25 per \$100 of insured deposits so that if there are no payouts in good times, deposit insurance premiums are revised.

In the German context, the deposit insurance system can be referred to as a ‘private and voluntary system’. In 1974, after the Herstatt crisis, each of the three main German bank groups (commercial bank, saving bank and cooperative bank) has its own deposit insurance scheme. The insurance scheme for the private banks was established by the German Bank Association to offset the competitive advantages that the savings banks had due to their public ownership. The most important characteristics of the private bank deposit insurance scheme is the following:

□ Membership: The membership in the deposit insurance scheme is voluntary. But it is compulsory for all members of the German Bank Association, unless they belong to another deposit insurance scheme. Although membership is voluntary, non-participating banks face

Since the end of 1999, the amount outstanding has risen by 50% (to 157 billion euro by the end of 2001). Non-collateralized bonds account for about 40% of the state banks’ debt securities outstanding. The funding advantage importantly depends on the long-term debt rating that the state banks would obtain on the basis of their stand-alone rating. For example, a single A rating would have resulted in a funding advantage of about 15 basis points compared to AAA-rated EMU large financial corporate in 2001. If 15 basis points more were to be paid on the total stock of non-collateralized bank bonds, the interest expenses of the state banks would increase by about 230 million euro (or 0.3% of their total interest expenses). However, the actual funding advantage might differ considerably, as this simplified calculation does not take into account factors such as changing hedging cost or possible non-linear ties in funding cost.

¹³⁶ Laeven, Luc, 2000, Banking Risks Around the World.

afety Net Subsidy Approach, World Bank Policy Research Working Paper 2473.

high barriers. The Federal Banking Supervisory Office is required, under section 32(3) of the Banking Act, to consult the appropriate banking association before granting a license. The bank association therefore has a consultative role in the licensing process and is able to point out facts about the applicant bank that might prevent it from participating in the deposit insurance scheme¹³⁷.

1. Coverage: The coverage in the German scheme is the highest worldwide. All non-bank deposits are covered up to a limit of 30% of the liable capital of the troubled institution.¹³⁸

These very high limits make the coverage almost complete. The protection is granted to both domestic and foreign depositors and irrespective of the currency in which the deposits are denominated. But although there is nearly complete coverage, there is no statutory right, neither for depositors to be reimbursed, nor for the banks to be helped in the case of a crisis.

2. Financing: Like the deposit insurance schemes for savings and cooperative banks, the scheme for the private banks is financed exclusively by the member banks and on a mixed ex-ante and ex-post basis. Member banks have to pay a premium of 0.03% of “liabilities to other creditors arising from banking business” every year. This premium can be doubled or set at zero if there are esteemed to be sufficient funds. There is no public funding.

3. Management: The deposit insurance scheme is organized within the German Bank Association and is thus under the management and by-laws of this private association. There is no public supervision.¹³⁹

4. Auditing: All member banks have to be member of the Auditing Association of German Banks, which audits all member banks on a regular basis, both off- and on-site. In short, being a voluntary scheme, the German deposit insurance is privately managed and funded and is out of any governmental supervision. It does, however, cooperate with public authorities in the auditing and licensing of banks and in crisis resolution. Although it offers almost unlimited coverage, depositors do not have a statutory right of reimbursement. While depositors do not have any incentives to exercise market discipline, the private nature of the scheme and the

¹³⁷ Beck, Thorsten, (2002), ‘Deposit insurance as private club: is Germany a model?’, *Journal The Quarterly Review of Economics and Finance*.

¹³⁸ Given that the minimum capital for a bank according to the Banking Act is 5 million Euro, the minimum limit is 1.5 million Euro, or around 50 times per capita income of Germany.

¹³⁹ Since the scheme does not offer a statutory right to depositors, it does not fall under public regulation (Steuer : 1998).

almost unlimited coverage seem to promote peer monitoring and thus market discipline exercised by the member banks. In addition, the German deposit insurance scheme is an example of a private-public partnership, with the private component taking the first losses. The Bundesbank is prevented by the Bundesbank Act to function as lender of last resort for the deposit insurance schemes. However, it is conjectured, that the private banks' deposit insurance scheme might not have sufficient funds to reimburse depositors in the case of a systemic banking crisis or a major bank failure. In this case, and only in this case, it is expected that the government will step in, without this case being predictable (Bundesbank, 1992). Secondly, the success of the German insurance scheme has to be evaluated on the background of the institutional framework. At least, a certain anti-bankruptcy bias in Germany serves to this financial stability.

In contrast to many other countries, bankruptcy is viewed as personal rather than as economic failure. Furthermore, bankruptcy can result in criminal persecution. According to the German criminal law bankruptcy can be punished with a prison sentence of up to five years if caused by - among others - accounting fraud, hiding assets or actions that are counter to "orderly business practices". Beyond the criminal persecution, the German Banking Act prohibits a manager who has been involved in a fraudulent bankruptcy to ever take a managerial position in the banking sector again.¹⁴⁰ While the private nature of the deposit insurance scheme and the anti-bankruptcy bias in laws and economic life prevents bankers from taking excessive risks and might reduce moral hazard, it might also have a negative impact on entrepreneurship and the competitive structure of the banking sectors. A strong anti-bankruptcy bias can be detrimental for risk-taking and innovation. Finally, the dominant position of the Banking Association can transform this club very easily into a cartel that tries to impede entry of new members and therefore stifle competition in the banking sector (Zimmer : 1992). Finally, the ownership structure of the German financial sector might be another determinant for the banking stability. As described above, large parts of the banking sector are either in public or cooperative ownership, and are therefore not profit-maximizing entities. Most of the commercial banks seem more under the control of their management than

¹⁴⁰ Banking Act, Sections 32 (1), 33 (1) and 35(2).

shareholders, as described in section 3. While this lack of shareholder value maximization might decrease efficiency in the banking sector, it might also help reduce aggressive risk taking and moral hazard. The oligopolistic market structure within the commercial banking sector and the resulting high franchise values of banks might further diminish incentives to “bet the bank”.

4.2 The change of the financial regulation system in Germany

4.2.1 The emphasis on financial markets

As it is well known, the 1990s were a period of accelerated changes in the German financial system. Reliance on financial markets increased substantially. The importance of equities as a source of funding and as financial investment rose markedly.¹⁴¹ The increasing role of financial markets coincided with a fundamental change in the regulatory approach. The following table illustrates this regulatory regime shift. The table shows specific areas of regulation and their relationship to different regulatory objectives. It shows quite clearly that financial regulation was more or less synonymous with banking regulation until the 1990s. Since then, emphasis has been laid on measures to exploit potential efficiency gains in the financial system by actively promoting the development of alternative avenues of financial intermediaries, and in particular financial markets. Among these new regulations, what is worth noting is the passage of money mutual fund. In 1994 and after six years of intense debate, money market mutual funds were allowed to operate in Germany posing a serious competitive threat to German banks' deposit business.

Table 5- 1: Regulation measurement and objectives

Regulation Measure	Reduction of systemic risk	Investor protection	Efficiency Enhancement	Broader social objectives	Existing in Germany				
					50s	60s	70s	80s	90s
Banks		Yes	Yes	Yes					
Antitrust enforcement	Yes	Yes				Ok	Ok	Ok	Ok
Capital adequacy requirement		Yes	Yes	Yes		Ok	Ok	Ok	Ok

¹⁴¹ The detail description about it can be found in chapter 3.

Conduct of business rules	Yes	Yes				Ok	Ok	Ok	Ok
Deposit insurance	Yes	Yes	Yes				Ok	Ok	Ok
Fit and proper entry test	Yes	Yes		Yes		Ok	Ok	Ok	Ok
Interest rate ceiling	Yes	Yes			Ok	OK			
Liquidity requirement	Yes	Yes				Ok	Ok	Ok	Ok
Reserve requirement	Yes	Yes			Ok	Ok	Ok	Ok	Ok
Restriction on geographic reach				Yes	Ok	Ok	Ok	Ok	Ok
Security markets									
Disclose standard									Ok
Manipulation prohibition		Yes	Yes						Ok
Inside trading prohibition		Yes	Yes						Ok
Takeover role		Yes	Yes						Ok
Investment management role		Yes	Yes						Ok
		Yes	Yes						

Source: From the appendix 1 of this chapter, (pp174)

4.2.2 The deregulation process

The elements for deregulation in Germany was provided by the formation of the Common European Market and accelerated significantly by the European Monetary Union (EMU). The external pressure from joining the EMU leads to the deregulation in financial markets that in turn leads to the deregulation in the banking industry. Due to the unification of financial markets, more products were now in play in the arena of investment banking and in order to ensure that German banks remained competitive; restrictions on their product choices were removed. However, unlike the U.K., where deregulation happened in the early 1980s and took the form of a big bang, German banking deregulation maintained the European tradition of gradual change. The deregulation was brought about in different steps by two main institutional changes: (a) the Erstes, Zweites und Drittes Finanzmarktfoerderungsgesetz (the First, Second and Third Financial Market Development Laws) of 1990, 1994, and 1998 and (b) the three KWG-Novelles in 1992, 1994 and 1998.¹⁴² These changes basically expanded the possibilities for institutional investors on the exchanges, introduced futures exchanges,

¹⁴² The detail change of the regulation can be seen from the appendix of this chapter in page 174.

allowed electronic deals and deals denominated in foreign currencies, did away with exchange barriers and allowed special investment funds and liberalized equity laws with stricter supervision of securities. Changes under (b) were basically adjustments based on the EU Directives.

4.2.3 Reform of the statutory pension system: the move toward a private and funded system

In Germany, the statutory pension scheme (SPS) is one of the most obvious characters of German financial system. Since the unification of the two German states, this mandatory pension system in Germany, based on a pay-as-you-go scheme since 1957, has been under constant financial pressure. In 2000, the government subsidy to balance the pension insurance budget was expected to reach 49.4 billion Euros. This was the largest expenditure item in the government budget. On the other side, this statutory pension system has become an obstacle to growth and development of financial market and financial innovation. In order to change it, the German government did agree on a really substantial reform of the pension system not until 2001, which, contains two major elements¹⁴³:

1. Measures aimed at stabilizing the current Public Pension Scheme, by adapting the pension formula to gradually reduce pension growth experienced by both current and future retirees.
2. Arrangements for the gradual introduction of non-mandatory, individual pension accounts, dubbed “Riester Pensions” after the government minister in charge, to provide private funded retirement income alongside the state pension insurance. This reform introduced in 2001 means that the balance between compulsory national insurance, occupational providence schemes and private pension insurance within the context of the 3-pillar concept has shifted. Under the national insurance scheme benefits will be gradually reduced up to the year 2030 in order to restrict the rise in contributions. And in order to ensure an adequate level of cover in retirement, the government is encouraging the development of complementary occupational or private pension schemes. This 2001 pension reform in Germany (known as Riester reform) marks the starting point for a move towards a more funded system.

¹⁴³ Börsch-Supan, A, (2000a). ‘A Model under Siege: A Case Study of the Germany Retirement Insurance System’, *The Economic Journal*, 110 (46), pp. 24-45.

4.2.4. Integrating the former separated supervisory system into one umbrella

One of the most obvious regulation changes, which happened in 2002, is a single regulator for all financial services in Germany has been established in 2002¹⁴⁴. The BAKRE (Federal Banking Supervisory Office in Bonn), BAV (Federal Insurance Supervisory Office in Bonn) and BAWE (Federal Security Office in Frankfurt) have been combined to form a single organization BAFIN (German Financial Supervisory Authority). The BAFIN has been operating since May.1. 2002. The realization of integrated financial services supervision in Germany is an appropriate, future-oriented response to the changes sweeping the financial markets. Financial supervision must be checked regularly to determine whether, in a changing environment, its structure is still adequate to secure the stability of the financial system and the efficiency and competitive neutrality of the supervision. In this sense, the integrated financial services supervision envisioned in the German government's draft law is an appropriate, future-oriented response to the changes sweeping the financial markets. In the meantime, at the company level (formation of all financial conglomerates), product level (mortgage-linked business, pension provision, derivatives) and distribution level (convergence of channels), the borders between the individual segments of the financial market are becoming increasingly blurred. Moreover, the reform of the pension reform in 2002, which increased the significance of private retirement provision going forward, reinforced this preceding trend. And it becomes a major factor dictating the need for a change of supervisory structure.

What should be noted is, the sense of having a single regulator does not hinge on the existence of integrated companies. It is true that the larger the number and market share of integrated financial groups compared with specialized institutions, the greater the need for an integrated supervisory authority.

However, the crucial factor arguing for an integrated authority is that the sub-segments of the financial sector are converging more and more in terms of content, i.e. what counts is not the institutional, but the substantive convergence of the different segments of the financial market. In other words, the principle of "same business, same risk, and same rules" must

¹⁴⁴ Bundesbank and German Financial Supervisory Authority (BAFin).

apply. Competitive distortions emerge if institutions, which operate basically in the same business, are subject to different rules.

4.2.5 The change of the deposit insurance¹⁴⁵

German banks currently, operate under a dual system of risk-based deposit insurance - a statutory system recently introduced and the pre-existing voluntary system. The coming into effect of the Amendment implementing the European Commission (EC) Deposit Guarantee Directive on August 1, 1998, marks the first time that some legislation was passed with respect to providing compensation to depositors. As noted above, before August 1998, all credit institutions involved in the deposit taking business were voluntary members in various banking associations that provided the deposit insurance. Currently, since the EC Deposit Guarantee Scheme only provides basic coverage, the voluntary schemes are also being continued. Further, while the purpose of deposit insurance for the commercial banks is to protect the depositors, the voluntary guarantee schemes operated by the savings banks and the credit cooperatives are designed to avert their liquidity problems. With respect to coverage, under the EC driven Amendment, deposits are covered up to a level of 90% and an amount of ECU 20,000 for individuals but no coverage is provided to institutional investors, the public sector and enterprises that are part of a group. However, these entities may claim losses of deposits from the Deposit Protection Fund set up for the commercial banks on a voluntary basis by the Association of German Banks. Finally, in order to prevent liquidity crises in the wake of bank failures, the Bundesbank and all groups in the German banking industry joined forces to set up the Liquidity Consortium Bank in 1974 -this bank grants, as and when necessary, liquidity assistance to credit institutions of unquestioned soundness.

4.3 The change of the financial regulation in U.S.A financial system

4.3.1 A brief historical backdrop of US bank regulation

In the U.S., economic growth and development, combined with financial innovation, altered

¹⁴⁵ Thorsten Beck, (2001), ‘ Deposit Insurance as private system, is Germany a model?’, World Bank.

the structure of the financial system during the period between the passages of the National Banking Act in 1863 until the early 1900s. During those years, there were several instances of financial and economic misallocations that had their origins in the shakiness of financial structures. All of these factors culminated in the passage of the Federal Reserve Act in 1913 giving the U.S. its first central bank. The Federal Reserve System was designed to act as a "lender of last resort" to local banks - to provide elasticity of lending power rather than elasticity of currency. The pre-depression era saw two more significant Acts. First, the National Bank Consolidation Act was passed in 1918, which made full-service branching by national banks easier by allowing them to keep the offices of the state banks that they acquired. Second, the McFadden Act was passed in 1927, which relaxed restrictions on the real estate lending of national banks and allowed them to open full-service branches.¹⁴⁶ Then came the Great Depression and some radical changes in the organization of the banking structure. The Glass-Steagall Act or Banking Act of 1933 was passed with prohibitions on interstate bank branching, separation of commercial banking from investment banking activities and the establishment of the Federal Deposit Insurance Corporation (FDIC). The FDIC was to insure demand, savings and time deposits at commercial banks. The Glass-Steagall Act also increased the authority of the Federal Reserve System. State banking agencies also increased their requirements for a bank charter. Set in place, then, in the wake of the depression era was an elaborate dual regulatory system of federal and state controls on both internal bank operations and external bank growth.¹⁴⁷

Today, or rather, the November 1999 witnessed the final repeal of the Glass-Steagall Act. What transpired between the post depression era and 1999 is a reversal of trends. Initially, the focus of U.S. bank regulation was on penalizing or prohibiting unsafe banking practices and promoting public confidence in the banking system. Subsequent regulation, however, aimed at protecting various groups - small banks, thrifts, small businesses, consumers and agriculture - and in promoting greater efficiency in supplying financial services to the public.

The ultimate repeal of the Glass-Steagall Act is really the culmination of a deregulatory

¹⁴⁶ Klebaner, B.J., (1990), 'American Commercial Bank History', Boston.

¹⁴⁷ Ibid.

trend that started in the 1970s. Growing public dissatisfaction with the performance of financial institutions in meeting business and household demands for financial services and inflationary pressures on operating costs led to the first major deregulatory legislation in 1980. The Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980 conferred expanded credit and deposit services upon thrift institutions and set in motion the elimination of interest rate ceilings on deposit accounts. The Garn-St.Germain Depository Institutions Act soon followed this in 1982 deregulating not only the deposit side of banks but also the asset side for the first time, giving them more latitude in giving loans. Since then, piece-by-piece, several rounds of legislation had been passed to erode away the Glass-Steagall Act.

4.3.2 Liberalization of Branching and Entry: approach to competition

1. Liberalization of branching

Prior to 1994, national banks and most state banks could not branch across state lines. Under the McFadden Act, national banks and state member banks could establish branches only within their home state and only to the extent that state banks could branch under state law. The "Douglas Amendment" enacted as Section 3(d) of the Bank Holding Company Act, prohibited a BHC from acquiring a bank across state lines unless the banking statutes of the acquired bank's home state specifically authorized the acquisition.¹⁴⁸

Despite these restrictions, a majority of states allowed interstate bank holding company acquisitions on a reciprocal basis, and some without reciprocity requirements. As a result, more than 150 interstate BHC were established by 1994 and gained control of over 90 percent of the banking assets in the United States. With the enactment of the „Riegle-Neal Act" of 1994, (the) national banks and all state banks so authorized by their state legislatures are able to branch nationwide except in states that opted out of interstate branching. As a result, states can no longer impose regional or reciprocal limitations on interstate BHC acquisitions. All states became open to interstate branching unless they enacted statutes "opting out" of interstate branching by June 1, 1997. The Riegle-Neal Act also established aggregate deposit

¹⁴⁸ Klebaner, B.J., (1990), 'American Commercial Bank History', Boston.

concentration limits of 10 percent on a nationwide basis and 30 percent on a statewide basis for both interstate acquisitions of banks by bank holding companies and interstate bank mergers. This law has opened the door for further consolidation for U.S. banking and depository institutions.¹⁴⁹ By increasing competitive rivalry, Riegle-Neal generally improved the quality and availability of all types of financial services. Interstate banking and branching will lead to more competitive markets in which depository institutions will have to operate efficiently or exit the market. Market concentration is less of a problem because greater geographic mobility and the potential for entry constrain anticompetitive behavior.

2. Expansion of Securities and Insurance Related Activities of Banks.

Historically, in order to prevent the risks associated with non-bank activities from undermining the safety and security of the deposit and payment systems, federal law limited the powers of national banks to those functions "closely related to deposit taking and lending". The Glass-Steagall Act (1933) allowed commercial bank to sell new offering of government securities but prevented banks from underwriting, selling or distributing corporate securities or from engaging in brokerage activities. The Bank Holding Company is a special financial institute structure, which was used to circumvent the regulations. Although its act prohibits it from acquiring direct or indirect control over any voting shares of any company that is not a bank, there are several exceptions to this rule and the BHC structure has been the vehicle by which banks could expand their reach into other financial markets in 1980s. Under the Act, the Fed may approve a BHC acquisition or control of a non-banking company. Under this structure, a BHC can control the stock of one or more commercial banks as well as the stock of other non-banking entities that engage in businesses "closely related to banking". BHC can engage in securities-related activities through their non-bank. This corporate structure offers banks indirect access to broader financial markets while shielding the banks' exposure to the liabilities of non-bank Section Affiliates thereby protecting depositors and the insurance fund from the increased risks these activities entail. If a BHC affiliates fails, the consequences fall to the BHC and not to its banking affiliates. As a result, since 1980s, BHC affiliates have engaged in a variety of financially related activities such as securities trading, mortgage

¹⁴⁹ Rita Bisway, March. (2001), 'Recent Trends in U.S.A and German Banking Convergence or Divergence', Frankfurt

banking, a limited range of insurance underwriting, personal property and real estate leasing and some management consulting. Especially, in 1986, the Federal Reserve Board opened the door for bank holding company subsidiaries to provide investment advice and other brokerage services at the individual customer level (Mack: 1993)¹⁵⁰. Bank mutual fund activities have become less regulated. This plays a profound impact on the change of the bank business structure.¹⁵¹

In October 1996, the Fed issued final regulations that removed various restrictions on the activities between a firm engaged in securities underwriting and dealing covered under the Glass Steagal. Prior to its rescission, Regulation R prohibited officer, director and employee interlocks between member banks and firms "primarily engaged" in underwriting and dealing in securities. In 1996, the Federal Reserve raised the limit on bank securities activities to 25 percent of revenue in their securities affiliates from 10 percent previously allowed. In November 1996, the OCC also adopted a revised regulation enabling national banks to use their own subsidiaries to underwrite and deal with securities and other activities permissible for national banks or their subsidiaries under other statutory authority. Finally, erosion of the Glass-Steagall restrictions as a result of the pursuit of profits and financial innovation, as well as concerns that these restrictions put American banks at a competitive disadvantage relative to foreign banks that were not subject to similar restrictions, finally led in 1999 to the passage of legislation overturning Glass-Steagall. This legislation, the Gramm-Leach-Bliley Financial modernization Act of 1999, allows banks to underwrite securities as well as insurance, which securities and insurance companies are now allowed to enter the banking business. The separation of the banking, insurance and securities in the United State is now an old topic.

One of the benefits expected from these revisions is enhanced operating efficiencies. All these revisions allow banks to choose the form of business and organization that they find most profitable.

¹⁵⁰ Phillip R. Mack, (1993). 'Recent trends in the mutual fund industry', Federal Reserve Bulletin, Board of Governors of the Federal Reserve System (U.S.), issue 0), pages 1001-1012.

¹⁵¹ Thomas C. Baxter, (2003), 'governing the financial or bank holding company: How legal infrastructure facilitates consolidated risk?' Current Issues in Economics and Finance, issue Mar

4.3.3 The change of the regulation ideas

1. Supervisory versus regulatory approach

Traditionally, the terms “regulation” and “supervision” are often used interchangeably. However, here, it is important to view them as providing distinct, though highly complementary, functions. In general, financial regulation (on-site bank examination) have focused primarily on assessment of the quality of the bank’s balance sheet at a point in time and whether it complies with capital requirements and restrictions on asset holding. Although these traditional focuses are important for reducing excessive risk taking by banks, it is no longer felt to be adequate for excessive and complicated risk taking by bank. New markets and financial instruments make it easy for bank to make huge bets quickly. At the mean time, with the blur of the boundary between bank and Security Companies, the assets of bank become more and more difficult to satisfy the aims of financial regulatory system. This change in the financial environment for banking has resulted in a major shift from the bank regulation process throughout the world to what is called the ‘supervisory approach’. In the ‘supervisory approach’ bank examiners focus less on compliance with specific regulatory rules and the risk of the financial instruments currently in the bank’s portfolios and more on the soundness of the bank’s management practices with regard to controlling risk. Supervision is the process by which bank examiners now strive to ensure that individual banks understand the risks they face and have appropriate processes in place to manage and control them.¹⁵²

This shift in thinking was reflected in a new focus on risk management in the Federal Reserve System’s 1993 guidelines to examiners on trading and derivatives activities. This focus was expanded and formalized in the Trading Activities Manual issued early in 1994, which provided bank examiners with tools to evaluate risk management systems. In later 1995, the Federal Reserve and the Controller of the Currency announced that they would be assessing risk management processes at the banks they supervise. Now, bank examiners give a separate sensitivity to risk rating from 1 to 5 that feeds into the overall management rating as part of the CAMELS system. Four elements of sound risk management are assessed to come

¹⁵² James R. Barth, Gerard Caprio, Ross Levine, (2002), ‘Bank regulation and Supervision: what works best?’, NBER (National Bureau of Economic Research), November.

up with the sensitivity to risk rating: (1) The quality of oversight provided by the board of directors and senior managers, (2) the adequacy of policies and limits for all activities that present significant risks, (3) the quality of the risk measurement and monitoring system, and (4) the adequacy of internal controls to prevent fraud or unauthorized activities on parts of employees. Moreover, this shift toward focusing on management process is also reflected in recent guidelines adopted by the U.S. bank regulatory authorities to deal with interest-rate risk it bears. At one point, bank regulators were contemplating requiring bank to use a standard model to calculate the amount of capital, which a bank should own to bear the interest risk. Because coming up with a one-size-fit-all model that would work for all bank proved difficult, the regulatory agencies have instead decided to adopt guidelines for the management of interest-rate risk, and bank examiners will continue to consider interest-rate risk in deciding on the bank' capital requirements. These guidelines require the bank's board of directors to establish interest-rate risk limits, appoint officials of the bank to manage this risk, and monitor the bank's risk exposure. The guidelines also require that senior management of a bank develop formal risk management policies and procedures, to ensure that the board of director's risk limits are not violated and to implement internal controls to monitor interest-rate risk and compliance with the board's directives. The Basel Committee on Bank supervision has also moved toward the 'supervision approach' in deciding on capital requirements. One part of its June 1999 proposals would allow banks to use their own credit risk model or setting capital requirement, while the internal management procedures, which suggest banks to decide on how much capital beyond the regulatory minimum in some circumstances should be kept. The movement away from rules-based 'regulatory approach,' toward a more forward – looking supervisory approach' will probably increase over time. However, bank regulation will still play a prominent role in prudential supervision, not only because they are a first defense against excessive risk taking, but also because their existence provide supervisors with a stick they can wield to get banks to implement proper risk management procedure.

2. The concern about the other non-traditional business

With the increasing tendency of the bank non-traditional business and the saving and loans bailout in U.S.A, regulators in the United States and the rest of the world have become

increasingly worried about bank's holdings of risky assets and about the increase in banks' off-balance-sheet activities, activities that involve trading financial instruments and generating income from fees, which do not appear on bank balance sheets but nevertheless expose banks to risk. Under an agreement among banking officials from industrialized nations, the Federal Reserve, the FDIC have implemented a second type of Bank-Based capital requirement, which was fully phased in December 1992. Under this risk-based capital requirement, which the bank must meet along with the leverage ratio capital requirement, minimum capital standard are linked to off-balance-sheet activities, such as swap, future and options. In addition, in 1996, the Federal Reserve announced a third type of capital requirement that took effect in January 1998 to cover risks in trading activities at the largest banks. The federal required these banks to use their own internal models to calculate how much they could lose over a ten-day period and then set aside additional capital equal to three times that amount. Bank can meet this new capital requirement with more standard form of capital or by issuing a new form of capital, called Tier 3, which consists of short-term securities that holders cannot cash in at maturity if the bank is undercapitalized.

5. Conclusion: the question concerning the optimal supervision system

From the above analysis, the problem facing the German banking regulation system and USA banking regulation system are quite different. In terms of Germany, the problem lies in the efficiency of the bank and financial market. In contrast, for American, more attention is paid to how to prevent systematic risk. Sometimes, even if we find some similar developing tendency of financial regulations from what we had debated previously, for example, the more emphasis on financial markets, the less state intervention in the market... it also should be recognized from the start that there is no single "optimal" model for the organizational structure of financial regulation. For example, economist seeking explanation for the financial crisis of 1997-1999 are reaching consensus that a major factor was weak financial institutions, which resulted in part from inadequate government regulations. At the same time many developing countries are struggling with an over regulated financial system—one that stifles innovation and the flow of credit to new entrepreneurs and that can stunt the growth of well-established firms. Therefore, local circumstances in a particular country are very important in

determining the best institutional arrangement for that country. And, no specific organizational model can be applicable to all countries, including countries in the same region. Moreover, it must be noted that even the countries that have adopted an integrated approach have done so in a wide range of ways. Of course, this fact—there isn't a 'one fit for all' regulation system in the world-, looks a little pessimistic. However, some experience and lessons coming from other countries still keep valuable when the regulator arranges their individual supervision system. The skill lies in what should we learn from other country's experience and how we should coordinate the above said three objectives smoothly in our own practice.

From the arguments we have developed so far and the empirical conclusion in the former chapter, the following conclusions can be drawn:

Firstly, the financial regulation's idea has gradually changed from 'regulation' to 'supervision' so as to adapt to the bank's new business lines.

Secondly, regulatory and supervisory strategies that promote private sector forces work well. Countries with policies that promote private monitoring of banks have better bank performance and more stability. Furthermore, countries with more generous deposit insurance schemes tend to have poorer bank performance and greater bank fragility, which confirms research by Cull, Senbet, and Sorge (2000) and Demirgüç-Kunt and Detragiache (2000). The private sector theme is reinforced by our results on government banks.

Secondly, to know whether the country that imposes tighter restrictions on the ability of commercial banks to engage in securities, insurance and other financial business has less efficient but more stable financial system, it is clear that diversification of income streams and loan portfolios also works toward improving performance and stability. We find that diversifying income streams – by not restricting bank activities– is positively linked with bank performance.

Diversifying income streams, not surprisingly, works best when there is an active securities market in which to diversify. There may be some negative implications for bank efficiency due to restricting commercial bank activities. In terms of stability, we do not find any strong and robust links between bank business diversification and the risk of bank industry. More specifically, countries with a regulatory environment that inhibits the ability of

banks to engage in the businesses of securities underwriting, brokering, dealing, and all aspects of the mutual fund business tend to have more fragile financial systems. The positive link between regulatory restrictions and major or even systemic banking crises, moreover, does not appear to be due to reverse causation.

Thirdly, taking into account the problems of customer's protection and long-term macro economic efficiency, it appears necessary to make some cooperation between the financial regulator and other consumer protection organization. In terms of the consumers' protection, all banks should be required by regulator to offer one low-cost account for consumers who write few checks per month. Following this method, some basic customer's protection methods should be arranged.

Appendix 1: The historical development of German financial regulation:

The banking act (Kreditwesengesetz, KWG) of 1961 has been the legal cornerstone of financial regulation in Germany after the Second World War. The broad definition of financial services as banking activities provides the legal basis for universal banks.¹⁵³ After that, the German financial regulation system experienced two times of great changes. Firstly, in 1974, when Bankhaus Herstatt collapsed as a consequence of large speculative positions in foreign exchange, many new regulations are established, such as 'a system of group-specific deposit insurance schemes' and the Liquiditätskonsortialbank (liquidity bank) to assist solvent but illiquid private banks. Secondly, Since the 1990s, European harmonization has increasingly driven changes in banking regulation. The following table shows the most significant event happened in German financial system.

¹⁵³ According to paragraph 1 of the banking act, the following activities constitute banking businesses: taking deposits, lending business, discounting bills, principal broking, safe custody services, investment fund business, guarantee business, giro business, underwriting business, prepaid card business, and network money business. A similarly broad definition – which, of course, did not include new businesses as e-banking – was already included in the first banking act of 1934. See paragraph 1 of the Reichskreditwesengesetz of 5 December 1934.

Table 1: Bank Regulation in Germany- A selective overview

Year	Event
1957	Bundesbank Act
1958	Branching restrictions abolished
1961	German Banking Act
1965	Interest rate regulation by FBSO replaces cartel agreements among banks
1967	Interest rate regulation completely abolished
1968	German banks and Bundesbank enter into so called "Gentlemen's Agreement" effectively prohibiting foreign banks from underwriting issues of DM-denominated bonds by foreign issuers
1969	Introduction of first group specific deposit insurance schemes
1974	Default of Bankhaus Herstatt
	Introduction of Principle Ia that limits open positions in forex and commodities to 30% of bank capital
	Establishment of the Liquiditäts-Konsortialbank GmbH
	Expert group on "Grundsatzfragen der Kreditwirtschaft" (fundamental issues of the banking industry)
1976	Second Amendment to the German Banking Act <ul style="list-style-type: none"> • new rules for large loans to single borrowers • new rules on credit files • FBSO authorised to audit single institutions without specific reason • explicit limits on bank losses that oblige FBSO to close the bank
1974-1977	Enlargement/adjustment of group-specific deposit insurance schemes for private banks, public banks, and co-operative banks respectively <ul style="list-style-type: none"> • 1975 Public savings banks • 1976 Private banks • 1977 Co-operative banks
1980	Expansion of the "Gentlemen's Agreement"
1983	Near collapse of Bankhaus Schröder, Münchmeyer & Hengst
1985	Third amendment to the German Banking Act <ul style="list-style-type: none"> • Capital requirements to be met on consolidated basis • New limit for lending to a single borrowing entity
	Abolition of the "Gentlemen's Agreement"
	Permission to issue DM-denominated zerobonds
1986	Permission to issue DM-denominated Certificates of Deposit
1990	First Financial Market Promotion Act
1993	Fourth amendment to the Banking Act implementing the EU <ul style="list-style-type: none"> • Solvency Directive and • Capital Adequacy Directive • Threshold for large loans to be reported to the Bundesbank's credit register raised from € 500,000 to € 1,500,000
1994	Second Financial Market Promotion Act <ul style="list-style-type: none"> • Introduction of Money Market Mutual Funds (Amendment to the Investment Company Act) • Prohibition of insider trading • Establishment of Federal Supervisory Office for Securities Trading
1995	Fifth amendment to the Banking Act implementing new rules on consolidation and large credits
1998	Sixth amendment to the Banking Act implementing EU's <ul style="list-style-type: none"> • Investment Services Directive • Capital Adequacy Directive and • Post-BCCI Directive
1999	FBSO creates division supervising "complex groups"
2002	Establishment of an integrated financial services supervisor – the Federal Financial Supervisory Authority – integrating the formerly separated supervisory offices for banking, insurance and securities trading

Source: Bundesanstalt für Finanzdienstleistungsaufsicht

IV: The transformation of the Chinese bank industry in face of the WTO

With the tendency of globalization in the world's financial system, especially, with Chinese accession to the WTO in 2001, Chinese financial business begins to experience a new era. For the first time after more than forty years in a controlled market, China took the step towards fully opening its doors to foreign trade partners. This is both a good and bad piece of news for the Chinese financial business. On the one hand, this market stimulus will intensify the economic growth, open more opportunities to them. On the other hand, the Chinese banking industry has limited internal management capabilities and is still heavily burdened by massive non-performing loans. Foreign competition is hardly welcomed.

Facing the significant opportunities and looming competition ahead, banking industry is at a crossroads of change. Standing still is not an option as institutions confront both the onslaught of new competitors and the equally daunting challenge of finding the right direction for themselves. How should Chinese bank do? Drawing on the experience from the above-mentioned developed countries, this chapter provides an in-depth investigation about the evolution of Chinese banking industry and discusses the challenges facing the Chinese banking industry at this momentous time. Finally, some necessary strategic priorities that banks and financial regulators should set will be addressed.

1. WTO and the current Situation of the Chinese Bank Industry

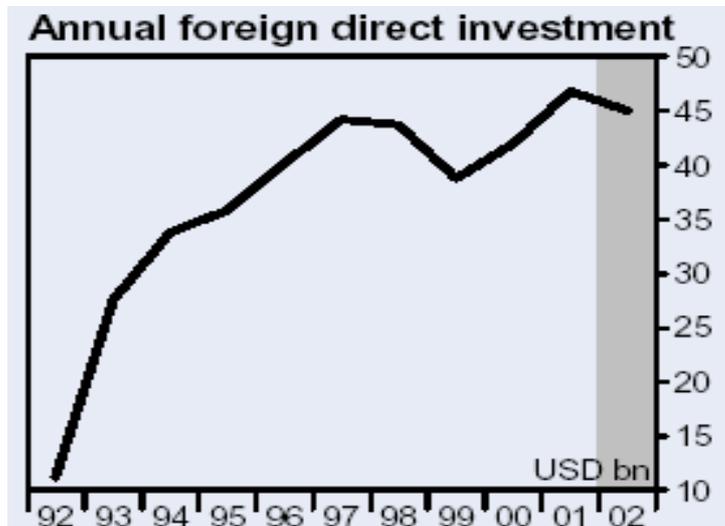
1. The background of the reform: WTO and the second phase of the Chinese economic reform

1.1 China's remarkable performance over the past two decades

Since China set out its 'gradual economic reform and opening policy' in 1978, Chinese economy has undergone a substantial transformation from Planned Economy to Market Economy. In general, the "gradual reform model" is based on this simple philosophy that man always tries to solve its old problems by developing a new substitutable power. That means,

with the development of the new substitutable power in the economy, the influence of the old obstacles, which seemed to be insurmountable in the past, gradually become smaller and smaller. Keeping this philosophy in mind, China initiated its economic reform from the following two aspects:

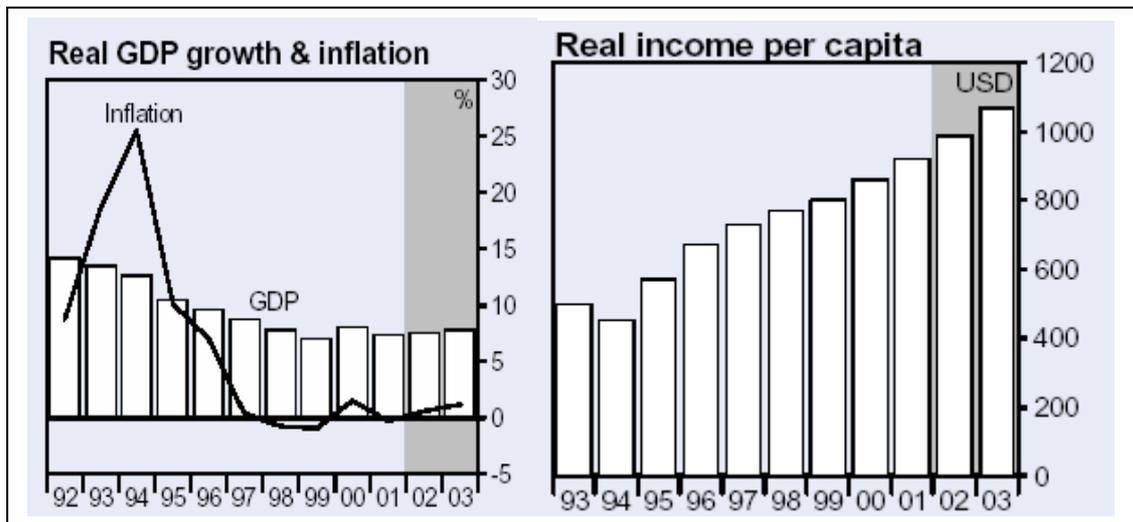
As the key jumping-off point of the economic reform, China has allowed farmers to lease land from the collectives and produce agricultural output for their own benefit and encourage the individual to set up their no state owed business. These reforms have significantly raised productivity and gave the first major push that led to the taking off in China's growth during the early 1980s. In the Meantime, as the second main component, China has increasingly opened its doors to foreign trade, removed barriers to foreign direct investment (FDI), and facilitated trade development in order to gain access to capital and new technologies. With its improved infrastructures and large supply of competitive labors, China had attracted USD 392 billion by the end of 2001, and has become the world's third largest FDI recipient after the United States and the United Kingdom. This approach has greatly increased the aggregate investment in the whole society.



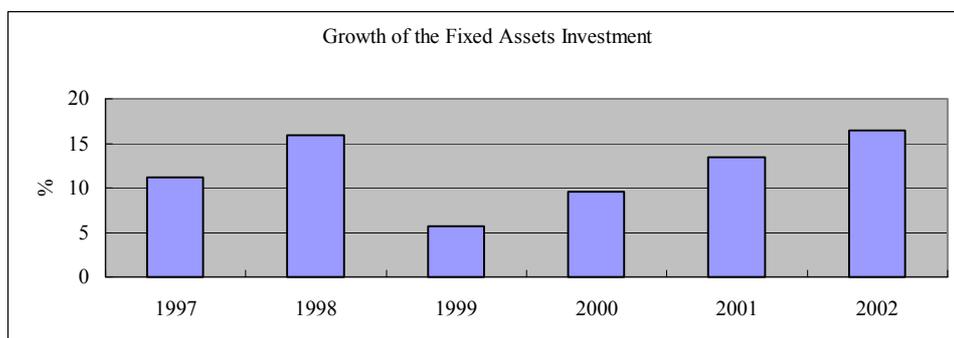
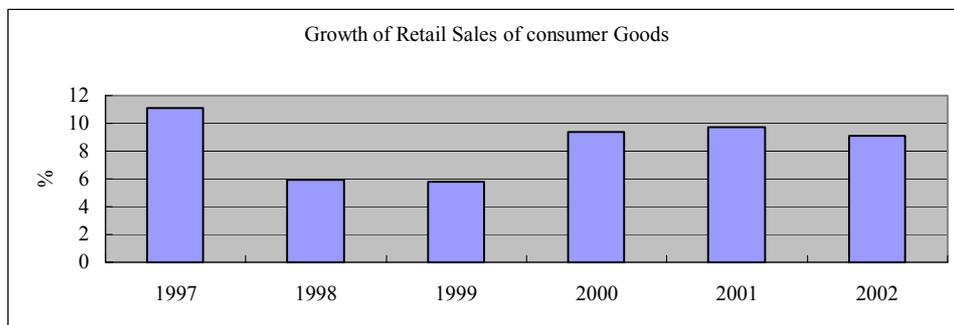
Source: the US-China Business Council, 2003

Benefited mainly from these two measures, from 1979 to 2002, Chinese economy has enjoyed an unmatched growth with an average annual growth rate of 9.5%, reflecting the sweeping reforms. Over these periods, growth lifted about 350 million Chinese out of poverty and real GDP per capital rose from below USD 168 to just approaching USD 1,000, while

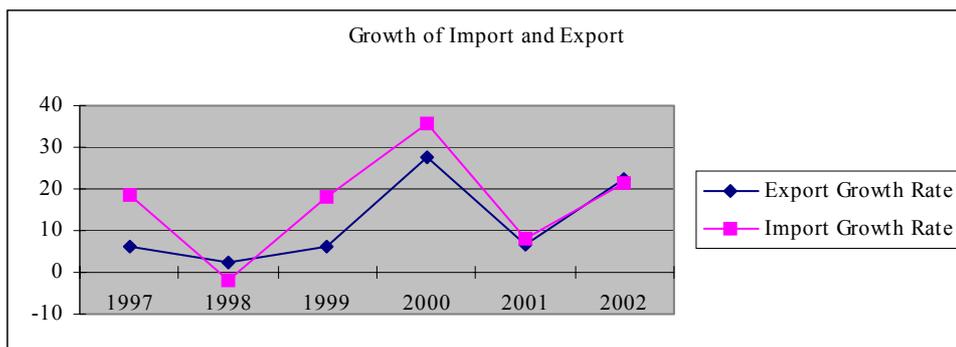
Chinese GDP moved from 11th place to 7th place in the world. At the end of 2002, the GDP stood at 1248.7 billion USD, with the growth rate accelerating by 7 to 8 percent. The economic growth rate rose steadily quarter-by-quarter, indicating an increased economic dynamics.



Source: the US-China Business Council, 2003



Source: Chinese Statistic Bureau 2003



Source: Chinese Statistic Bureau 2003

All the investment demands, net exports and consumption's demand show their contribution to the economic growth. Besides the exceptionally high growth, Chinese economic policy management has also been remarkably impressive. Inflation rate, which shot up in the early 1980s, mid-1980s and early 1990s, has been brought under control over the past decades. The dual foreign exchange rate system was repealed in 1994 and has been substituted officially by a managed floating rate system, which is a fixed exchange rate against the US dollar. Since 1996, the Chinese currency, the Renminbi, has been convertible for the current account transactions, although it remains non-convertible for the capital account transactions until now. As we mentioned above, the past two decades have witnessed a remarkable performance of Chinese economy. Based on the favorite economic development over the past two decades, Chinese government took its economic reform a step further in 2001 by accessing to the WTO.

1.2 How to understand the WTO: The second developing phase of the Chinese economic reform

Notwithstanding the tremendous progress in the field of the economic reform over the past 20 years, the structural adjustments, which were more difficult, are needed to propel Chinese economy to a more sustainable growth path. Up to now, in comparison with the advanced market economy, from 1978 to 2001, Chinese reform can be vividly called as "the government propellant reform". During those periods, the power of the economic reform comes from the interior of China. Chinese government was the main pushing power of the economic reform. Government drawn up the developing strategies and exerted every concrete

step in the process of the whole economic developments. Government forces the SOE (state owned enterprises) to make its reform. And government investment accounts for a large share of the economic growth as well.

However, things have begun to change in 2001. After twenty years of “government pushing reform”, Chinese government has cultivated some better economic elements. This was reflected from the following two aspects. Firstly, the sustained economic growth greatly elevates its capability to withstand the risk. Secondly, the non-state-owned enterprises are gradually changing the basic Chinese economic foundation. However, Chinese economic development still faces the fundamental obstacles. That is, Chinese economic development lacks of the integrated systematic framework, which can guarantee the sustained economic growth. In particular, this is reflected in the reform of Chinese SOE. The SOE sector, which despite accounts for declining shares of national outputs, continues to dominate the economy in terms of capital allocation, employment and fixed assets. Although at least two-thirds of SOE makes losses, the sector crowds out more efficient uses of funds, and continued support of SOE through directed lending may raise serious systemic risks and increase the fragility of the banking system. Chinese government tried a series of approaches to reform its SOE sectors. But, given the public share in SOE, both the owner (Chinese government) and the manager (the leader of the enterprise) are short of the incentives to change the current situation. In addition, just like the economic development in many countries, at the initial taking-off phase of the Chinese economy, the economic development is largely dominated by the capital investment and the appearance of the new market powers. And the growth rate of the economic development became the single aim, which was overestimated. In comparison with this, the importance of setting up a set of Economic Operational Mechanism for the whole society is always underestimated, such as a transparent and fair market competition system, the credible accounting and auditing system, the integrated social security systems and the normative credit systems in the whole society.

Consequently, after 20 years high-speed development, now, the Chinese government has to face the persistent macroeconomic imbalances and inefficiencies. This suggests that this pattern of growth is not sustainable in the long run. And a slower growth trend has become more apparent over the past five years. This means, after the tremendous progress on reforms

over the past 20 years, further, and more difficult structural adjustments are urgently needed to propel the economy to a more sustainable growth path. Facing these challenges, the Chinese government made a decisive choice in 2001. That was entry into the WTO, which are expected to help china to shift its economic development into its second phase - the “Market-Propellant Phase”. In this phase, the Chinese economic development will be powered from interior by the market itself, instead of the power of the government from the exterior. The Chinese economic developing model will more and more rely on the increase of efficiency.

This is just the quite reason, why, at this moment, China is eager to become one member of the big WTO family. It is well knew, in order to fill the commitment to the WTO, the Chinese economic regulation will have to become more and more anticipated and transparent. And in the course of internationalization, Chinese SOE will have to make profounder evolution to survive from the fierce competition, including the fundamental reform of the ownership. And, the roll of the government will also intend to transfer itself gradually from the “producer of the new economic environment” to the “adapter of the new economic environment”. In one word, the regulation of the WTO will propel the Chinese economy reform to a new stage. That is, the reform will be reliant more and more on the market itself. So, it looks certain that the accession to WTO can be regarded as the second most important phase in China’s economic policy regime, following Deng Xiaoping’s reform and opening-door policy in the late 1970s. It is not only the opening of more industry fields to the world entrants, but also the fundamental changes of the Chinese economic foundation. A policy switches from the former inner government pushing to the extern market propelling.

1.3 The Chinese WTO commitment in financial service trade

Taking account of the impacts of the WTO, undoubtedly the financial industry is worth of the most attention. China’s banking industry, financial sector, just like the state-owned enterprises (SOE), is the other unaccomplished areas in Chinese economic reform. The country’s entry into the WTO will catalyze further changes undoubtedly. China’s GATS commitments represent the most radical reforms will be executed in its financial fields. In terms of the

insurance industry, the 1994 Uruguay Round¹⁵⁴ commitments specified that insurance services could be supplied through a branch or JV only in Shanghai subject to a number of conditions pertaining to minimum capital and prior presence. On accession, non-life insurers are permitted to open a branch or JV with 51 per cent of foreign ownerships, whereas life insurers are permitted 50 per cent ownership of a JV in a partner of their choices. Non-life insurers can provide “master policy” insurance and insurance of large scale commercial risks without geographic restrictions, and insurance of enterprises abroad as well as property insurance, related liability insurance and credit insurance of foreign- invested enterprises in five cities: Shanghai, Guangzhou, Dalian, Shenzhen and Foshan. Life insurers are permitted to provide individual (not group) insurance to foreigners and Chinese citizens in the same five cities. By 2004, all restrictions will disappear except the foreign ownership limit on life insurers. Licenses are to be awarded solely on the basis of prudential criteria and with no application of quantitative limitations or economic needs tests.

Under the 1994 commitments, foreign banks could only operate in specified regions, accept deposits only from non-residents and only in foreign currencies (with some exceptions), and make no loans to Chinese citizens. Concerning accession, geographic and client limitations will be eliminated for foreign currency business. Even though the schedule states that on accession, local currency business will be allowed in 4 cities (Shanghai, Shenzhen, Tianjin and Dalian), there seems to be a binding restriction on clients, which will only be relaxed in two years. The entire banking sector will be fully liberalized by 2006. As in the case of insurance, licenses are to be awarded solely on the basis of prudential criteria with no quantitative limitations or economic needs test applied. There were no commitments on securities in 1994. On accession, JVs with up to 33% foreign ownership will be allowed to conduct the domestic securities investment and the fund management business. By 2004, foreign ownership of such ventures will be allowed to increase to 49 per cent. Furthermore, joint ventures with up to 33 per cent foreign ownership will be allowed to underwrite domestic equity issues and underwrite trade in international equity and all corporate and

¹⁵⁴ China participated in the Uruguay Round services negotiations and submitted a schedule under GATS in April 1994. Since China was not a member of the WTO, this schedule did not have legal status.

government debt issues. Exactly, the fulfillment of China’s accession commitments will lead to one of the most dramatic episodes of liberalization. Over the space of some six years, one of the most closed financial services markets has promised to become one of the most open fields.

2. The current situation and evolution of the Chinese bank industry

2.1 The overall description on the Chinese financial industry

1. The four state-owned banks are still the foundation of Chinese financial system

From the analysis on the Chinese Flow of funds, the main financing instruments adopted by domestic non-financial sectors are loans, bonds (both government bonds and corporate bonds), stocks, social security funds, inflows of FDI as well as other liabilities incurred abroad. Among all of these financial instruments, the loans of monetary deposit institutions to domestic non-financial sectors in 2001 accounted for 63 percent of whole non-financial sector’s financing. In contrast, the direct financing, which means raising money through stock and bonds, is only 19 percent of all the non-financial sector’s financing. Among them, financing through bond issues contributed 13 percent and financing through stock reached 6 percent. This illustrated obviously that current Chinese bank system still plays the most critical role in its financial structure (table 6-1).

Table 6- 1: Financing structure of financial markets in China from 1996 to 2001

	1996	1997	1998	1999	2000	2001
Indirect financing ¹⁵⁵	63	59	66	55	54	63
Direct financing	10	15	19	21	22	19
Foreign capital	27	26	15	24	24	18

Source: Annual Report 2002, the Peoples Bank of China

Taking this description a step further, and making an analysis about the market structure of the Chinese bank industry, the dominant position of the Chinese Major Four State Banks

¹⁵⁵ Indirect financing is contrast with the direct financing, referring the financing from the loan. In contrast, the direct financing means raising money by the stock and bonds via the security market.

can be exhibited. According to a brief classification, the Chinese commercial bank industry is composed of three major groups with different characteristics.

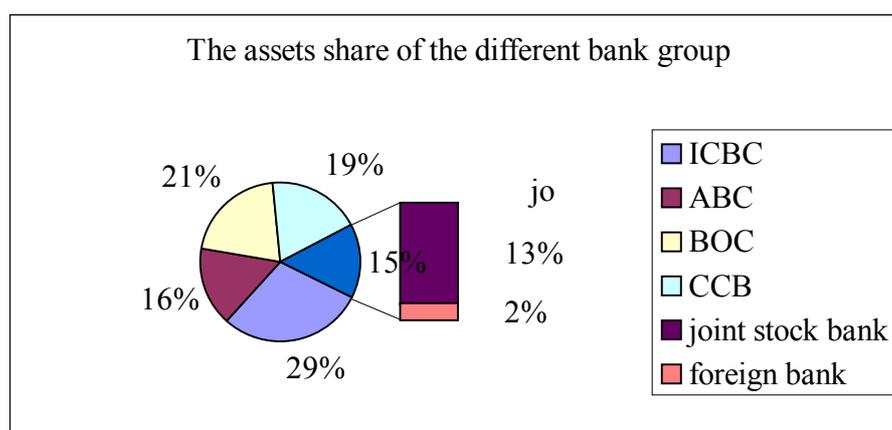
State Banks: (ICBC, ABC, BOC, CCB)¹⁵⁶. These institutions, with their extensive branches and distribution networks, represent a major force in mass-market retail banking. Their geographic dispersion has created significant decentralization. Head offices often have limited knowledge and low operational control over activities of provincial branches.

Regional banks (including the Joint Equity Commercial Banks and City Commercial Banks): These banks focus on large urban centers and coastal regions, with an emphasis on corporate banking. They generally practice stricter controls over risk and are more cautious in extending their balance sheets. Strong local networks and organizational flexibility are their key advantages.

Foreign banks: Existing restrictions currently limit their business scope, relatively more active in project financing.

Among these three different groups, the Major Four State Bank predominates the whole market almost in all fields. In terms of market share, the four State banks dominate. The remaining market is highly fragmented into Regional banks and Foreign banks, making up some 15% of the market share. And in regard to the market share of the lending, the Major Four State Banks account for more than 70% of the market shares (Figure 6-1).

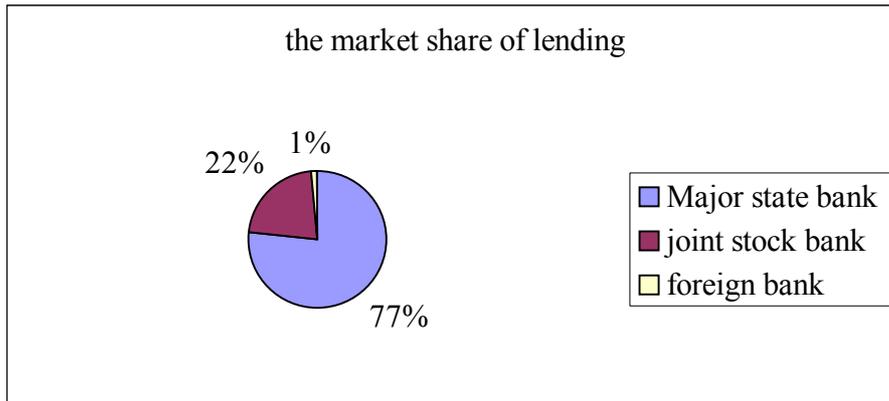
Figure 6- 1: The different market status of Chinese banks



Note: ICBC, Industry and Commercial Bank of China; ABC, Agricultural Bank of China; BOC, Bank of China; CCB, Chinese Construction bank

Source: Source: Annual Report 2002, the Peoples Bank of China

¹⁵⁶ ICBC, Industry and Commercial Bank of China; ABC, Agricultural Bank of China; BOC, Bank of China; CCB, Chinese Construction bank



Source: Annual Report 2002, the Peoples Bank of China

2. The quick development, the unpredictable policy risk and the poor management of the SOE in the Chinese security markets

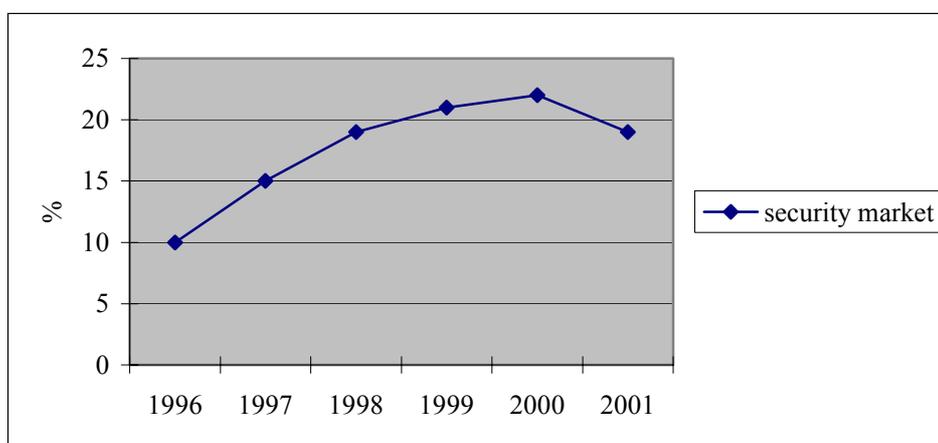
The appearance of the Chinese security markets could be traced back to a special historical background. Since its creation, the Chinese security markets have experienced a high-speed development. However, it has been suffering from the unpredictable policy risk consecutively from the day of its creation.

As what has been mentioned previously, in 1978 the Chinese government began to initiate its market-oriented-economic-reform. Although the achievement is remarkable and acknowledged, from the beginning of the economic reform, the Chinese government has always been preoccupied by a great problem, which is how to reform the Chinese state owned enterprise and how to let SOE become more competitive and efficient in the market, because SOE account for almost all of the enterprises in Chinese business before China began the reform.

In order to solve this problem, China keeps trying a lot of ways, such as increasing the equity stocks of the enterprises, increasing the loan to these enterprises. But the result is not satisfied. The SOE made a lot of losses in its business and lost a lot of market shares in its competition with the private companies. Gradually, the Chinese government realized that the problem facing by SOE is not only the short of the operational money, but also the lack of capability to earn the profits, which stemmed from the problem of the ownership. Given this background, the Chinese government tried to exploit a new way to ‘shoot these two birds with one stone’. The one Stone is “security markets” and these two birds are “the lack of

operational money” and “the structure of ownership”. Since the inception of the Shanghai Stock Exchange (December 19, 1990) and the Shenzhen Stock Exchange (December 1, 1990), Chinese security markets have experienced an amazing growth and development. The number of listed companies reached 1,160 at the end of 2001, up from only 10 companies in the early 1990s, with a total market capitalization of 525.6 billion USD. In addition, more than 65 million investment accounts are on record as of the end of 200¹⁵⁷. Consequently, the more and more companies raised their capitals through security markets.

Figure 6- 2: Financing rate of the security markets



Source: Chinese Statistic Bureau, 2002

Notwithstanding this rapid development of Chinese security markets, a very special character of Chinese security market has been hampering the sustained development of these markets, and exposing this market to the special ‘policy risk’. Like we mentioned earlier, the Chinese security markets have to take a special responsibility right from its creation, that of raising capital and funds for the SOE. So, in these markets before 2000 year, even today, the SOE account for more than 60 % of the listed companies. What is worth of more noting is, in most of these State Own companies, the share of the company can be divided into two classes: One is the tradable-shares, and the other is un-tradable-shares. For the tradable shares, you can sell it and buy it in the security market freely just as what you want. But for the un-tradable shares, it includes the S-0-S (state owned shares) and the own-shares. Both of these two kinds

¹⁵⁷ CSRC, Annual Report.

cannot be traded in the market. And this un-tradable share always occupies more than 30% percent of the equity stocks of the company. These three kinds of shares enjoy the same rights of shareholders in the board of the directors. This kind of ownership arrangement for SOE is consistent with the typical Gradual Economic Reform Model in China. Because of the imperfectness of the emerging markets, especially, the shortage of the capability to lead the change of the economic operation to the best direction, the government prefers this Gradual Economic Reform Model. On one side, this Gradual Economic Reform Model allows government to raise money from the market for SOE. On the other side, with this model, the government can still grasp the whole controlling right for these listed companies by the controlling right to its SOS and Juristic-person-shares until the maturity of the market mechanism. That means, the government shifts its controlling right to the market step by step instead of directly and fundamentally.

However, this kind of share structure gave rise to a lot of problems and policy risks in most of the listed companies, because nobody, except of the government, knows, when and how the State Owned Shares will be sold out to the market. And this caused a series of unstable market anticipations to the future stock prices.

3. The typical character: the separated financial business to prevent the risk

The other obvious feature in the Chinese financial fields is the “separation”. The Chinese financial institutions are divided obviously into three classifications. That is Bank, Security Companies, as well as Insurance Companies. Each of them follows the strict business line in the unattached fields. At the same time, taking account of the infancy of the Chinese security markets and the frail corporate governance of the Chinese financial institutions, the social capital is also separated from the each other, and restricted into the different markets. There is not a bridge to connect the monetary markets and the security markets. The surplus capital in the banks and insurance companies is not allowed to enter into the security markets directly. For example, until the May of 2004, the application of the insurance capital is still constrained in the fields of treasury bonds, financial bonds and small quantities of mutual funds in security markets. The insurance capital is prohibited to purchase the stocks in the security markets directly. This restriction becomes one of the most direct reason for the low return of Chinese insurance industry. In year 2002, the average return of Chinese insurance capital operation is

3.14%. In line with this separated business, different authorities were established to regulate different business operation separately. The China Insurance Regulatory Commission, which was established in 1998, is in charge of the supervision on the insurance companies. In the same year, the China Security Regulatory Commission is set up to supervise the securities institutions. In 2003, regulatory responsibility on bank business was hand over from the People's Bank of China to the Chinese Bank Regulation Commission.

2.2 The main rhythm in the Chinese bank industry: The reform and the development

In china, the reform of bank industry is under way to match the need of the market economic. With one word, the current transformation can be outlined as the quick extension in quantity and the slight improvement in its quality

2.2.1 Reforms underway: shift occurring to the market driven environment

The transformation of the Chinese bank sector began in some two decades ago, commencing with regulatory reform and culminating with market deregulation. There are five key stages:¹⁵⁸

- Pre-1991: Building of the banking infrastructures

In 1984, the People's Bank of China (PBOC) relegated the lending business to the newly established state banks, marking the creation of the modern financial system. Over the following decade, the PBOC built on this foundation, gradually introducing legal structures and encouraging inter-bank transactions.

- 1991 to 1995: Acting as cashiers to the economic transformation

To preserve the controlling right to capital allocations during the periods of the economic transformation, the state banks maintained their traditional role as state treasurers, directing the capital from the households to both the State-Owned Enterprises (SOE) and the emerging shareholder enterprises. Only toward the end of this period did the banks themselves recognize the need to become more profit-driven. Subsequently, they applied more rigorous

¹⁵⁸ 'Almanac of China's Finance and Bank in 2002', Chinese Financial Publishing House, Beijing, 2003.

risk management measures.

- 1996 to 2000: Embracing the market reforms

During these periods, through a series of reforms, the policy mandated lending gave way to a more market-driven form of lending. The economic reformers recognized that the effective commercial credit disciplines were crucial to the appropriate allocation of capital among the newly rebuild enterprises in all sectors of the economy. At the same time, the interest rate deregulation and the limited entry of the foreign institutions catalyzed the competition. These changes prompted the introduction of increasingly diverse products, such as the consumer financing.

- 2001 to 2005: The preparation for the free market competition

In late 2001, China entered into the WTO. This momentous step is expected to create a fairer playing field for both domestic and foreign banks. Under its WTO commitments, China agreed to liberalize its commercial banking sector in a phased approach. In anticipation of competition, the authorities continued to implement aggressive plans to enhance the strength of domestic players. Accordingly, the authorities are expected to decrease the ownership of the state banks within 5 years, leading them toward full independence.

2.2.2 The current situation of the Chinese bank industry

1. Both current Market scale and future market potential are large.

China today is one of the largest banking markets in the world. The total bank assets amounted to US\$1.9 trillion in 2001, comparable to the advanced markets such as the United Kingdom, Germany, and France. Assets have been growing at an annual compounded rate of some 15% for the past five years. The level of bank assets relative to gross domestic product (GDP), at over 160%, is also among the highest in the world. The sustained growth and the long-term potential of the Chinese market, set against a stagnant global economy, are attracting many foreign banks. A relatively stable macroeconomic environment and Chinese households' high propensity to save have assisted the rapid growth of the Chinese banking sector. Over the past five years, both the number of the banks and the aggregate assets of the

banks have witnessed a high rate development. The number of the bank increased by 100% to 312. And the aggregate assets of the whole bank industry increase by 107.3%. In particular, the non-state-own banks make greatest contribution (Table 6-2).

Table 6- 2: Chinese commercial banks system : the growth of the scale (1995—2002)

	Number of the banks			The aggregate assets billion Rmb		
	1995	2002	growth rate%	1995	2002	Growth rate%
Major state Own banks	4	4	0	8056	13549	68.2
Joint Equity Commercial Banks	11	10	-9.1	430	2997	584.4
City Commercial Banks	3	108	3500	30	1152	3741
Foreign Banks	139	190	36.7	160	288	79.6
Sum	156	312	100	8677	17987	107.3

Source : Almanac of Chinese Finance and Bank (1996-2002) and Statistic Monthly Paper 2003-2 of the PBOC

2. The current market is still in a nascent and emerging phase

Despite its size, the Chinese banking industry remains at an embryonic stage of its development.¹⁵⁹ Its key characteristics are laid out below: Firstly, the large market is dominated by the corporate banking. The legacy of state-directed lending created within the state-banks a large stock of corporate loans worth about US\$760 billion, making up around 91% of their total loan portfolios. However, recent moves toward the market reform have slowed the growth in corporate lending. The Consumer loans now account for most of the shares in the state banks' loan portfolios. Secondly, the simple and the basic products are the norm. The product innovation has historically been curtailed by stringent regulatory restrictions. The market has also been sheltered from the competition. The key customer profiles have been homogenous (State Owned Enterprises) and what their needs is only basic service, with little impetus for sophisticated products. Consequently, over 90% of the four major banks' revenue is derived from interest-related incomes, which generally yields lower risk-adjusted returns than fee-based products. Fee-based services account for less than 5% of revenues. This ratio is considerably lower than the ratio in developed markets, such as the U.S. and Germany, where fees or commissions based services make up a much higher

¹⁵⁹ Huang, Jinlao, (2001), ' The development and the reform of Chinese commercial banks', Speech in Beijing,.

percentage of revenues. In Germany, the commissions generated in the last five years almost 40% of gross earnings of its big commercial banks. This is principally due to the fact that the big banks do a relatively large volume of business in securities trading. In USA, the average commissions and fees also mounts to 34% the operating incomes in 2001. Just like what has been debated in chapter 4, without the assets and incomes diversification, the high concentration of the incomes into the interest fields exposes the bank industry to two kinds of risks. One is the high interest risk, which normally comes from the mismatch of the liabilities and the assets. The other is the weak capability for the Chinese banks to fight against the economic fluctuation, in compare with its foreign peers. The main reason for this kind of situation lies in the undeveloped Chinese security markets.

However, what should be noted is, the Chinese financial regulators now are ready to change this situation, by allowing the Chinese bank industry to enter into the oversee security businesses. In 2004, Chinese financial regulators drawn up the QDII (The Qualified Domestic Institutional Investors) regulation in order to encourage the Chinese bank and the bigger insurance companies to diversify their assets and risks in the international security markets.

Table 6- 3: The structure of the operating incomes of Chinese commercial banks (2001) (%)

	ICBC	ABC	BOC	CCB	Communication Bank
Interest incomes	71.00	97.13	77.60	91.67	64.00
Non interest incomes	29.00	2.87	24.40	8.33	36.00
Commission incomes	1.8	2.1		3.0	3.2
	CITIC	China Ever bright	Huaxia	Minsheng	China Merchant
Interest incomes	59.00	24.30	80.10	62.48	61.80
Non interest incomes	41.00	75.70	19.90	37.52	38.20
Commission incomes	2.1	2.4	3.0	1.3	3.8

Source : Almanac of Chinese Finance and Bank (1996-2002) and Statistic Monthly Paper 2003-2 of the PBOC

Thirdly, the regulators often obstruct product developments. For example, the introduction of a new credit card and new product specifications such as terms, rates and features has to be submitted for the approval. These specifications can be disclosed to other players, and the new products are often copied even before they are rolled out into the markets. This significantly diminishes the strategic advantage of product

innovation, and lowers the incentive to invest in this capability. Fourthly, the corporate governance is still insufficient. Historically, the policy-driven environment and the state-controlled ownership have hampered the development of corporate governance in the Chinese banking industry. The management decisions have been driven by the policy mandates, and the initiatives to promote the accountability have been rare. The gaps in the corporate governance remain widespread, such as the unclear roles and the responsibilities, the ineffective performance evaluation. As more and more joint-stock banks seek for the public listing and as state banks undergo “commercialization,” the responsible corporate governance is becoming an imperative.

Finally, the inadequate capabilities and the weak core infrastructures are the other two problems facing the Chinese banks.¹⁶⁰ Most Chinese banks have not yet developed the capabilities that are commonly found in the more developed countries. Concepts such as the customer segmentation and the customer relationship management are only starting to gain recognition. Fundamental infrastructures, such as information and risk management systems, are sorely inadequate. The regulatory environment is still developing. The regulations often focus too much on the basic inputs or compliance issues, rather than on the more complex process issues or outcomes. Important questions such as “Are there appropriate information, skills or tools to achieve compliance?” or “What level of capital adequacy, return of capital or non-performing loans has the bank achieved?” are rarely addressed in the current environment. This incomplete framework often reduces the effectiveness and the impact of regulations. Moreover, unclear, inconsistent, and sometimes seemingly random interpretation of regulations adds to the uncertainty.

2.2.3 The gradual evolvement of the Chinese bank industry

After the sweeping reform in the financial industry over the past decades, the Chinese bank industry has exhibited a lot of things of evolvement. These changes are especially reflected in the following aspects.

1. The changing structure of the bank industry

In terms of the evolvement of the bank industry in China, one of the greatest transformations is the appearance of the Non State Owned Banks (Joint-Equity commercial banks and the City Commercial Banks) and the declining of the market share of Major State Owned banks at the same time (Table 6-4).

¹⁶⁰ Huang, jinlao, (2001), ‘The development and the reform of Chinese commercial banks’, Speech in Beijing,.

Table 6- 4: The proportion of market share in Chinese bank industry 1995-2002 (%)

	Asset share		Lending share		Deposit Share	
	1995	2002	1995	2002	1995	2002
Major State Owned banks	92.8	75.3	90.7	76.8	90.8	76.9
Joint Equity Banks	5.0	16.7	6.5	16.1	8.2	16.4
City Commercial Banks	0.4	6.4	0.3	5.8	0.4	6.2
Foreign Bank	1.8	1.6	2.5	1.3	0.6	0.5
Sum	100.0	100.0	100.0	100.0	100.0	100.0

Source: Almanac of Chinese Finance and Bank (1996-2002) and Statistic Monthly Paper 2003-2 of the PBOC

The broader sources for the profit and the improvement of the profitability

With the gradual changing of the market environment, Chinese bank has kept exploring new approaches to earn more money, instead of relying on the interest income solely. In 2001, the non-interest incomes accounted for more than 20.12% of the whole operating incomes.

In the meantime, in terms of the interest incomes, there is a healthy growth expected in the retail banking. In contrast to the weak growth in the corporate lending, the consumer credit has grown by around 114% per year over the last three years. Despite the strong growth, the retail lending represents only about 9% of the state banks' loan portfolios, a small share compared to the developed markets such as the U.S., where retail lending often occupies nearly half of the banks' credit portfolios. In general, the consumer loans are more transparent than the corporate loans and the default rates are lower. As the consumer credit information develops, and as the banks are mandated to improve their asset quality, they will likely continue to diversify into the lower-risk consumer loans business. The strong growth in consumer lending is forecast to continue, fueled by the following factors:¹⁶¹

¹⁶¹ Huang, Jinlao, (2001), 'The WTO and the reform of Chinese bank industry', Speech in Beijing.

Table 6- 5: The structure of the operating income of Chinese commercial bank (2001) (%)

Operating incomes	ICBC	ABC	BOC	CCB	Communication Bank
Interest incomes	71.00	97.13	77.60	91.67	64.00
Non interest incomes	29.00	2.87	24.40	8.33	36.00
Commission incomes	1.8	2.1		3.0	3.2
Operating incomes	CITIC	China Ever bright	Huaxia	Minsheng	China Merchant
Interest incomes	59.00	24.30	80.10	62.48	61.80
Non interest incomes	41.00	75.70	19.90	37.52	38.20
Commission incomes	2.1	2.4	3.0	1.3	3.8

Source: Almanac of Chinese Finance and Bank (1996-2002) and Statistic Monthly Paper 2003-2 of the PBOC

- Government policies: To maintain the growth momentum of the economy, the government has adopted supply side “pull” macroeconomic policies by stimulating private consumption and encouraging the consumer lending. Accordingly, the consumer demand is anticipated to rise from its current low level.

- Expansion of the customer base: the broad-based economic development is expected to create a growing contingent of urban middle and upper classes with the strong purchasing power and the sophisticated needs. According to the Economist Intelligence Unit (EIU), only 6% of the Chinese households had disposable incomes of over US\$3,000 in 2000. By 2006, this figure is expected to increase more than six times to 40%. As this happens, the emerging rich will likely demand a wide range of banking products such as mortgages, automotive loans and other credit facilities, thereby driving the overall growth of the consumer credit. With this changing and effort in the bank industry, the profit situation of the bank industry is becoming better.

Table 6- 6: The profit situation of Chinese bank industry (a hundred million RMB)

	NET PROFIT		
	1999	2001	Growth Rate%
Major State Owned banks	13.1	23.0	74.9
Joint Equity Banks	7.0	10.5	49.2
City Commercial Banks	0.3*	2.4	703.3
Foreign Banks	-1.2	1.6	225.6
Sum	19.2	37.5	95.5

Note: * The data coming from 1995

3. The financial regulation and the supervision in China

The conceptual framework and the methods of financial supervision in China evolved gradually in the past two decades to be more consistent with the development of the market economy. The great achievements were made in the fields of the financial supervision. In the initial period of the reform, the financial supervision focuses on the compliance. Much attention was paid on the market entry and the examination on the compliance. With the deepening of the economic transition and the increase of the risk factors in the financial industry, the compliance-oriented supervision was found inadequate for the financial sector that was developing and growing stably. So, the focus transfers to the financial legislation and the risk based supervision to ensure the legal and the healthy operation of the financial institutions.

3.1 The established and improved financial regulatory and supervisory system

Since the PBOC began to play the role of the central bank independently, it has gradually reformed and improved the financial regulatory and supervision system according to the need of deepening the financial supervision. In 1998, the basic organizational structure of the financial regulatory and supervisory system was wholly established. From 1984 to 1998, the People's Bank of China took on the role exclusively as the central bank and the regulatory authority on the whole financial business. The Law on the People's Bank of China promulgated in 1995 specified that the PBOC should set up branches to fit the need of the function performance. In 1997, the National Financial Working Conference made the resolution to speed up financial institutions reform and control the financial risk. Under the principles made at this conference, a series of reforms were carried out in the system of the financial regulation and supervision and the different authorities were established to regulate the different business operations respectively.¹⁶²

In 1998, the China Insurance Regulatory Commission (CIRC) was established in the same year, the regulatory responsibility on the securities institutions was handed over from the

¹⁶² 'Almanac of China's Finance and Bank 2002', Chinese Financial Publishing House, Beijing, 2003.

PBOC to Chinese Security Regulatory Commission (CSRC). Since 1998, the three regulatory authorities were respectively responsible for three separate industries – banking, securities and insurance. The administrative system of the PBOC was considerably changed. At the same time, PBOC made the other changes in its organization structure. The branches at the provincial level were removed and 9 cross-regional branches were located. They were responsible for implementing the supervision and regulation assigned by the cross-regional branches. After the PBOC reformed the management structure, it improved the financial regulatory and supervisory mechanisms further. The Responsibility System of the PBOC' financial regulation was worked out. A 4 tier the regulatory and supervisory structure including the head office, the cross-regional branches, the central sub-branches and the sub-branches was set up and improved. Under the principles of 'clear division of the labor, the responsibility well defined with clear-cut rewards and penalties', the PBOC clearly defined the regulatory and supervisory responsibility of its branches, regulatory and supervisory departments, supervisor and regulators at all levels and established the evaluation system to ensure that the supervisory and regulatory objectives are accomplished.

3.2 The method to control the financial risk

1. The strengthened regulation on Market Withdrawal of financial institutions

The PBOC made the Rules on the Removal of the Financial Institutions. This rule preliminary established the operating procedures and practices for abolishing the small and medium – sized financial institutions that were insolvent and operated against the regulations. Since 1999, by re-lending, the PBOC has earmarked some funds for dealing with the payment risks of the financial institutions. As a result, the financial and social stability have been insured.

2. A prudent accounting system adopted and capital adequacy ratio improved¹⁶³

In 1998, China began to reform the provisions for its non-performing loans. As a result, the provisions were required to be equivalent to 1 percent of the balance of loans at the year-end instead of that of the beginning of the year. In 1999, the calculation of unpaid interest payables were required to be conducted once a year instead of every two years, and the period

¹⁶³ 'Some fundamental materials concerning the bank reform', published by Chinese Bank Regulation Commission, Beijing, 2003.

was shortened to half a year in 2000, to 90 days in 2002. Starting from 2001, the business tax for the commercial banks was brought down from 8 percent to 5 percent.¹⁶⁴

In 2001, with reference to the international accounting principles, the Ministry of Finance made the Accounting System for the Financial Enterprises. The new system fully reflects the prudent accounting principles and provides that the provision for loans losses include the earmarked provision and the special provisions. The PBOC urged the commercial banks to fulfill the requirement of the revised financial and accounting systems provided by the Ministry of Finance, allocate the provision for non-performing loans, write off non-performing loans in time, provide full amount for interest payables and adjust for the unpaid interest receivable, in order to maintain accuracy of data on profits. 8 joint-equity banks and city commercial banks prepared the supplementary financial reports according to the international accounting principles that were audited by the international auditing firms. In 1998, the Ministry of Finance issued 270 billion Yuan worth of special treasury bonds to replenish the capital funds of the wholly State Owned Commercial Banks. The commercial banks were strictly required and monitored to increase their capital adequacy ratio by self-accumulation, treasury financing, listing and additional offering.¹⁶⁵

3. The lowered ration of non-performing loans and the improved quality of credit assets

In 1999, upon the approval of State Council, four assets management companies were established. They have two missions. Firstly, they were to strip off the non-performing assets from the commercial banks by issuing the financial bonds and transforming the non-performing loan to bonds, all with the guarantee of central treasury. As a result, the ratio of the non-performing loan was greatly reduced, and secondly, the credit relations between the banks and the corporations were to be transformed into the relations of the investment and the holding by debts-to-equity swap that would help to improve the corporate governance of corporation, relieve the debts burdens of the corporations, and help the Stated Owned Enterprises stop losing money in three years. The PBOC also established and improved the review system on the non-performing loans and gradually established the real time monitoring system on the non-performing loans with a view to lowering the ratio of the non-performing

¹⁶⁴ 'Almanac of China's Finance and Bank 2002', Chinese Financial Publishing House, Beijing, 2003.

¹⁶⁵ Ibid.

loans in the State Owned Banks by 2 to 3 percentage annually in the next few years.

4. The established five-category classification system to loans

In view of the assets condition of Chinese banks and with reference to the international experience, PBOC changed the original four-category classification method and classified credit assets into five categories: The performing, the special mention, the substandard, the doubtful and loss. In 2001, the PBOC focused its inspection on the classification work of the wholly Stated Owned Commercial Banks, thus creating the foundation for the official adoption of the new classification method. In 2002, methods for loan classification and evaluation were put into practice alongside the international practices.¹⁶⁶

5. The improved information disclosure system and the strengthened public supervision

The PBOC required commercial banks, if ready, to disclose the information from 21 May 2002 so as to strengthen the market restraints. Now, three listed banks including the PUDONG Development Banks have already begun to disclose the information, and the BOC has begun to disclose the information on its five category loan classifications. Through the internet and other Medias, the PBOC publicizes information on the rules, the regulations, the systems, the work procedures and treatments...The supervision by the social intermediaries such as the accounting firms was given the great importance. And the qualifications of 345 accounting firms and credit rating agencies for the financial auditing have been confirmed. The PBOC required all commercial bank to have their annual financial reports audited by qualified accounting firms starting from 2001 and submit the auditing results and problems founds to the PBOC in time. The bank credit registration and inquiry system were set up in 326 cities at the prefecture level and the cross-province registration. In addition, a united credit inquiry system was tried out in Shanghai to provide the credibility service to the public and financial institutions.¹⁶⁷

3.3 The improvement of the bank management

1. The established evaluation system and the improved bank management

¹⁶⁶ 'Some fundamental materials concerning the bank reform', published by Chinese Bank Regulation Commission, Beijing, 2003.

¹⁶⁷ Ibid.

The PBOC cooperated with the Moody and made the assessment and evaluation system for commercial banks. Upon the approval of the State Council, the system was tried out. The evaluation would cover 13 indicators of 4 kinds including the assets quality, the profitability, the capital adequacy ration, and the liquidity, almost all of the important aspects of the risk control in the Wholly State Owned Commercial Banks. While there is still a long way to go for the further improvement of the evaluation indicators, particularly the dynamic indicators, the evaluation system can on the whole reflect the operational conditions of the wholly State Owned Banks at a certain time point, which signifies a huge transformation from the qualitative evaluation to the quantitative evaluation. The transformation would help improve the management of the wholly Stated Owned Commercial Banks.¹⁶⁸

2. The improved corporate governance of commercial bank and their downsized organization
The PBOC urged the wholly State Owned Banks to transform their operational mechanisms and downsized their payrolls. Now, the wholly state owned commercial banks have almost completed the tasks to merge their provincial branches with the branches in the cities where they were located, streamlined the prefectures and city sub-branches, and adjust or remove country sub-branches and their outlets. In 2002, the corporate governance of the joint-stock commercial banks were standardized in a comprehensive manner, the independent directors no less than 30 percent directors were engaged, the responsibility for the directors were defined and the supervision by the broad of directors over the management intensified.

4. The most serious problems facing the Chinese banks and the bank supervisions

4.1 High non-performing asset ratio of the banking industry

Assets of the four wholly state owned commercial banks are mostly credit assets. So the credit risks are mainly caused by overdue loans. Specially, banks have huge stock of non-performing loans. Although the four assets management companies have stripped off 1.4 trillion Yuan of non-performing assets, the ratio of non-performing assets still far exceed international standards. The internationally accepted warning line for the bad assets is about 10 percent. By

¹⁶⁸ Huang, Jinlao, (2001), 'The importance and the triviality concerning the reform of Chinese bank industry', Speech in Beijing

the end of 2001, the ratios with the four State Owned Banks were as high as 25.37 percent under the four category classification standards.

Table 6- 7: The comparison between the Chinese main banks

	Aggregate assets	Profitability %			Operation safety		Profit per capita
		Pre tax Profit	ROA	ROE	NPL	CAR	
CITI group	8935.6	188.5	2.08	38.8	1.85	11.25	505941.1
HCBC	6286.5	79.9	1.27	24.8	2.99	13.30	211305.6
ICBC	4776.7	6.9	0.14	3.66	25.69	5.54	16116
BOC	3593.9	13.7	0.26	4.31	22.49	8.15	49125
CCB	3083.1	4.3	0.14	4.01	15.17	6.91	14028
CB*	766.8	1.5	0.16	3.77	19.65	8.83	--
Merchant bank	371.6	2.5	0.47	10.68	5.99	12.57	143743
Min-Shen bank	246.2	1.2	0.36	14.85	2.04	8.22	207952

Source: PBOC Annual Report 2001
Note: CB means communication Bank

4.2 Low equity ratio of commercial banks

Bank's capital has two functions: Firstly, it provides a buffer against exceptional losses. Secondly, it promotes the bank to improve its management. Now, the four big banks still face the risk of insolvency. One reason is, from 1985 to 1996, bank assets grew 6 times faster than its equity. In August 1998, Chinese government issued 270 billion Yuan and in 2004 rejected 45 billion \$ into BOC and CCB to complement the bank equity.¹⁶⁹ This increased the capital funds of the state-owned banks. However, the four big banks still face a situation where assets grown faster than its equity do. At the end of 2001, the average capital adequacy ratio of wholly state owned commercial banks stood at 5.07 percent, lower than the 8 percent provided by the Basel Capital Agreement.

¹⁶⁹ Wu, Jinglian, (2004), 'Diagnose the disease of Chinese bank industry', <http://business.sohu.com/>.

4.3 All Chinese banks have profitability problems

Due to the high ratio of non-performing loans, the Chinese financial institutions suffer from the slow turnover of the credit funds and the low recovery ratio of interests, which have resulted in the poor financial performance and the operational difficulties. At the end of 1995, the profit of the four state banks were 25.545 billion Yuan; at the end of 1998, the amount lowered to 7.705 billion Yuan; at the end of 2000, 32.078 billion Yuan; and the end of 2001, 23.008 billion Yuan. Although profitability of the wholly state owned banks was getting better, profit ratio of their assets was still low, averaging lower than 0.3 percent. Although the four banks make profits on books, but if they are audited according to the prudent accounting principle, they are actually losing money. At the end of 1999, the consolidated profits of the joint-stock commercial banks also show a falling trend when the credit assets are expending rapidly.

Table 6- 8: Changes of Profits of State Owned Commercial Banks

Year	Pre tax profits of banks (Billion Rmb)				
	Total	ICBC	ABC	BOC	CCB
1995	25.5	4.6	4.3	10.4	6.1
1996	26.9	5.8	4.6	11.5	4.8
1997	10.8	3	0.7	5.8	1.1
1998	7.7	3.4	-0.9	3.5	1.6
Year	Pre tax profits of banks (Billion Rmb)				
	Total	ICBC	ABC	BOC	CCB
1999	28.2	16.8	-0.3	4.3	7.3
2000	32	17.3	0.2	5.9	8.4
2001	23	5.8	1.1	10.8	5.1

Source: PBOC Annual Report 2001

4.4 High liquidity risk of the financial institutions and the lack of business innovation and competitive power

With the development of Chinese domestic capital markets, the increased credit input in the infrastructures and Hi-tech industries and the rapid increase of the personal consumption loans, the utilization term of bank funds gets longer while the term of fund sources is shortened. Thus the liquidity risk cannot be ignored. From 1998 to 2000, the assets liquidity ratio of three of the four State Owned Commercial Banks, except for the ICBC, had decreased year by year. Some small and medium sized financial institutions got insolvent while some failed to pay the due debts. Payment risk increased. In addition, wholly its owner, the government, cannot control the State Owned Commercial Banks efficiently. So, the corporate governance of Stated Owned Banks is not sound. Such deficiency impedes the reform and improvement of the operational mechanism of commercial banks, which have a negative impact on the competitiveness. The simple asset-liability structure of the wholly State Owned commercial banks and the lack of motivation in the development of financial products make it difficult for them to balance profitability, liquidity and safety.

Table 6- 9: Assets –Liability Structure and Capital Adequacy Ratio of State Own Commercial Banks

Year	Billion (Yuan)				Deposits/assets	Loans/assets	Capital adequacy ratio
	Total deposits	Total loans	Total capitals	Total assets			
1995	3287.53	3091.34	178.8	4994.5	0.66	0.62	0.04
1996	4212.28	3625.28	201	5947	0.71	0.61	0.03
1997	5122.053	4482.36	202	7213.4	0.71	0.62	0.03
1998	6037.885	5361.1	436.8	8259.2	0.73	0.65	0.05
1999	6932.41	5745.6	409.7	9176.3	0.75	0.63	0.04
2000	7694.52	5825	479.3	9838.9	0.78	0.59	0.05
2001	8750.85	6466.2	481.4	10324	0.85	0.63	0.05

Source: PBOC Annual Report 2002

4.5 New risks in business innovation

The domestic capital market develops, and the financial institutions expand their business. A

comprehensive business trend manifests continuously. Security companies and fund management companies are allowed to enter the inter-bank markets; the loans may be borrowed from the commercial banks with stock share as pledge; the insurance companies are allowed to enter the inter bank bond markets; insurance funds are allowed to enter the stock markets through securities investment funds; and the debt-to-equity swap business of the financial assets management companies actually combines the commercial banking business and the investment banking business together. Along with these business innovations, the unlawful operation and financial risk also spread across the sectors. Some credit funds flow into the stock markets in the form of loans, commission financing and the false repurchase of securities. The malpractice disrupted the equilibrium of the stock markets and the withdrawal of currency from circulation. Thus it increased bank's liquidity risk and threatened the whole banking industry. Since the 1997 PBOC has been promoting the financial restructuring vigorously and steadily, and strengthening financial supervision in real earnest, and certain progress has been achieved. But after China's WTO entry, there are still some key issues in financial supervision that have to be solved. Some of them are:

The legal system governing the financial system needs improvement. At present, China regulates different business lines separately, which is clearly provided in related financial laws and regulations. After China's WTO entry, the huge changes will take place in the national economy and the financial environment. Some provisions fail to meet the requirements of financial supervisions and regulations. For example, the Commercial Bank Law does not provide adequate legal protection to the rights of the commercial banks. The banks are confined strictly within the traditional business scopes, which hamper the business innovation. The requirement on the internal governance and control of the commercial banks and on the transparency is not well defined. Beside, some legal vacancies are not to be filled. For instance, laws on the administration of the foreign exchange, a law on the deposit insurance, as well as the regulations, the systems and the implementing rules that support financial laws, all have to be worked out as soon as possible. The financial regulation and supervisory system need further improvement. The financial regulatory and supervisory method has not been completely changed and the traditional administrative methods still exists. The traditional methods are not focused and does not encourage the financial institutions to establish their

internal control mechanisms and spontaneously control their financial risks. The relationship between the financial supervision and the regulation has not been straightened out. China's financial structure has changed, Renminbi has become convertible under the current account and there are many business innovations in financial institutions. This has triggered the development of the money market, the capital market and the foreign exchange market and broken the firewall separating business operation and administration in the three different markets. The three markets are more closely related and the financial risk spread more freely across the markets. Thus, the coordination between the different regulatory departments, the CBRC, the CSRC, and the CIRC has to be further strengthened.¹⁷⁰

5. Conclusion

From the preceding research, we have built up a clear direction for Chinese entrepreneurs and governors to reform and strength Chinese bank industry. That is going to universal; go to a new business horizon by your efforts. However, what we need is not only an achievable target, but also a right way to approach to the target. So, the research is lead to its last stage. That is how the Chinese bank industry should be reconstructed systematically at this moment, so that it can strengthen itself under the challenge of the globalization and WTO. The efforts to find out the right way are divided into two steps. As the first step, we intend to clarify the current situation of bank industry in China in chapter 6.

Here, as a whole, we understand the entry into the WTO as the second critical period for Chinese reform. We name it as 'market propellant phase', in comparison with the 'government propellant phase' from 1997 to 2001; We understand the Four-States-Owned bank still play the dominant role in Chinese financial system, and Chinese security market has developed quickly since its humble beginning in 1990, but still faces policy risk, and troubled by the low quality of the listed company and the nontransparent information supply. We still understand, the separated financial markets, which are designed decades ago to prevent the infection of the financial risk, hamper the efficiency of the financial industry in this era substantially.

¹⁷⁰ Wu Jinglian, (2004), 'Diagnose the disease of Chinese bank industry', <http://business.sohu.com/>.

At the same time, in terms of the Chinese bank industry, we learn, that over the past decades, with the durable efforts and supports of Chinese government, Chinese bank industry has witnessed a great promotion in both the fields of bank's operation and bank's regulation. However, there are still some problems facing Chinese bank industry. They are characterized by the high non-performing loan ration, the lower equity adequacy ration and the poor capability to make innovation and earn profit. At the same time, we can see still clearly, that all of the regulation in bank industry is descriptive.

2. The Chinese banks on the way to reform

1. Introduction

From what has been discussed previously, it could be pointed out, that during the past two decades of the economic reforms; the Chinese bank sector has developed remarkably. And China today owns one of the largest bank systems in the world. However the Chinese banks still suffer from serious financial fragility manifested by the high proportions of non-performing loans and low capital-adequacy ratios. In view of the fact, that the bank is the foundation of the Chinese financial industry, and that fragile bank industry will threaten the safety of the whole economic in the long run, Chinese government has made sustained efforts to improve the performance of the Chinese bank industry. The latest measure was set out in January 2004. China unveiled a pilot scheme to modernize two of the country's largest banks using 45 billion dollars of the country's foreign exchange reserves. The Bank of China and the China Construction Bank would receive the cash injection to booster their capital adequacy ratios and move from total state ownership to joint-stock holding banks under the reform scheme. But the problem is whether this kind of capital injection can really solve the problem facing the Chinese bank industry fundamentally. Since 1998, Chinese government and regulatory authority have taken a lot of measures to lower the NPL and increase the capital adequate ratio in the Chinese banks and try to improve the performance of the State Owned Banks. This kind of method is similar to what government has done to rescue the State Owned Enterprises since the beginning of the reform. However, the consequence looks not very promising. While this government supplementary writes off the stock components of the NPL, a flow component, new increased lending becomes non-performing.

The problem lies in these old approaches have made the causality between the bad performance of the banks and the NPL upside down. Some people advocate that it is the heavy historical NPL burden and the shortage of the equity capital, which leads to the bad performance of the State Owned Enterprises and Banks. But the real reason lies in the sustained bad performance, which generates the heavy NPL and the loss of money.

This chapter will address the reason behind the poor performance of Chinese State owned Banks, and try to understand the new challenge of the Chinese banks, when China entered into the WTO. Finally, relying on the experiences from other countries, a strategic priority of the Chinese bank development will be debated.

2. The reason behind the problem of the Chinese bank industry

2.1 The stock component of the NPL: The undue relationship between banks and SOE

1. Lack of operational independence of the state banks

In China, historically, neither PBOC nor the Major four State Owned Banks can operate independently from the intervention of the government. They are more or less governmental or semi-governmental subdivisions taking account of their equity right relationship and their corporate governance. Before the organizational structure reform in 1998, the bank branch networks coincided with the political division of the country, and each local bank branch was under the “dual leadership” of its head office and the local governments. Thus, the PBOC and the usage of the banks’ asset were strongly influenced by the government intervention: The PBOC must provide the State Owned Banks the central-bank-lending according to the credit plan. Under the pressure of the governments the State Owned Banks have to extend the policy-loans to finance investment projects and to keep loss-making SOE alive. The lending decisions of the local branches of the PBOC and state banks were also subject to the frequent interventions from the local governments.

Since 1998, a series of reforms have been taken to prevent the intervention of the government from the bank sector. Some of them are: Restructuring the PBOC through building nine inter-regional branches, which are expected to cut off the provincial lines, establishing the policy banks, which intend to help the government to commercialize the State Owned Banks. However, given today’s Chinese political system and the state controlled equity right relationship, it is impossible for the bank institutions to operate absolutely free from the intervention of the government.

2. The Obligations of the State-Owned Enterprises

During the post-reform years, the Chinese government has shifted the budgetary burden of

supporting SOE to the bank system: In 1984, the so-called “loans-for-grants” reform was introduced, which strove to move the provision of investment funds to SOE away from the government budget towards the allocation from bank system. This reform saddled the state banks with an inherent obligation to support the SOE.

Since the economic reform in China, the financial losses of SOE have increased year after year. Therefore, many SOE cannot pay back the bank loans. Banks’ poor performance reflects the SOE’ inefficiency. To keep the loss-making SOE survival and keep the employment and the social stability, the State Owned Banks are required to provide the SOE further new bank loans. Thus, the non-performing bank loans in China’s bank sector are increasing. Now the government sticks to a dilemma: Refusing loans to the loss-making enterprises would cause widespread bankruptcies and unemployment, which cause the political and social problems, but continuing to provide loans to them would wreck the financial reform. Up to now the Chinese government has not found a way out of this dilemma.

2.2 The increased NPL: The weakness in the bank mechanism

Just like what has been mentioned above, taking account of this historical burden, Chinese authorities have taken a number of steps to strengthen the bank sector to ensure that the financial sector can avoid the risk, and support the sustained rapid economic growth, for example, the establishment of the asset management companies to strip off the NPL from banks; injecting foreign exchange reserves into the State Owned Banks; decreasing the exposing of the bank assets to security markets and so on. However, these measures cannot solve the fundamental problems, without a systematic solution to the mechanism weakness of the Chinese bank industry.

1. The unbalance between the economic development and the bank capital supply

In view of the economic development over the past two decades, one of the main achievements is the transformation of the Chinese economic foundation from the State Owned Enterprises to the non-state owned companies.

It is well known that before China began its economic reform, its economic activity was dominated by SOE, which geared production to meet the development goals and which automatically received credits from the bank sector according to a national development plan.

However, once the liberalization began, it became apparent that SOE could not meet up with the needs of the gradually expanded market economy. The lagging SOE performance has helped the private enterprises to grow rapidly to meet domestic and foreign demand for Chinese goods. As a result, taking account of the share of outputs and contributions to GDP, SOE fell from about 40% in 1994 to about 30% in 2001. The SOE also now accounts for a smaller share of employments--from 66% in 1994 to 51% in 2000. In comparison with this rapid developments of the non-state owned enterprises, the capital supply structure of Chinese State Owned Banks seems lagged to this change and do not exhibit its corresponding adjustment. Although the bank's exposure to SOE has tended to decline over time, SOE still accounted for over one half of the outstanding bank credits in 2001. Out of the financial institutions in China, the most exposed are four State Owned Commercial Banks, which accounted for 85% of the assets of the bank sector in 2001. In contrast, the non-stated enterprises and especially most of the middle-small sized enterprises stay in the trouble to raise money from The Chinese bank system, and they have to raise money form the informal source.¹⁷¹ These unbalance not only generates a large mount of increased NPL, but also hampers the sustained development of the Chinese economy.

2. The non-market oriented corporate governance and the poor management ability are the essential points that add the further limitation to the development of the SOB.

Why do the State Owned Banks have no incentives to lend to the Chinese private sectors, even if it has been booming continuously? One important reason is the principle-agent problems resulted from the state ownership in the SOB. Because of the Principle-agent problems, the official of SOB lack robust stimulus to make profit for the bank. Instead of this profit incentive, what they are really interested in is not to take more risk and criticism from their business operations. On the other side, because the SOB officials are appointed by the central government, their prior choice is in favor of the government intention. This can be reflected from two evidences: Before 1998, when the Chinese central government stressed to help Chinese SOE to overcome their bad operation performance, the SOB lent their money to

¹⁷¹ Franklin Allen, (2002), 'Law, finance and economic growth in China', Wharton Financial Institution Center

SOE without paying any attention to the quality of the SOE. Nevertheless, after 1998, when the Chinese government emphasized the improvement of the situation of the NPL, then the behavior of the SOB turns to become over prudent marked by their unwillingness to make credits, even if the future of the project looks rather promising. The second reason lies in the inadequate competitions from financial markets. That means there is no extra power enforcing Major State Banks to enter into the credit markets of midsize-small enterprises. It is well known Chinese security markets make a substantial development over the past ten years. However, the market capitalization is still small. Furthermore, Chinese Security Regulation Commission set up a serious of restriction to the company seeking public listing. Meanwhile, in China there is no 'rubbish bond' markets and the corporate bond markets are still undeveloped. As a result, loans still account for most of the capital resource of the companies. Under this kind of situation, The Chinese banks cannot find out any incentives to enter into the credit markets for the midsize-small enterprises. The other explanation about the bank's preference for the SOE is the poor capability to manage the credit risk. For a long time, because the monopolistic market status, Chinese State Owned Banks were accustomed to adopt the 'simple and homogenous financial products' to satisfy the basic needs of their customers, with little impetus for sophisticated products. So, the weak managing capability restricts them to make customized risk evaluation and offer different kind of credit options to meet the special demands of different clients. Facing the loan demand from the different clients, their options are also limited, the only thing they can do is asking for enough mortgages or lending to the big SOE in the believe of 'too big to fall'. Keeping the entire above-said in mind, it is simple to understand why the Chinese bank system shows such unreasonable performance to deal with its business. One is over-loan to meet the capital demands of SOE; the other is too prudent to offer money to any project, regardless of whether they are good or bad.

3. The moral hazard and the poor bank supervision conditioning the financial innovation

In the Chinese case moral hazard is even worse because of the quasi-operation of the bank system: At first, the State Owned Banks were obliged to provide loans for the priority enterprises, as identified by the government, regardless of their repayment capacities, which made the assessment to the bank performance more difficult. Consequently, they had neither

the capacity nor incentive to select and monitor their borrowers. Second, even if the banks are willing to do so, much of the information has to be provided by basic services in accounting and auditing, because China lacks a robust accounting and auditing system. At the end, since SOE have privileged access to low-cost credit, they have little concern for interest costs and investment risks. Moral hazard has given rise to the inefficient operation of the bank system and aggravated the hidden risk in The Chinese bank sector. Meanwhile, the bank supervision is still underdeveloped in China. For a long time the PBOC used the administrative methods, such as the credit plan to regulate the operation of the bank sector. Therefore the PBOC has not experienced in bank supervision. Moreover, China lacks the infrastructures of the bank supervision: the law systems are not complete; for example, no “trust law”. Even if there exist some laws, they are not good implemented.

Awaking from the lessons of the Asian crisis, the PBOC tries to strength the bank supervision. But at present a sound supervision in China is still impossible: At first, since the State Owned Banks have still the bad capital levels, asset quality, earnings and liquidity, the PRCB can not carry out the bank supervision according to international standards. Second, until the state banks are not completely commercialized and still provide further policy loans, it is very difficult for the PRCB to implement effective bank supervision, because it is difficult to judge the performance of the State Own Banks.

3. New challenges facing the Chinese bank industry in the period of post WTO

Departing from the understanding to the current situation in the Chinese bank industry, we take our research a step further to show, how urgent the challenge facing The Chinese bank industry is, especially at this crucial developing period. Today, major structural changes are reshaping the Chinese bank landscape substantially. All partners in the Chinese bank sector share a common set of challenges, from the accession to the WTO to the changes in regulation and the shifts in its customer demand.

3.1 Threats loom from foreign players on the course of post WTO

Currently, the foreign bank institutions are temporarily restricted in terms of product offerings

and geographical scope in China. However, under its commitment to the WTO, China has agreed to phase in liberalization. This approach will give foreign banks limited access to the Chinese domestic market in the near-term and complete access in the longer term. In anticipation of this, foreign banks have already begun to aggressively establish representative offices and branches in China. In addition to regulatory changes in the period of post WTO, the astounding growth of China has convinced many foreign banks to place the Chinese market at the top of their priorities. A case in point is HSBC, which became the first foreign bank to take a strategic stake in a Chinese bank, buying 8% of Bank of Shanghai in early 2002.¹⁷² HSBC already has roughly twelve branches and representative offices in China, in addition to major back-office processing centers in Shanghai and Guangzhou. It also plans to expand its business from retail bank and corporate finance business into the fields of the insurance, asset management and domestic investment bank business over the next few years.

Experience suggests that new entrants firstly try to “cherry-pick” attractive segments, such as high net worth customers and corporations with complex financial needs. Indeed, few will have the appetite for small-to medium-size businesses where the local knowledge and the large branch networks are important. Moreover, the valuable multinational clients are widely expected to defect to banks that are able to better serve them, which will almost invariably be the foreign banks. The recent transfer of the telecommunications company Ericsson’s account from Min-Sheng Bank to Citibank illustrates this. As foreign banks move into local markets, both State Owned Banks and Regional Joint-stock Banks will face a real threat of losing market shares in certain key segments:

1. State Owned Banks: the mass affluent households and the foreign exchange market are at risk.

In terms of State Owned Banks, the most vulnerable segments are their mass affluent retail customers, and their foreign currency business. Meanwhile, the foreign banks will also initiate the competition in the lower risk field, such as international settlement business and credit card business field. Foreign partners offer a compelling value proposition to the mass affluent, including their vast experience from other markets in delivering cross-sector financial services, their service capabilities, and their strong brands. With China’s accession to the

¹⁷² Wu, Jinglian, (2004), ‘Diagnose the disease of Chinese bank industry’, <http://business.sohu.com/>.

WTO, the foreign players are now allowed to conduct the foreign exchange business with individuals and enterprises in all of the country's major cities. The foreign players had already captured more than 20% of the foreign exchange market shares and 40% international settlement business shares now, despite holding only some 2% of total assets.¹⁷³

Moreover, the foreign banks are also moving into Renminbi lending business including project financing, which historically is the stronghold of the State Owned Banks and the Chinese Development Bank.

2. Regional joint-stock banks: The corporate clients and the urban markets are at risk.

The joint-stock banks will face direct competition in the large corporate segments and also in urban markets. The foreign banks can leverage their strengths in lower foreign currency funding costs, more sophisticated product offerings and extensive worldwide networks. These attributes are increasingly important to corporate customers as their scope and scale expands. At the same time, as state-owned banks become increasingly commercialized, they will gradually reallocate more of their resources back to the more profitable urban markets, competing in the same segment as the joint-stock banks. The joint-stock banks are squeezed from two fronts – by foreign banks, with their strong brand equity, and by state banks, with their strong branch networks.

3.2 Reforms are creating a market-driven environment

1. Intensifying competition from the capital markets

Just like what happened in US and Germany, one of the important effects of the financial market development has been the increasing volume of capital raised through the equity and bond issues. This has threatened the commercial banks, since the credit borrowing is no longer the only avenue to raise funds. The lack of financial intermediation poses a real threat to them in retaining and developing their corporate client base. Meanwhile, banks face the similar challenges in securing their supply of capital. Households previously had almost no choice but to place their money into the saving accounts. But, now, they have more and more options including stocks, unit trusts, and insurance vehicles. These alternatives often offer

¹⁷³ The data came from the speech of vice president of CBIC, Tang shuangning on 11.11.2003.

more attractive terms and flexibility, and are competing directly with the banks for capitals.

2. The approach towards commercialization demands the fundamental changes of the State Owned Banks.

The State Owned Banks were established as institutions whose purpose was to supply credits to the State-Owned Enterprises. But they now need to tackle the unique problems associated with their pasts. The authorities have begun the process of “commercializing” these banks, intending to reduce and eventually eliminate their dependence on the government. This commercialization has included the removal of mandatory quotas for disbursing loans, which has created the incentive systems that make banks accountable for their loan decisions and for extending their customer bases. While these developments are positive, the State Owned Banks are still burdened with the massive non-performing loans (NPL), which in turn hinders the process of commercialization. The government began to address this problem in 1999, transferring RMB 1.4 trillion of bad loans from balance sheets of the four State Owned Banks to four newly created Asset Management Corporations. Despite these measures, non-performing loans of the big four State Owned Banks still totaled RMB 1.8 trillion, or a staggering 26.6% of their loan portfolios, as of September 2001.

3. Interest rate deregulation

The first stage of interest rate liberalization started in 1996, when the restrictions on the inter-bank lending rate were relaxed. And then, the gradual deregulations in other areas followed such as the bond repurchase rates, the treasury-bidding practices, and the foreign currency rates. China’s accession to the WTO is expected to introduce another round of deregulation. The ceiling for loan rates should be liberalized in two or three years, while deposit rates will be fully deregulated in five to ten years. Since more than 70% of the bank’s revenue is generated from interest income¹⁷⁴, the ongoing deregulation is likely to have a profound impact on the way banks think about their businesses. They will experience significant downward pressure on the interest margins, forcing them to explore the new revenue lines. The similar interest rate deregulation in Hong Kong several years ago intensified competition in the mass affluent and credit card markets for new revenue sources. At the same time, the interest rate deregulation will likely bring more volatility to the money markets. Banks will

¹⁷⁴ For ABC and CCB, the interest income is beyond 90 percent of the whole income in 2002.

have to introduce the more effective risk management practices.

3.3 The customers become more demanding

The rapidly evolving economy is changing the needs of banks' customers on two fronts. On the corporate side, increasingly multilateral and the global trading relationships will generate more complex financing needs, such as the trade guarantees, foreign exchange, and the subsidiary capital managements. On the consumer front, the increasingly affluent and demanding customers will propel changes in both products and distribution channels.¹⁷⁵

1. The fee-based services are necessary to remain the competitive capacity

The expansion into the fee-based services has been a natural evolution in bank industry around the world. In China, the competitive environment in the bank market has engendered the needs for these services. For example, the Bank of Communications recently developed a personal financial services program, which provides its customers with the customized financial plans for a fee of between RMB 200 and 1,000.

2. The increasing demands for the versatile financial products

Closely related to the strategy of developing more diverse revenue streams is a trend toward the "Universal Bank," which provides one-stop shopping for customers and meets their various needs with a broad portfolio of products. In China, customer demand is paving the way for the development of universal bank. The emerging consumer segments are already providing opportunities for cross-selling financial products. The rapid growth in mortgages, for example, provides an opportunity to bundle other products such as the insurance and wealth management services. The direct spending through bankcards reached RMB 128 billion by 2001, and is expected to grow as banks standardize their cards. Banks can also leverage opportunities from existing bankcard distributions and introduce the other additional services.

While the customers are demanding that banks provide a wider range of products, regulations prevent banks from venturing too far into other offerings such as the insurance and security business. These restrictions reflect a broader concern that regulators may not have the

¹⁷⁵ Chen Yuan, (2003), 'Financial System Reform and Economic Development', Speech, New Delhi, November 15.

ability to monitor such diverse institutions. However, more and more banks are bypassing these obstacles through their alliances that enable them to offer cross-sector products and services.

Apart from the demands for more product varieties, the technological advances have also created the demands for the more convenient channels with broader coverage. The online bank business and the ATM are examples of these emerging channels.

4. The strategic choice for the Chinese bank industry in the time of post WTO

As the increasingly sophisticated domestic and foreign players elevate the rules of competition, two key traits are needed to win in the new competitive landscape: the initiative to foresee the potential changes, and the ability to act and respond to those changes. In order to build internal capabilities to seize opportunities quickly, the following reform paces can be prudently suggested.

4.1 Diversify the equity structure and strengthen the organization and cooperate governance.

The management of top State Owned Banks has been constrained by the current regulations. This situation also exists, though less acutely, in joint-stock banks, which are partly under regional state control. With the entry into the WTO, The Chinese banks have limited time to enhance their capacities to compete against the increasing domestic and foreign competition. Here, a strong leadership and clear corporate objectives are required. The Chinese banks need to diversify its equity structure and establish world-class corporate governance.

1. Introducing the domestic and foreign strategic investors to diversify the equity structure

In order to push the reform of The Chinese bank industry fundamentally, the equity structure of the bank should be diversified. Chinese government should attach more attention to introducing the strategic investors from the domestic private enterprise or from the foreign enterprise as soon as possible. The introduction of foreign investors will also contribute to the improved capital strength, capital structure, and more importantly, to the optimized corporate governance. Gradually, The Chinese banks can win the capability to gain access into the

equity market step by step.

To get the suitable domestic or foreign strategic investors, the selected foreign strategic investors should be expected to be able to contribute effectively to the improved risk management, the financial management, the information technology, and the competitiveness of products and services. By a commercial basis and through some diligent negotiations, the investors shall be selected mainly from the commercial banks, the investment banks, the insurance companies and the international financial organizations, etc.

2. Establishing the standardized mechanisms for the general shareholders meeting, the board of directors and the board of supervisors¹⁷⁶

After being restructured into the joint-equity banks, sound corporate governance should be promptly established. The key of sound corporate governance is composed of the general shareholders meeting, the board of supervisors, the board of directors and senior management, as well as the relevant systems and mechanisms to guarantee the independent operations and effective checks and balances among the above units. To build high efficient corporate governance, the following elements are absolutely necessities.¹⁷⁷

(1) To establish a highly efficient decision-making, incentive and oversight mechanisms.

(2) To establish the general meeting of shareholders as the highest decision-making body to perform such functions as electing members of the board of directors and the board of supervisors and to serve as a platform for the board of directors to exercise its rights and duties.

(3) To establish the board of directors as a standing body of the general meeting of shareholders. The board is responsible for making decisions and policies on development strategies, profit allocation, appointment and dismissal of the senior managers. However, the board shall not be involved in the day-to-day operations. The directors shall be elected in the general meeting of shareholders. The chairman of the board of directors shall be nominated by the majority shareholder, and elected by the general meeting of shareholders. There should be renowned domestic and international experts and professionals sitting in the board as

¹⁷⁶ The Chinese Bank Regulation Commission, (2003), 'the executive plans for corporate governance reform of the state-owned commercial bank'.

¹⁷⁷ Chen, Yuan, (2003), 'Financial System Reform and Economic Development', Speech, New Delhi, November.15

independent directors or non-executive directors. The board of directors comprises the executive and non-executive directors as well as the independent directors, each accounting for roughly one third, unless required otherwise by the regulators.

(4) To establish the specialized committees under the board of directors, including audit committee, risk management committee, remuneration committee, nominations committee, connected-party transactions control committee, etc.¹⁷⁸

① The audit committee shall be responsible for evaluation of the effectiveness, compliance and prudence of bank business operations and management. The chairman of the committee shall be an independent director, and the majority of the committee members shall be independent directors. The auditing team of the bank shall be relatively independent, and the audit departments of bank branches shall directly report to the audit committee.

② The risk management committee shall be responsible for making risk management policies and monitoring risk management performance. The committee shall assess the bank's risk profile at least on a quarterly basis, and provide proposals on how to improve the bank's risk management and internal controls. In principle, the chairman of the committee shall be a non-executive director.

③ The remuneration committee, with a non-executive director as the Chairman, shall be responsible for proposing the remuneration package for the senior managers and the staff incentive plan to the board of directors.

④ The nominations committee shall be responsible for setting qualification requirements for the directors of board and other senior managerial personnel as well as procedures their appointment and dismissal. The committee shall be also responsible for reviewing and approving the qualifications of the directors of directors and other senior managerial personnel, reporting the committee decisions to the board of directors.

⑤ The connected-party transactions control committee shall be responsible for reviewing the bank's activities in conducting the connected-party transactions. Those members of the board of directors that have substantial stake in the connected-party transaction being reviewed by the board shall not participate in the vote. The resolution to approve a connected-

¹⁷⁸ The Chinese Bank Regulation Commission, (2003), 'the executive plans for corporate governance reform of the state-owned commercial bank'.

party transaction shall not be adopted unless passed by over half of the members of board directors who have no substantial stake involved. The independent directors will play an important role in the decision-making of the committee.

(5) The board of supervisors who shall be responsible for and report to the general meeting of shareholders should be established. The board of supervisors shall perform such responsibilities as supervising the performance of the board of directors and senior managers to make sure that they perform their duties in good faith and due diligence, and supervising the commercial banks' financial activities. The board of supervisors shall comprise the representatives of the bank staffs, the external supervisors elected by the general meeting of shareholders, and other supervisors. There should be no more two external supervisors. The external supervisors shall by no means exert any impacts on the decision-making of the bank and its main shareholders. The chairman of the board of supervisors shall be a full time external supervisor, who is at least specialized in one of the areas of accounting, auditing, finance or legal affairs. The board of supervisors may employ external auditors to audit the bank activities.

(6) To improve the managing capabilities, the senior managers that comprises the bank president (CEO), vice president(s) or chief operational officer (COO), chief financial officer (CFO), chief risk officer (CRO), and chief technology officer (CTO), should be set up as well. The senior managers are responsible for the day-to-day operations and management, implementing the policies made by the board of directors. In addition, the management shall send the feedback of policy assessment and proposals on changes to the board of directors.

4.2 Changing the Chinese bank regulation: The equilibrium between the universal bank and specialist one

Just like what has been argued above, the shrink of the bank traditional business is an irreversible tendency, and the multi-business is the way for the traditional bank to survive in the stiff competition arising from domestic and overseas markets. Meanwhile, the previous empirical conclusion exhibits clearly, that the bank's security activities contributed to the risk decline, which is in contrast to our traditional idea. Furthermore, security activities enhance the bank profitability. In addition, the empirical conclusion also suggests, none of those

security businesses, which are security transactions business, underwriting or brokerage activities, asset managements and fiduciary business, affect banks' default risk. Consequently, The Chinese bank regulators should have reasons to eliminate their worries about the systematic financial risk brought about by the banks' involvement in security business. At the same time, this concept fully brings out the specific advantages of the universal bank. It includes ensuring continuity in earnings through a mixture of the commercial and investment bank business. In this area, universal banks are clearly superior to the pure investment bank, which is completely dependent on the capital market tendency.

So, our research conclusion is in favor of the elimination of the Chinese financial restrictions between bank, insurance and security business. However, from the above-said experience of German universal bank system, It is justified that you argue about whether the classical universal bank model – that is, provision of a full range of financial products and services at all times – can ever really exist in its broad form, but not been substituted by the specialist one. That refers to the strategic development of the bank. The problem arise here, is what is the right strategy for the Chinese bank to run the universal bank business. In view of our classic understanding to universal bank, a range of bank services, in which the contribution of each profitable single service to the value-added of a bank is subordinated to the aim of full market coverage, always means that the profits earned in successful lines of business have to be used to offset the inadequate earnings or even losses in other areas of a bank.¹⁷⁹ To a limited extent, this may well be justified for a certain period as part of a diversification strategy. This is, for example, the case if the poor earnings or losses in certain segments are obviously only temporary or the special services concerned is vital for opening business relations with customers. This is largely the exception in practice, however a bank can only afford such large-scale cross subsidizing if margins are big enough. The days of adequate margins have, however, been over for some time. In the face of stiff international competition and growing rivalry between banks, institutional investors and other non-banks, there is no room any more for cross subsidizing.

Yet, what should be stressed here is, it would be worse, if you conclude from this that the

¹⁷⁹ Rolf E.Breuer, (2004), 'Is the universal bank model successful?', in Bundesverband Deutscher Banken, <http://www.bdb.de/index.asp?channel=101010&ttyp=4&tid=0>, 20, April

best thing to do would be to abandon the universal bank model and try to operate either as a commercial bank or an investment bank. That would be a very narrow understanding of possible structures in the bank sector. Instead, the task in hand is to eliminate undesirable developments and bring out the inherent advantages of the universal bank model.¹⁸⁰ This is just the strategic consequence that is being drawn by Germany's universal banks after the overall declining of their profitability. These big German universal banks now concentrate more on core business by the following methods.¹⁸¹

(1) Outsourcing remains possible for all functions that are not strategy-related – take the IT infrastructure, for example. Banks no longer need to maintain capacities for short-term fluctuations in demand and can in this way cut their fixed operating costs. This trend is not new – but banks today are only just where other industry already was with its lean production concept back in the 1990s. What is important in outsourcing is that banks establish an effective governance process to actively control the outsourcing.

(2) Saving is not the only thing that matters. Earnings also have to start flowing again. Banks therefore need to practice firm, value-oriented management and tap potential on the earnings side as quickly as possible.

(3) Modern universal banks are no longer financial supermarkets but multi-specialists where each single business segment has to hold its own in competition with specialists and other universal banks. For a modern universal bank's supply profile, this means that what is important is no longer the variety of products and services on offer, but the contribution each line of business makes to the bank's overall performance. Cross subsidizing should remain confined to rare, exceptional cases. It cannot always be completely ruled out, depending on the economic situation or special developments in the financial markets. But, in the medium term, each business segment is expected to make a suitable contribution to the earning of a bank as a whole. Otherwise it will be up for discussion.¹⁸² A universal bank operating strictly in line with profitability considerations is better than specialists, because it can not only cope with structural changes in the financial markets but also to turn these to its advantage. For

¹⁸⁰ Rolf E. Breuer, President of Association of German Bank, 20, April, 2004.

¹⁸¹ Rolf E. Breuer, (2004), 'Is the universal bank model successful?', 20, April

¹⁸² Rolf E. Breuer, President of Association of German Bank, (2004), 'What is the necessary restructuring action by the private bank to globally competitive?'

example, although banks have lost traditional business following dis-intermediation, they have won different, new business at the same time.

Banks are becoming brokers for business that can, in turn, allow them to acquaint customers with their entire range of products and services. Wholesale customers can, for example, be supplied with capital market products in addition to loans. Retail customers can be sold or brokered a variety of investment vehicles. In the process, banks also no longer confine themselves to products of their own. Because of the growing importance of retirement's savings, for example, this flexibility is vital if they want to win and retain accounts. In this context, universal banks' branch network is ultimately an asset that can be used to distribute capital market products.

To sum up, sizeable competitive advantages can be achieved by integrating classical retail and wholesale bank and investment bank business in a bank which focuses on activities that, on their own and together, make a positive contribution to its overall performance and fully exploits the earnings potentiality in the different business segments. It is no accident that a modern universal bank, which is structured along profit-oriented lines, has clear advantages over pure investment banks or pure commercial banks. Such a bank combines a certain degree of stability in the face of economic and market fluctuations with a full range of high-quality products and services under one roof. This is a sophisticated model that makes considerable demands on management and staff. Banks in China should be on the right track. Naturally, the Chinese bank systems still have some way to go. But It can be confidently expected that if this concept is implemented firmly the inherent advantages of the universal bank system will become even clearer.

4.3 Setting the clear development strategy and the service capability for the Chinese bank industry

Regardless of whether the Chinese banks choose to develop towards “universal bank” or retail bank, product innovation is a prerequisite to win market shares, but does not create sustainable advantages since it can be easily copied. However, it is not easy to replicate the segmented service capabilities that are required to effectively innovate, develop and deliver these products. This can presently be a source of true competitive advantages for the bank

industry.

Developing requisite segmented service capabilities requires The Chinese banks to¹⁸³:

Understand the customers

Setting clear development strategies to maximize profits

Build a strong risk management framework and network

1. Understand the customers

International benchmarks show that around 80% of a bank's income is typically derived from the top 20% of its customers. In China, the top 10% of premium customers reportedly contribute about 60% of profitability. At the other end of the spectrum, the bottom 10% of the country's bank accounts possibly more, many with balances of less than RMB 100 are loss making. These accounts create a heavy cost for the banks and also draw resources away from servicing high value customers.¹⁸⁴ Clearly, State Owned Banks have a community obligatory to fulfill that might prevent them from eliminating these unprofitable segments. However, many ways has been seen to settle this problem. One of these is to understand the value of the customers. It is imperative to develop a good understanding of customers' profitability, and segment them accordingly. The overall objective is to develop better and more profitable products and services. This can be achieved through the following segmentation and customer relationship management strategies:

1) Segmentations

Customer segmentation allows banks to tailor their products and focus their resources to better serve more profitable segments. It also enables banks to develop more cost-effective ways to serve segments that are unprofitable today (e.g., shifting low value customers to electronic channels). Segmentation criteria should reflect current client portfolio and target client characteristics, such as:

(1) Client data: Industry, region, size

(2) Buying behavior: Number of bank relationships, financial sophistication

(3) Value creation: Gross income, net profit, return on equity, capital employed

¹⁸³ Boston Consulting Group, September 2003.

¹⁸⁴ Xie, Ping, (1999), 'Bank restructuring in practice', BIS, BASEL

Segmentation allows banks to:

- a. Maximizing return through targeted products and services.

Banks can prioritize and develop specific value propositions for each segment, and restructure their product portfolios to increase segment profitability. Targeting products begins with analyzing and identifying unmet customer needs, and then addressing those needs through new product development or enhancing existing offerings.

- b. Channel customer segments to different service venues.

The goal is to service customers at a level commensurate with their revenue potential. In many advanced countries, banks are replacing their general service branches with lower-cost, 24-hour self-service ATM centers to serve the simple transaction needs of its less valuable customers. At the same time, they are staffing upscale centers with knowledgeable account managers to better meet the needs of their premium clients.

- c. Minimize low-value customers through account fees.

Despite the unpopularity of bank fees in China, the foreign players such as Citibank and HSBC have initiated minimum account fees to discourage customers with low balances, and to offset the costs of serving them. The Chinese bank Association has reportedly also submitted an application to government authorities to allow The Chinese banks to charge account fees on balances below RMB 100.

2) Customer Relationship Management (CRM)¹⁸⁵

Currently The Chinese banks do not fully understand the needs of its customers. To better understand customer preferences, The Chinese banks need to improve their Customer Relationship Management practices to collect integrated customer information.

Effective client relationship management will provide the foundation for The Chinese banks to:

- a- Improve segment profitability through products by portfolio optimization;
- b- Expand product usage through effective cross selling across channels;
- c- Enhance sales effectiveness through systematic organization cooperation;

¹⁸⁵ Boston Consulting Group, September 2003.

d- Selectively retain high-value clients.

The essence of the customer management is to outline how banks can realize significant value creation by knowing what customers are looking for and translating this into a clear understanding of the economics of serving them.

2. Setting clear development strategies and improving management structure to maximize profits.¹⁸⁶

Banks shall stipulate customer strategies, business development strategies, cost control strategies and strategies for the sustainable growth in areas with competitive advantages. The strategies shall be market-oriented and reflect the bank's unique profile, as well as contribute to the more efficient resources allocation and maximum profitability.

a- Developing the sound mechanisms for the decision-making and the internal controls¹⁸⁷

In order to build up an efficient decision-making mechanism, the Chinese bank should establish rules and procedures for the risk-focused policy-making, and clarify the responsibilities and accountabilities in the process of decision-making. At the same time, the bank should optimize the quality and efficiency of the decision-making; develop appropriate arrangements for delegation; improve checks and balances of the operational system by setting up the front desk, middle desk and back office and develop a feedback and evaluation scheme to ensure the objectiveness of decision-making.

In order to promote the internal control mechanism, the frequency of internal audits should be increased, and the quality should be promoted by conducting audits in an independent, professional and authoritative manner. In addition, the internal controls should be expected to cover the decision-making process, the business procedures and the performance.

b- Optimizing the operating and management procedures, reducing the layers of hierarchy and

¹⁸⁶ Chen, Yuantung, (2002), 'currents problems and reforms of Chinese financial systems', Published in US-China Business Reviews.

¹⁸⁷ Boston Consulting Group, September 2003

adopting a vertical managerial structure for business lines¹⁸⁸

The purpose of improving the procedures for both the business operations, the management, and optimizing the organizational structure is to allocate resources and conduct business in a more efficient and cost-effective manner. In order to achieve this objective, the Chinese bank should try to reduce the layers of hierarchy with aim to enhancing the efficiency of business operations and management. At the same time, a system to encourage and evaluate the teamwork in business operations should be built up. A vertical structure for the business management, in particular, for the management of corporate and the retail bank businesses is the popular organization structure in the bank industry worldwide.

c- Build a strong risk management framework¹⁸⁹

Risk management is among the most critical issues for The Chinese banks, especially in view of significant bad loan portfolios, increasing regulatory pressure, and recent fraud issues. As such, two imperatives that can help The Chinese banks remedy the situation can be identified by create an integrated risk management system. Sound integrated risk management systems are built on three building blocks: methodology and tools; organization and process; and systems and infrastructure.

Such a framework allows banks to address three categories of risk:

- The market risk: most of the Chinese banks do not properly manage their market risk, due to the absence of well-defined processes, centralized technology infrastructure, appropriately set-up organizations, and timely capital market data. Moreover, they are often unknowingly exposed to the market risk in the form of asset-liability mismatches and unmanaged proprietary trading in marked to- market risks. While market risks today might be smaller in comparison to credit risks, they could grow substantially if appropriate efforts are not made. Definitely, the following market risk management gaps can be witnessed in the Chinese banks:

a- Minimal or untimely monitoring of asset-liability and trading marked-to-market risks;

¹⁸⁸ Chen, Yuantung, (2002), 'currents problems and reforms of Chinese financial systems', Published in US-China Business Reviews.

¹⁸⁹ Michael Stamatelatos, office of Safety and Mission Assurance, 'Probabilistic risk assessment procedure guide for NASA manager and practitioners'

- b- No consistent measure for comparing and aggregating risk;
 - c- Subjective control mechanisms and conflicting roles between investment and control;
 - d- No risk optimization to maximize risk-adjusted returns.
- The credit risk: majority of the banks witnessed that credit risk is the most important risk. While China is in the process of developing a credit culture, it has yet to deeply penetrate the Chinese banks. Many have neither the institutional history nor the necessary tools and methods to evaluate credit risk in a systematic fashion.

Common pitfalls include:

- a- Fragmented roles and responsibilities: Oversized and ineffective loan committees;
- b- Limited and inconsistent account manager involvement: Limited cooperation between credit and account departments to enforce customer risk management;
- c- Overlapping and duplicated processes: Wasted resources in overlapping roles, duplicated activities and multiple sign-offs throughout the loan approval process;
- d- Limited financial, commercial skills: Staffs are often technical engineers rather than credit, financial and business analysts with the skills to manage customer risk;
- e- Major gaps in credit risk management system;
- f- Absence of integrated systems on both the customer and management information level.

Indeed, the Chinese banks are handicapped by the lack of systematic consumer and industry credit historical information, and by inadequate data for collateral evaluation. Industry and governmental efforts have been initiated to address the credit history issue, and it is time to start planning for integration with these data resources. Meanwhile, close cooperation between credit and account management is vital to provide separate risk and policy/customer perspectives.

- The operational risk: this is a significant problem for most banks globally. Issues range from unclear definition of the risks involved to difficulties in quantifying them. Most banks recognize the operational risk as a specific-event risk and strategic business risk, including inappropriate behaviors, defective processes or technologies, external events, and the risk of failure to produce returns. The inadequate operational controls have contributed to hundreds of millions of U.S. dollars in hidden trading losses by rogue traders at Allied Irish Bank and Barings, costing not only the jobs of some bank officials, but also the demise of the banks

themselves. Significant efforts continue to be made to address these risks globally. The Chinese banks also face the similar problems in managing the operational risk. The key to early-stage operational risk management is to focus on the pragmatic approaches. This requires:

- a- Clear definition of the operational risk within the bank, measured as a bank-specific combination of specific-event risk and strategic business risk;
- b- Creating an internal loss database. Specific processes and business units are analyzed for risk; possible effects are estimated and capital is reserved for potential losses;
- c- Implementation of clear functional control and procedures to limit the risk exposure.

Building an integrated risk management system is not an easy task. It is not something that can be accomplished overnight, but rather takes shape through a multi-stage process. The Chinese banks need to implement such a framework, gradually adding to their systems and capabilities.

- d- Build up a risk management mechanism¹⁹⁰

In respect of the risk management mechanism, the essential elements of risk control should highlight the functions of risk management committee, which includes, among others, review and evaluation of the risk management policies and procedures as well as the arrangements for delegating authority and responsibility. The risk control should be operated from the above-said three aspects: the controls on credit risk, market risk and operational risk. And the following methods intend to strengthen the risk control ability: The first way is improving the risk identification, measurement and management through optimized information collection, processing and assessment, as well as enhanced risk pre-warning capacity. The goal is to facilitate risk monitoring and controls throughout the entire business process. The Second way is resolving risks through maintaining adequate capital and reserves. Third way is controlling risks by engaging in the sound business operations and refraining from the blind business expansion. Fourth way is the clearly defining responsibility and accountability for the risk management, and conducting performance evaluation accordingly. Finally, resolving non-performing assets and reducing both the ratio and stocks of the NPL are the current urgent

¹⁹⁰ John. H. Body, (1998), ‘ The profitability and risk effects of allowing bank holding company to merge with other financial firms’, Mineapolic

task.

4.4 The establishment of social safety network: The deposit insurance mechanism

Deposit insurance system is comprehensively used in the World Bank system. However, up to now, deposit insurance mechanisms are absent in China. The four biggest banks have over 60% of the deposit and loan market, which means that they do not need to join the deposit insurance scheme, because of the state stands as the last resort. If these big four banks do not take part in the deposit insurance system, the contributions of the deposit insurance will not be enough, and this is not fair to medium- and small-sized financial institutions. However, if the authorities request the biggest four to join the scheme, because of their huge deposits, they would have to make very large contributions, for possible rescues of medium- and small-sized institutions, and they will be reluctant to do this.¹⁹¹

However, now, facing the fundamental reform of the ownership structure of Chinese bank system, how the interest of the depositor can be protected will become a more and more important question. At the same time, without the deposit-insurance mechanism in the Chinese bank industry, the ability of the small- and media sized banks to raise social capital are greatly impacted. So, a very inconsistent situation exists in the Chinese bank industry, which is the major four banks are suffering from the interest expenses for the surplus deposits, while the small joint-venture banks are always worried about their absence of capital sources. How to solve these two problems, the development of German deposits insurance system might give the Chinese bank some inspirations. At this moment, German banks operate under a dual deposit insurance system.¹⁹² One is the statutory system recently introduced, and the other is pre-existing voluntary system. As noted above, before August 1998, all credit institutions involved in the deposit taking business were voluntary members in various bank associations that provided the deposit insurance. Currently, while the purpose of deposit insurance for the commercial banks is to protect the depositors, the voluntary guarantee schemes operated by the saving banks and the credit cooperatives are designed to avert their liquidity problems.

¹⁹¹ Xie, Ping, (1999), 'Bank restructuring in practice', BIS, BASEL.

¹⁹² Chapter 5, the section: the change of the deposit insurance system.

So, in China, a voluntary insurance guarantee scheme might be expected to solve our problems. Currently, before the complement of Chinese state bank' reform, the small- and medium sized banks have the incentives to join into a voluntary insurance system, so that they can eliminate the worries of more households, and encourage them to deposit in small banks. At the same time, before Chinese State Owned Banks finish their ownership reform completely, it is not necessary for them to join any insurance plan. So, a voluntary insurance guarantee scheme offers a broad space for the State Owned Banks to make their own choice in the course of the interim periods.

5. Conclusion

In this chapter, the reason behind the poor performance of Chinese bank industry is firstly discussed.

Our conclusion is simple: it is not correct, that the Chinese government try to advance the Stated Owned Bank's performance by decreasing its NPL. This kind of way turns the causality between the NPL and the bad performance upside-down. It is the poor performance of the bank that gives rise to the sustained increase of the NPL.

And the poor performance of the bank roots in different reason in different historical periods. In terms of the stock component of NPL, the reason for its appearance is the undue relationship between bank and SOE. But now, in regard to the increased NPL, the reason can be explained from two aspects: (1) unbalance between the economic development and the bank capital supply; (2) non-market oriented corporate governance have some essential connection with the poor management ability; (3) the poor regulation capability also restrict the innovation of the bank industry.

According to the preceding understanding for the bank industry, the chapter 7 still talks about the strategic steps for the reform of Chinese bank.

In order to encourage Chinese bank to go to the way to universal, two steps must be fulfilled as the prerequisite. First is, changing the ownership structure of Chinese bank system. This step has been set out since 2003. And then, we need to build up a new bank regulation.

However, what should be paying more attention for Chinese bank is how to understand the universal model. We should understand it as a dynamic one, but not an static conception. Universal model do not reject the specialist bank. Universal model means, the bank have the chance to choice whether they make a universal business or concentrate on some special field, as they want.

And then, after these two steps are successfully completed, the bank and regulator should do sth more to fulfill their final target, building up a strong bank industry.

For this final target, the bank should rebuild their operational mechanism so that they can catch and respond to the demand of the customers quickly, they can produce the maximum production with lowest costs; they can control the risk accurately...

For the final target, the regulator should gradually build up a new supervision model in accordance with the merge of the different financial business. In the author opinion, the first thing can be executed is beginning to build up a voluntary social network system...

V. Concluding Remarks

This dissertation provides the theoretical and empirical study on some questions concerning the reconstruction of the bank industry worldwide, and makes some conclusions pertinent to the consequence of the globalization and the entry to the WTO on the reform of the Chinese bank sector. In one word, this thesis would to show us how to strengthen Chinese bank industry, under the challenge of the globalization and WTO.

There are three points, which have driven me to make this research.

First is the tendency of the globalization and Chinese accession into the WTO. It is well known, the tendency of globalization in the world's financial system is unavoidable, especially, with Chinese accession to the WTO in 2001, for the first time, Chinese financial industry has to face the competition coming from the worldwide. So, how to act to strengthen Chinese financial industry is a very challengeable and exciting task ahead of Chinese new generation.

The second point, which powered me to make this research, is some debates in USA and China in 2002. The debate is concerning the future of the bank industry. Some economists advocate that bank industry will decline with the development of the security market and its function will be taken over by the other financial institutions gradually. This opinion raises some theoretical confusion concerning the strategy to reform Chinese financial industry. That is, whether China should reform and strengthen its bank industry fundamentally or encourage the development of other financial institutions in the security market as a gradual substitute for Chinese bank industry. Taking into account of the fact, that bank industry plays a dominant role in current Chinese financial industry, it becomes more necessary for Chinese economists to clarify it.

Thirdly, Due to the fact, that the world financial market is gradually merged together, it seems

quite interesting to research, whether the world bank industry has showed some common developing tendency on this course. Meanwhile, we still need to know, how china should handle their own special situations, so that they can keep along with this development on one side, and strengthen their own competitive advantage on the other side.

Propelled by the preceding objectives, the dissertation is organized according to the following logic sequence.

Firstly, in order to solve the above said theoretical confusion, the dissertation begins with an analysis about the function of the financial institutions. With the theoretical analysis in the chapter one, two facts are clarified. One is, we should not habitually put the bank industry on the opposite side of the other financial institutions (such as the pension fund, mutual fund and insurance company) and the security market. The correct attitude to treat the bank is to regard it only as one of the common financial intermediaries, just like the others. So, the essence behind the story is, we should not pay too much attention only to the shape and the form, in which the financial institution takes, because the shape of the institutions is unstable and will evolve and change over the time. So, what we should care about is, whether the bank can still fulfill all of those financial function by evolving itself with the appearance of the new market supply and market demand. That means, we should observe the bank industry with a dynamic opinion. The second fact are justified in this chapter is, with the tendency of the globalization and the integration of the financial market, there are more and more obstacles, which hamper the individual investor to partake of the financial market, such as the asymmetric information problems, the risk diversification problems, and the market incompleteness problems... Consequently, a notable feature of the financial markets in the past few decades has been the drop in use by individual investors directly. At the same time, Intermediation has become significantly more important and has been the predominant source of new financial resources flowing into the capital markets over the past several decades. That means, with the course of the time, in order to fulfill theses relatively stable functions, some change has been witnessed by financial system in recent decade.

Until now, we still not solve the theoretical confusion fundamentally. There are still two question left for our further research. One is, on the course of the change in financial system, whether other financial institutions can replace all of the bank's functions. The answer for this question can be found out in chapter 2. From the analysis on a 'Flow of fund in the circuit model' and 'money creation process', we find out, bank systems are unique, because they can not only fulfill some similar function as the other financial intermediaries, but also exclusively create money by the endogenous and exogenous method. At then same time, the relationship between the bank industry and other financial intermediaries are both competitive and complementary in terms of the different financial functions. Especially, when we observe the 'Flow of fund in the circuit model', we can find out, banks and other financial intermediaries thus perform functions that are different and complementary in originating money and in making it circulate and re-flow to its point of origin in the circuit process. Given that the fact, some of the functions of the bank cannot be replaced, a new question arises here. That is, how the bank industry changes itself during the periods of the economic growth, and which kind of basic factors will affect the change of the bank system. An empirical analysis and a theoretical investigation combined together in the chapter two give us the definite answer for these two questions. On one side, countries with more developed banking systems and liquid capital markets have experienced the most rapid growth, confirming the importance of complementarities between banking and non-bank financial intermediaries. On the other side, logically, two factors exert permanent and fundament impacts on the transformation and reconstruction of the financial intermediaries, including the bank. One is the change in the fashion of financial supply and financial demand; the other is the changing of market competition environment. In detail, these are the following four major factors that are remolding the structures of financial services: 'the economic development'; 'the advances of the information technology in financial market'; 'the globalization' and 'the deregulation'.

So far, the theoretical confusion has been clarified here. And these theoretical analyses also include some policy implication for Chinese financial reformer and our further analysis. That is, there is no other way to strength Chinese financial industry, but to reform its bank system

fundamentally. The task is difficult! However, the difficulty of the task is not the excuse for avoiding it!

Considering the necessity to reform Chinese bank system, and then, the research is taken a step further by analyzing, whether there is some common developing tendency coming from some advanced markets, especially in U.S. and in Germany, which can be followed by the developing countries. Obviously, from the chapter three, the following developing tendency has been exhibited.

1. Though rooted in the different historical, cultural and economic backgrounds, the financial system in U.S.A and that of Germany are far from each other, the development of their bank industry still show some similar tendency. Over the past 50 years, the service offered by the commercial banks in USA and Germany becomes more and more similar.

2. Bank becomes larger, more active and more efficient as the economy growth; Bank's assets keep stable relative to total financial assts. However, the share of the bank assets has experienced a sustained falling tendency in comparison with the other financial intermediaries over the past thirty years.

3. The reason for the declining market share of bank industry in comparison with other financial institutions is, the sustained development in financial innovation break the old balance of the capital supply and capital demand.

4. In order to change this negative developing trend, the banks entered into the security and non-traditional business to increase their profits more and more deeply. The banks in both countries are diversifying away from traditional banking as evident from the decline in the deposits to total assets ratio and relying more and more on security business or fee-based non-traditional income sources. By more and more merging into the security market, the bank is forced by the power of market to begin its transformation gradually.

Given the fact, that the bank's expansion into the nontraditional business seems unavoidable, a new question arise here is, whether the bank industry will be exposed to the bigger risk then ever before and which kind of possible impacts it will exert on the macro economic. It is really a particular concern of bank regulator.

In order to solve these questions, we switch to the chapter 4. With a two-step regression model, we check the influence of bank's non-traditional business in three countries respectively and combined. And, our conclusion is 'there is no evidence against bank's security activities, given the fact, that no proof from empirical investigation shows the increased bank's default risk. Thus, the empirical result suggests us that security activities represent a desirable avenue of expansion for banks to strengthen their market status.' However, the empirical analysis is only one aspect of the problems, in which the shareholders' point of view dominates. When we pay some attention to the point of the economic efficiency, we found out, on the course of the bank seeking profit, the interest of the small company, the consumer and the efficiency of the macro efficiency are damaged. It is reflect by the difficulty of the small firm financing; the increasing gap between the deposits rate and loan rate and the higher fee and commission charged from the bank's clients... So, the policy implication here is, the banks entry into the security business should be encouraged, however, the prevention of its negative impacts should not be disregarded.

Consequently, under the new market situation, the supervision's experience coming from the advanced market is really very valuable for the Chinese financial regulators. After an investigation in U.S. and Germany, we find out:

Wholly, the financial regulators around the world have shared a quite similar target. That is, striving to find out a balance between Guarding against systemic risks, protecting the investors, and enhancing the financial efficiency. Over time, the old regulation system needs to be updated gradually. Furthermore, an optimal supervision's model should be expected to match the special demands from every individual country. The relative priorities of each of these preceding objectives may have differed across the countries and over the time.

However, although an optimal supervision model is unavailable, some common experience can still be drawn out from the transformation of the regulatory system in Germany and U.S.

Firstly, the financial regulation's idea has gradually changed from 'regulation' to

‘supervision’ so as to adapt to the bank’s new business lines.

Secondly, regulatory and supervisory strategies that promote private sector forces work well. Countries with policies that promote private monitoring of banks have better bank performance and more stability.

Furthermore, countries with more generous deposit insurance schemes tend to have poorer bank performance and greater bank fragility.

Fourthly, to know whether the country that imposes tighter restrictions on the ability of commercial banks to engage in securities, insurance and other financial business has less efficient but more stable financial system, it is clear that, under some reasonable and practicable supervision, diversification of income streams works toward improving bank’s performance without any negative affects on its stability. So, we find that diversifying income streams – by not restricting bank activities– is positively linked with bank performance.

Diversifying income streams, not surprisingly, works best when there is an active securities market in which to diversify. There may be some negative implications for bank efficiency due to restricting commercial bank activities. In terms of stability, we do not find any strong and robust links between bank business diversification and the risk of bank industry. More specifically, countries with a regulatory environment that inhibits the ability of banks to engage in the businesses of securities underwriting, brokering, dealing, and all aspects of the mutual fund business tend to have more fragile financial systems.

Finally, taking into account the problems of customer’s protection and long-term macro economic efficiency, it appears necessary to make some cooperation between the financial regulator and other consumer protection organization. In terms of the consumers’ protection, all banks should be required by regulator to offer one low-cost account for consumers who write few checks per month. Following this method, some basic customer’s protection methods should be arranged.

So far, we have built up a clear direction for Chinese entrepreneurs and governors to reform and strength Chinese bank industry. That is go to universal, go to a new business horizon by its efforts.

However, what to need are not only an achievable target, but also a right way to approach to the target. So, the research is lead to its last stage. That is how the Chinese bank industry should be reconstructed systematically at this moment, so that it can strengthen itself under the challenge of the globalization and WTO. The efforts to find out the right way are divided into two steps.

As the first step, we intend to clarify the current situation of bank industry in China in chapter 6.

Here, as a whole, we understand the entry into the WTO as the second critical period for Chinese reform. We name it as ‘market propellant phase’, in comparison with the ‘government propellant phase’ from 1997 to 2001; We understand the Four-Stated-Owned bank still play the dominant role in Chinese financial system, and Chinese security market has developed quickly since its humble beginning in 1990, but still faces policy risk, and troubled by the low quality of the listed company and the nontransparent information supply. We still understand, the separated financial markets, which are designed decades ago to prevent the infection of the financial risk, decrease the efficiency of the financial industry in this era substantially.

At the same time, in terms of the Chinese bank industry, we learn, over the past decades, with the durable efforts and supports of Chinese government, Chinese bank industry has witnessed a great promotion in both the fields of bank’s operation and bank’s regulation. However, there are still some problems facing Chinese bank industry. They are characterized by the high non-performing loan ration, the lower equity adequacy ration and the poor capability to make innovation and earn profit.

Only when we understand the reason behind these stories, we can reform the Chinese bank industry successfully. So, the research was taken further to its second step. In this chapter, the reason behind the poor performance of Chinese bank industry is firstly discussed.

Our conclusion is simple: it is not correct, that the Chinese government try to advance the Stated Owned Bank’s performance by decreasing its NPL. This kind of way turns the

causality between the NPL and the bad performance upside-down. It is the poor performance of the bank that gives rise to the sustained increase of the NPL.

And the poor performance of the bank roots in different reason in different historical periods. In terms of the stock components of NPL, the reason for its appearance is the undue relationship between bank and SOE. But now, in regard to the increased NPL, the reason can be explained from three aspects: (1) unbalance between the economic development and the bank capital supply; (2) non-market oriented corporate governance have some essential connection with the poor management ability; (3) the poor regulation capability also restricts the innovation of the bank industry.

According to the preceding understanding for the bank industry, the chapter 7 still talks about the strategic steps for the reform of Chinese bank.

In order to encourage Chinese bank to go to the way to the universal, two steps must be fulfilled as the prerequisite. First is, changing the ownership structure of Chinese bank system. This step has been set out since 2003. And then, we need to build up a new bank regulation. However, what should be paying more attention for Chinese bank industry is how to understand the universal model. We should understand universal model as a dynamic one, but not an static conception. Universal model do not reject the specialist bank. Universal model means, the bank have the chance to choice whether they make a universal business or concentrate on some special field, as they want.

And then, after these two steps are successfully completed, the bank and regulator should do sth more to fulfill their final target, building up a strong bank industry.

For this final target, the bank should rebuild their operational mechanism so that they can catch and respond to the demand of the customers quickly, they can produce the maximum production with lowest costs; they can control the risk accurately...

For the final target, the regulator should gradually build up a new supervision model in accordance with the merge of the different financial business. In the author opinion, the first thing can be executed is beginning to build up a voluntary social network system...

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Bremen, den 9. November 2004

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