



**SCHOOL OF ECONOMICS
AND MANAGEMENT**
Lund University

Department of Economics

June 2005
Bachelor's thesis

Is China Heading for an Economic Crisis?

Supervisor: Pontus Hansson

Authors: Cecilia Eriksson
Annika Persson

Abstract

Since the economic reforms in 1978 the Chinese economy has shown remarkable growth rates. The countries in East Asia all had very high growth rates before they were hit by the economic crisis in 1997. Could the same thing happen to China?

The aim of the thesis is to investigate if China is heading for an economic crisis. Based on theories and empirical studies of other economic crises we study the following variables for China; exchange rate, current account, foreign exchange reserves, capital inflows, investments, the banking system and financial market liberalization, international market conditions and the political situation.

We find that in a broad perspective China's economy as a whole is in a healthy state. At the moment the country is neither at the edge of a currency crisis nor a financial crisis. However, there are serious flaws in the banking system. The problems need to be resolved immediately, or else they could very well trigger a financial crisis.

Key words: China, currency crisis, financial crisis, financial market liberalization, weak banking system

Table of Contents

List of Figures and Tables

1 Introduction.....	6
1.1 Purpose and Question.....	6
1.2 Method and Material.....	7
1.3 Disposition.....	8
2 Background.....	9
2.1 Economic Reforms in China since 1978.....	9
2.2. The Crisis in Mexico in 1994.....	13
2.3 The Crisis in East Asia in 1997.....	13
3 Theoretical Framework.....	15
3.1 Different Analytical Approaches.....	15
3.2 Economic Crisis.....	17
3.2.1 Currency Crisis.....	17
3.2.2 Financial Crisis.....	18
3.2.3 Panics and Self-fulfilling Crisis.....	20
3.3 Underlying Variables.....	21
3.3.1 Exchange Rate.....	21
3.3.2 Capital Inflows.....	23
3.3.3 Current Account.....	24
3.3.4 Investments, Savings and Consumption.....	25
3.3.5 Financial Institutions and Market Liberalization.....	26
3.3.6 International Market Conditions.....	29
3.4 Non-Economic Indicators.....	30
3.5 Summary.....	31
4 The Current Situation in China.....	32
4.1 Exchange Rate Policy Implications.....	32

4.2 Current Account.....	37
4.3 Capital Flows.....	38
4.4 Investments.....	40
4.5 Financial Institutions and Market Liberalization.....	43
4.6 International Market Conditions.....	48
4.7 Non-Economic Indicators.....	49
5 Is China Heading for an Economic Crisis?.....	51
6 References.....	55
Appendix.....	60

List of Figures and Tables:

Figure 1: China's Fixed Exchange Rate, 1989-2004.....	33
Figure 2: Renminbi real trade weighted exchange rate index, 1994-2004.....	34
Figure 3: China's M2/Reserves, 1989-2004.....	35
Figure 4: China's Current Account/GDP, 1989-2003.....	37
Figure 5: China's Capital Inflows/GDP, 1989-2003.....	38
Figure 6: China's total Investment Finance, 1989-2001.....	40
Figure 7: China's total Investments in Fixed Assets/GDP, 1999-2003.....	41
Figure 8: China's total Investments in Fixed Assets by Source of Funds, 1989-2003.....	43
Figure 9: China's Annual Lending/GDP, 1989-2003.....	46
Figure 10: China's Short-term Debt/International Reserve Assets, 1995-2004.....	48
Table 1: Basic Economic Indicators, China.....	10
Table 2: China's Growth in total Investments in Fixed Assets, 200-2006.....	42
Table 3: Non-Performing Loans, 1999-2003.....	44
Table 4: China's Growth Rate in Annual Real Lending, 1995-2002.....	46

1 Introduction

In 1978 Deng Xiaoping began to reform the Chinese economy. The economic five-year plans were abandoned and China's trade with the rest of the world started to grow rapidly. The emerging economy has since then showed remarkable growth rates. The Chinese economy is flourishing, foreign capital is flowing in, investments are high and the export-sector is booming. The standard of living is improving fast and China is rapidly moving towards a place among the most important markets in the global economy. China is perhaps the only country that can seriously challenge the US as the world's largest and most important economy. However, there are clouds in the sky. The economic reforms and the accession to the World Trade Organization put new strains on the Chinese financial system and the macroeconomic policies. Can China maintain the growth-success and fully enjoy the benefits of membership in the global economy; or will success turn into disaster?

Backpacking through China in 2003, we literally experienced the evidence of the incredible economic growth. Everywhere we looked old houses were demolished and new shiny glass buildings were put up in their place. We could almost feel the boiling economy and it made us wonder how long this remarkable development can continue. Is the Chinese economy a bubble waiting to burst?

1.1 Purpose and Question

The fact that China's has had strong economic growth for a long time has made us, and many others, wonder how long the high growth rates can be sustained. China's destiny is widely discussed all over the world. Will the growth rates decrease, and if they do, what kind of landing will it be? The East Asian crisis in 1997 came as a surprise to many. The countries affected were all showing high economic growth rates and had been hailed for their fast industrialization, and still the crisis struck. Can the same happen to China? An economic

crisis in China would be devastating not just for the country itself but for the world as a whole.

The aim of this thesis is to try to establish if China is heading for an economic crisis. The question we try to answer is: are there signs alerting a future currency or financial crisis in the Chinese economy? The purpose of the thesis is not to find the exact timing of a possible crisis since that would be impossible, but to evaluate which way the Chinese economy is heading. We want to give the reader a broad picture of China's economic prospects. The perspective is reaching from today and approximately ten years forward. The reason for this rather long perspective is that policy changes today do not have an immediate effect on the economy.

1.2 Method and Material

To answer our question, we will create a theoretical framework from the academic literature discussing previous economic crises. Numerous authors have tried to establish common features of different economic crises in order to prevent future ones from happening. Theories behind economic crises and empirical evidence, from the crises in Mexico in 1994 and East Asia in 1997 in particular, will constitute the theoretical foundation of our analysis. We have no intention of evaluating the different variables; instead we rely on the factors found significant by analysts recognized in the field. On the basis of our theoretical framework we then study potential signs in China's underlying variables and the health of the financial system in order to fulfill the purpose of the thesis.

Data is gathered mainly from the International Monetary Fund's *International Financial Statistics*, using both the CD-ROM and the Online version. Other important data sources are *China Statistical Yearbook* provided by the National Bureau of Statistics of China and *Joint BIS-IMF-OECD-World Bank statistics on external debt* provided by the Bank of International Settlements. In all cases, we have used online publications. To investigate the Chinese banking system we study the four state-owned commercial banks. From their respective annual reports, found on the banks' respective homepages, we retrieve useful information. Forecasts are compiled from predictions made by the World Bank office in Beijing and the Asian Development Bank.

As far as possible we show data from 1989 and onwards. For the purpose of our analysis, the most recent years are the important ones. Unfortunately, in some cases data was not available for all years and in those cases we present as much data as accessible. The reason for not presenting data prior to 1989 is that the impacts of the economic reforms not fully show up in statistics yet and as stated above, the most recent years are the important ones in our study.

In the background chapter, we choose to present basic economic indicators provided by the National Bureau of Statistics of China. Our purpose is to give the reader an overview of how they have changed from 1978 and onwards. The reason for not using data from IFS in the background is that it does not go further back than 1989. A more detailed presentation on the data we have used in our analysis is found in the appendix.

1.3 Disposition

The thesis is organized as follows; we begin in chapter two by giving the reader a short presentation of China's economic reforms along with brief descriptions of the Mexican and East Asian crises. Chapter three lays out the theoretical framework and in the following chapter we analyze the current situation in China. Finally, in chapter five we tie up the loose ends of the thesis and evaluate the signs of an economic crisis.

2 Background

In this chapter, we will provide the reader with a short presentation of parts of the extensive economic reforms carried out in China since 1978. In addition, we will briefly present the chain of events in the Mexican crisis in 1994 and the East Asian crisis in 1997. Since studies of the two crises are the foundation of our theoretical framework, deeper information is found throughout chapter three.

2.1 Economic Reforms in China since 1978

In late 1978 the Chinese leadership, under Deng Xiaoping gradually began reforming an inefficient, centrally planned economy to turn it into a more market-oriented system. The country is still under strict Communist control; however, the economic influence of non-state organizations and individual citizens has been steadily increasing (Central Intelligence Agency 2005). The reforms have had enormous impacts on the lives of hundreds of millions of people and are said to have been the biggest improvement of human welfare in history. Today, almost thirty years after the reforms were initiated China has the second largest GDP in the world, only USA's economy is bigger (Central Intelligence Agency 2005).

Basic indicators showing the economic development of China since the opening of the economy in 1978 are shown in Table 2.1. As can be seen the GDP has increase remarkably. GDP growth rate reached a peak of 14.2 percent in 1992 (National Bureau of Statistics of China, 2004). Since then the rate of growth has slowed down some, but is still high compared to the rest of the world. In the beginning of the 1990s consumer prices increased significantly due to a more market oriented prices setting. However, since the mid 1990s inflation has been low.

Table 1: Basic Economic Indicators, China

	1978	1989	1995	2000	2003
Gross Domestic Product (100 millions RMB, current prices)	3624.1	16909.2	58478.1	89468.1	117251.9
GDP index (1978=100)	100	271.3	496.5	738.8	940.1
GDP growth rate (%)	11.7	4.1	10.5	8.0	9.3
Exports (100 millions RMB)	167.6	1956.1	12451.8	20634.4	36287.9
Imports (100 millions RMB)	187.4	2199.9	11048.1	18638.8	34195.6
Consumer Price Index (1985=100)	n.a.	160.2	302.8	331.0	334.6

Source: Compiled with statistics provided by the National Bureau of Statistics of China 2004

The goals of Deng's reforms were summed up by the Four Modernizations, those of agriculture, industry, science, and technology and the military. The aim was that China should become a modern and industrial nation through 'socialism with Chinese characteristics'. During Mao Zedong era there was a strong bias against foreign technology and products, something that had severely hurt China's modernization especially in agriculture (Perkins 1994, p23). The economic reforms were therefore sequenced to start with agriculture and foreign trade, followed by industry. Reforms were introduced in favorable times; China had no foreign debts to pay off, had low inflation and only a small amount of repressed inflationary pressure (Perkins 1994, p25).

China's rural reforms gradually freed up the markets for agricultural commodities and decollectivized the Chinese rural society. Instead of the collectivized farms, the authorities switched to a system of household and village responsibility (Central Intelligence Agency 2005). In 1979 entrepreneurship was allowed to contribute to economic development and in 1980 families were given permission to run family businesses (Dana 2002, p.41). A variety of small-scale enterprises, township and village enterprises, in services and light manufacture were allowed and the economy was opened up to increased foreign trade and investment. Thus, Deng's reforms shifted China's development strategy to an emphasis on light industry and export-led growth.

Trade with the rest of the world was facilitated through the establishment of special economic zones where foreign investment and market liberalization were encouraged (Perkins 1994, p.32). In addition, a small number of foreign banks were allowed to carry out business

in the zones, however they were not allowed to conduct business with Chinese currency, the renminbi (RMB).

In the end of the 1970s, China's official exchange rate was 1.5 RMB per US dollar, but that was not enough to cover export costs (Lin et al. 1996, p.218). Therefore, China adopted a dual exchange rate system in 1981; one internal rate of 2.8 RMB per dollar for commodity trade, and one official rate of 1.53 RMB applied for non-commodity transactions. Various export subsidies were introduced and Chinese exports were further boosted by devaluation of the currency. From 1985 onwards, the RMB was gradually devalued. In 1991 China officially abolished direct budgetary outlays for exports. Nonetheless, it is widely believed that many of mainland China's manufactured exports still receive other types of export subsidies. The dual exchange rate system was replaced with a managed floating exchange rate in 1994. At the same time, the RMB was devalued significantly from 5.76 to 8.62 RMB for a dollar. China's remarkable increase in exports can be seen in Table 1.

The reforms of the state-owned enterprises (SOEs) were carried out in four stages, with more autonomy gained in each stage (Lin et al. 1996, p.213-214). In the first stage during the period 1979-1983, the enterprises were permitted to produce outside the obligatory state plan and were allowed to keep some of their foreign exchange rate earnings for their own use. In the second stage, between 1984 and 1986 the commodity price system was reformed with the introduction of a dual track price system. SOEs were for the first time allowed to sell the excess output at market prices and plan their output after this. The authority and responsibilities of the enterprise managers were formalized during the third stage, between 1987 and 1992. The last stage, from 1993 and onwards, further introduced the SOEs to a modern corporate system. Today, even though reforms have been made, many of the SOEs are still inefficient and non-profitable.

In addition to letting the SOEs produce outside of plan, the state planned distribution system had to be relaxed (Lin et al 1996). This unexpectedly led to a fast growth of non-state enterprises, in particular of township and village enterprises. These non-state enterprises function better and are more productive than the SOEs due to their budget constraints meaning that they will go bankrupt if management is poor. The fact that market prices were introduced forced the non-state enterprises to use labour-intensive technology, which is more consistent with China's endowments.

Prior to the economic reforms, China had a mono-bank system with the People's Bank of China (PBOC) being both a central bank and a commercial bank (Wong & Wong 2001, p.19). In addition to the production plans, the State Planning Commission laid out strict cash

and credit plans for the bank. During a five year period, between 1979 and 1984 four banks were separated from the PBOC, each with a designated sector in the economy to serve; the Agricultural Bank of China, the China Construction Bank, the Bank of China, and the Industrial and Commercial Bank of China. With these reforms, China became the first socialist state with a full-fledge two-tire banking system and the PBOC formally became the central bank (Tong 2002, p.22). Beginning in 1985, the four banks were allowed to compete with each other when the restrictions limiting them to certain sectors were lifted. But in reality the competition was limited since the banks mainly were conducting policy-lending to state-owned enterprises on behalf of the central government.

The competition was increased with the establishment of three policy banks in 1994; the State Development Bank, the Agricultural Development Bank, and the Export-Import Bank of China. They were designated to provide the main policy-based lending (Wong & Wong, 2001, p.20). In the same process, in March 1995 the Commercial Bank Law was adopted and the specialized banks were renamed commercial banks. The policy banks' lack of branch network and capital pressured the commercial banks to continue with the policy lending. Further deregulation of the banking sector and reduced entry barriers lead the way for establishment of new, non-state commercial banks. In January 1995 the preferential lending rates to different sectors in China were removed in order to rationalize interest rates (Tong 2002, p.25). In 1998 the credit quota system, the powerful tool for controlling money supply and allocate credit to SOEs and prioritized sectors, was removed (Tong 2002, p.165). This allowed the banks to issue credits on market demand instead of government direction.

Throughout the entire reform process the interest rates in China were kept low, to make the expansion of capital-intensive industries easier (Lin et al 1996, p.218). Other reasons were to encourage consumer and investment spending (Tong 2002, p.148).

In late 1999 China made an agreement to enter the World Trade Organization (Tong 2002, p.150). With the accession in 2001, came a number of commitments for the Chinese authorities to reform and open up the economy further. Trade and investment barriers have to be removed in a wide range of sectors, e.g. agriculture, industry, services and finance. Further steps toward becoming a full-fledged market economy will be taken in the near future. Evidence of this is that:

“In July 2001, President Jiang Zemin made the new with his declaration that the Communist Party of China should recruit capitalists. He said this would boost the ‘influence and cohesiveness’ of the party.” (Dana 2002, p.44).

2.2 The Crisis in Mexico in 1994

In Mexico capital controls were liberalized in late 1989 (Edwards 1999 p.9). This was in an early stage of the reform process and the banking system had not yet been privatized. As a result, large amounts of short-term capital moved into the country and foreigners' investments in the Mexican stock market increased significantly.

In March 1994, the assassination of presidential candidate Luis Donaldo Colosio was followed by a major slowdown of capital inflows (Edwards 1999 p.9). The Mexican authorities responded to the decreasing capital inflows by letting the currency ascend to the top of the currency band, interest rates were raised modestly and a large number of dollar-linked securities, called Tesobonos, were issued. The actions did not have the expected effects and by the second half of 1994 foreign investors began to withdraw their capital from the Mexican economy. The Mexican residents followed and large amount of funds fled the country. The international reserves were depleted and the Peso was forced to float in the end of December. As the peso sank significantly, the Mexican authorities were not able to pay their foreign obligations; the economic collapse was a fact.

2.3 The Crisis in East Asia in 1997

The economic crisis in 1997 affected most countries in East Asia, but particularly Thailand, Indonesia, the Philippines, Malaysia, and Korea. The economic insecurity originated in Thailand, where the macroeconomic situation was deteriorating in 1996 (Berg 1999 p 49-50). Inflation was rising and the current account deficit deepened. A pegged exchange rate and increasing capital liberalization resulted in large short-term capital inflows. The capital inflow was intermediated by commercial banks leading to rapid credit growth and growing rates of non-performing loans. The US dollar, that the baht was pegged to, appreciated causing Thai exports to slow down. That in turn caused capital inflows to decrease and speculative attacks hit the currency. The Thai authorities defended the exchange rate, but when foreign exchange reserves were drained, the baht was allowed to float in July 2 1997.

Soon after the devaluation of the baht, the currencies of Indonesia, the Philippines, Malaysia and Korea were forced to float. The Philippines had improved their economic performance prior to the crisis, but the banking system was still recovering from serious

problems (Berg 1999, p52). The economy was the first one to be swept away by the crisis and forced to devalue, letting the currency float only nine days after the crash of the bath. Malaysia was not far behind, even if their situation looked strong. They relied little on foreign capital and short-term borrowing was strictly regulated. However, the current account deficit was large and growth in domestic credit was strong. The pressure on the currency was too strong and devaluation was a fact on July 14.

The economy of Indonesia was burdened by large short-term external debt and a weak banking system (Berg 1999, p.51). The banks were financed extensively by foreign creditors and in fear of a bank collapse, due to a creditor run, Indonesia devalued its currency a month after Malaysia. The last economy to be severely affected by the crisis was Korea (Berg 1999, p.50). Korea too suffered from serious problems in the banking system, with high short-term external debt and illiquid banks. The country resisted devaluation for a long time in fear of a bank crash but when the Taiwan dollar was devalued the pressure on the currency could not be handled and Korea devaluated the currency in mid-November 1997.

3 Theoretical Framework

The economic crises during the 1990s, primarily the ones in Mexico in 1994 and East Asia in 1997 caused great harm to the economies in countries they affected and had serious impacts in the global economy as a whole. In order to see a crisis coming it is crucial to know what signs to look for in an economy. This has led to broad academic discussions about what the causes of economic crises are. Are there any signs that an economy is heading towards a crisis and if so, can that crisis be prevented?

Various authors¹ try to distinguish similarities and differences between the Mexican and the East Asian crises in an attempt to create a set of variables that could be used to predict and hopefully avoid future crises. In this chapter we first present different approaches taken by analysts to distinguish indicators of economic crisis and which factors they find most significant in explaining them. Currency crisis, financial crisis, and the theories behind these phenomena will be discussed. Both types of economic crises have underlying factors; these variables are the most important ones for our thesis, since the purpose is trying to predict if China is heading for a crisis in the future. The underlying variables will be presented along with some non-economic factors. We will then conclude with a short summary. The theoretical framework will be based on theory behind the factors and empirical evidence from previous crises that have been put forward in the literature on economic crises.

3.1 Different Analytical Approaches

In order to evaluate which factors cause and explain economic crises analysts take on different approaches. In his article, Tornell (1999) presents two approaches to predict crises. The “signals approach” introduced by Kaminsky and Reinhart is a warning system based on

¹ For example Edwards 1999, Tornell 1999, Radelet and Sachs 1998a and 1998b

signals issued by some macroeconomic variables² that behave abnormally during periods prior to a crisis. Frankel and Rose, among others, developed the other approach that compares the evolution of several variables in calm times and in times of crisis. The k-step ahead probability of a crisis is estimated by using multivariate logit and probit models (Tornell 1999, p. 4). The two different approaches are evaluated by Berg and Pattillo; they find that probit-models generally provide better forecasts than the “signals approach” does (1999, p.584).

Tornell (1999), Radelet and Sachs (1998a), and Sachs, Tornell and Velasco (1996) all use regressions to estimate significant indicators of economic crisis and how/if they spread geographically. The variables they take into account are gathered from “first-generation” and “second-generation” models of currency crises, but the authors also include factors that reflect financial weaknesses. They all try to establish which economic indicators best capture an economic crisis, in order to find a way to predict future crises.

Sachs, Tornell and Velasco (1996) find that the Mexican crisis was caused by over-valued real exchange rate, a recent lending boom and low reserves relative to short-term debts. Edwards summarises the literature’s consensus view on the Mexican financial crisis and finds that there is a danger of pegged or very rigid exchange rates and that large current account deficits matter. Furthermore, portfolio capital flow can be very unpredictable and short-term capital flows may particularly be highly destabilizing. It is stressed that weak banks invite contagion and should therefore be supervised closely. Finally, transparency and accurate information is essential for the build-up of confidence among investors (Edwards 1999, p.3).

Berg (1999) finds that a simple model consisting of four traditional macroeconomic variables - the current account deficit, exchange rate over-valuation, export growth and reserve losses - and one “second generation” variable, short-term external debt/reserves explains the pattern of the East Asian crisis in 1997 fairly well.

Tornell (1999), and Radelet and Sachs (1998a) compare the Mexican and Asian crises in their respective analysis. Tornell finds that the same weak fundamentals are found in the affected countries prior to both crises. These are the same variables that Sachs, Tornell and Velasco (1996) point out for the Mexican crisis. Radelet and Sachs (1998a & 1998b) emphasize financial panic as a cause of crisis and stress the importance of having strong financial institutions and good supervision in order to avoid a crisis.

² These variables include: real exchange rate, M2/reserves, international reserves, current account/GDP etc.

In addition to the economic variables that try to explain economic crisis there are academics who extend the analysis to include non-economic factors. Bussière and Mulder (1999) argue that the political situation in a country has an effect on the country's vulnerability to a crisis.

The factors presented in this chapter should not be viewed in isolation; they are in close relation to each other. It is not a list of necessary condition for a crisis to erupt, it is just a set of factors that played a critical roll in other economic crisis and they should therefore be watched closely in other emerging markets.

3.2 Economic Crisis

The Mexican crisis in 1994 and the East Asian crisis in 1997 were huge disasters for the affected economies. The countries they appeared in and spread to share some fundamental economic characteristics. Even if, the crises themselves were not identical they shared some common factors. Depending on the nature of the crisis, they have been labeled currency crises, financial crises and to some extent banking crises.

The different types of crisis all have distinctive features but they are closely related to each other; an economic crisis can be a mixture of all of the different types. In this section of the chapter we will present currency crisis and financial crisis and the theories behind them. They are important even though we do not aim at evaluating them. The theories bring forward the underlying variables that will become the foundation of our theoretical framework. One type of financial crisis often highlighted in the literature is a panic or self-fulfilling crisis. We will therefore discuss this in a separate section.

3.2.1 Currency Crisis

The economic crises in Mexico and East Asia can be viewed as currency crises according to some analysts.³ The literature in this area divides the models into “first-generation” and “second-generation”. In “first-generation” models, according to Krugman (1998), governments use a limited stock of reserves to peg their exchange rates if there is a money-

³ See Berg and Pattillo 1999, Krugman 1998 and Edwards 1999.

financed budget deficit. This policy is unsustainable in the long run and as soon as reserves fall to a critical level investors will anticipate the inevitable collapse, thus causing a speculative attack on the currency. In “second-generation” models a government makes tradeoffs between short-run macroeconomic flexibility and longer-term credibility when it chooses whether or not to defend the pegged exchange rate. In this case the speculative attack on the currency can arise either from predicted deterioration of fundamentals in the future or from self-fulfilling prophecy (Krugman 1998).

As a response to an attack, a country can run down reserves by increasing its interest rates, or by depreciating. The first alternative is only an option for governments with large reserves to cover their liquid liabilities. Most countries do not have this option and thus face the difficult choice between two alternatives. By increasing the interest rate, the country can close the external gap by reducing absorption, but it comes at the cost of a recession. The health of the banking systems in emerging markets decides the effect an increased interest rate will have on the economy. With lower reserves and weak banks, governments are forced to close the external gaps through depreciation (Tornell 1999, p.5-6). A devaluation of a fixed exchange rate causes investors to flee the market resulting in huge costs for the economy.

Berg and Pattillo point out that it is impossible to predict the exact timing of a currency crisis although it might be possible to identify if a country has fundamentals weak enough so that a shift in expectations could cause a crises; in that case the country is in a zone of vulnerability (1999, p.562).

3.2.2 Financial Crisis

Instead of viewing a currency crisis as an isolated event, it can be seen as one step leading up to a full financial crisis (Mishkin 2001). Sachs and Woo point out that it is the defence of the exchange rate preceding the crisis, rather than the devaluation of the currency, that makes way for the financial panic (1999, p.3). Devaluation can trigger a panic, but it is the depletion of foreign exchange reserves that does the real harm. The currency must be allowed to weaken before the reserves are depleted.

The Asian crisis should not be seen as caused by fiscal deficits as suggested in “first-generation” models, nor as one caused by macroeconomic temptation as the “second-generation” models suggest, instead it should be viewed as a crisis brought on by financial

excess and financial collapse (Krugman 1998). The crisis in East Asia was really about a bubble and subsequent collapse of asset values in general; the currency crisis is more a symptom than a cause of the underlying real problem.

Radelet and Sachs emphasize that financial crisis differ from each other by presenting five major types of crisis (1998b, p.4-6). *Macroeconomic policy induced crisis* is a balance of payment crisis characterized by currency depreciation, loss of foreign exchange reserves and finally the collapse of a pegged exchange rate. This type of crisis occurs when domestic credit expansion by the central bank is incompatible with the pegged exchange rate. This is what we in the previous section described as a currency crisis. *Financial panics* appear when three conditions are fulfilled: short-term debts are larger than short-term assets; no single private-market investor has assets large enough to pay off all existing short-term debts; and there is an absence of a lender of last resort. When these conditions are met it is rational for investors to withdraw their credits if other investors do it, even though they would be prepared to lend if the other investors did the same.

When financial assets are bought at a higher price than the fundamental value, expecting to lead to a future capital gain, a growing bubble that can burst in any given period of time is created. Since market participants are aware of the bubble and the fact that it can collapse, this *bubble collapse* is unexpected but not totally unforeseen. If banks are able to borrow funds on the basis of implicit or explicit public guarantees of bank's liabilities, a *moral hazard crisis* can occur. In this case there is a risk that the banks use the funds in too risky or even criminal investment projects, if they are undercapitalized or under regulated. When borrowers are illiquid or insolvent they can provoke a creditor grab race and a forced liquidation even though it would be more profitable to keep the borrowers as ongoing enterprises. The risk for this *disorderly workout* is higher when bankruptcy law fails to coordinate creditors. Asymmetric information is always a problem in financial markets; one party has much more accurate information than the other. This causes the market to function in an inefficient way which in turn leads to a contraction in economic activity (Mishkin 2001, p.2).

Even though it is possible to distinguish the different types of financial crisis in theory, empirical evidence show that financial crises in reality often are mixtures of the types presented above (Radelet & Sachs 1998b, p.7).

3.2.3 Panic and Self-fulfilling Crisis

Radelet and Sachs' (1998b) main goal is to emphasise the role of financial panic as a crucial part of the East Asian crisis. They agree that there were significant underlying problems and weak fundamentals in the affected economies, but these were not severe enough to warrant a financial crisis of this magnitude. Sachs and Woo share their view that the attention should be paid to the financial panic; stressing the tendency for international financial markets to overreact to both positive and negative news (1999, p.1). Policy failures matter, but are only a part of the financial crisis.

Radelet and Sachs (1998a) investigate the characteristics of the economic crises in Mexico, Argentina and East Asia, they find that all cases show elements of self-fulfilling crises in which a panic among creditors is caused by capital withdrawal and results in an unnecessary deep contraction. In a later article, the authors extend their argumentation about the East Asian crisis. The crisis was unanticipated, involved an increasing number of non-performing loans (NPLs) and extended bank credits, and one of the triggering events was a sudden shift in capital inflows. These are put forward as reasons for a significant element of financial panic in the crisis (Radelet & Sachs 1998b p.8).

Financial panics in East Asia have been triggered mainly by three kinds of events; the sudden discovery that reserves were less than expected, unexpected devaluation and spreading from neighbouring countries. Devaluation is often a signal that foreign exchange reserves are lower than the publicly announced level. In general terms the collapse of pegged exchange rate regimes have been regarded as serious breaches of faith by foreign investors (Sachs & Woo 1999, p.4). A crisis occurs when a signal alerts investors that other investors are going to attack a specific emerging market. The targets are most likely going to be the countries responding to the attack with a severe depreciation. These countries have weak fundamentals and low reserves, and the more severe the lending boom and the real appreciation are the more resources will be allocated to attack the economy. Investors will not attack countries with high reserves or strong fundamentals (Tornell 1999, p.15).

An argument in support of the financial panics-explanation is the empirical evidence from the East Asian crisis that the most affected countries had a high ratio of short-term external debt to GDP. Panics became self-fulfilling since reserves were not large enough to pay back maturing obligations; creditors were convinced that other creditors would not roll over their claims (Berg 1999, p. 3-5). The primary reason for markets to fail is a problem of

collective action. When creditors as a group are willing to make a new loan, but no individual creditor is willing to make a loan if the other creditors will not lend as well, a liquidity crisis will occur (Radelet & Sachs 1998a, p.5). Thus, creditors do not act on the basis of the debtor's fundamentals, but of the action of other creditors.

Most investment analysts had confidence in East Asian's prospects, although weaknesses were pointed out. Thus there is little evidence that investors expected a crisis in Asia any time soon (Radelet & Sachs 1998a). The crisis came as a surprise triggering the panic.

3.3 Underlying Variables

Economic crises affect countries differently according to specific national conditions and policy actions. Even though a crisis can occur seemingly unexpected, there are underlying variables in the economy that determine whether the country is on a path towards a crisis or not. To identify the exact timing of a crisis is impossible, but by studying long-term trends and possible deviations or distortions, indications of growing vulnerability can be discovered. Theory and empirical evidence show that crises struck economies with weak fundamentals. Different policy choices and their consequences will be discussed in an attempt to form a theoretical framework to assess a country's nearness to a crisis.

The macroeconomic variables are closely linked to each other and can not be seen entirely isolated. The way the underlying variables are organised in this section should therefore not be seen as separating lines.

3.3.1 Exchange Rate

The exchange rate is the key feature in a currency crisis. In the late 1980s and early 1990s it was argued that a fixed nominal exchange rate was an effective device for maintaining macroeconomic stability (Edwards 1999, p. 4). But since the mid 1990s the dominating view is that negative external shocks under rigid exchange rates can result in a costly adjustment process; large reserves have to be used to avoid depreciation, giving investors the incentive to flee the market. One lesson from the Mexican crisis is that pegged or very rigid exchange

rates are dangerous. Thus, Sachs, Tornell and Velasco (1996) argue in favour of adopting more flexible exchange rate regimes by stressing that it is hard to find evidence of governments that have let the adjustment process under pegged exchange rates run its course.

The countries affected by the East Asian crisis shared three main features (Sachs & Woo 1999, p. 6). They were all successful economies with high growth rates and thereby they attracted significant inflow of foreign capital during the 1990s. They all maintained exchange rates fixed to the US dollar. It was this combination that pushed the economies into a position of vulnerability characterized by overvalued currency, falling foreign exchange rates and a high level of foreign debt. One way of calculating if a country's real exchange rate is overvalued or not, is by using the Goldman-Sachs' model. The model was introduced in a refined form in 1997 and showed that all the Asian crisis countries had persistent, but rather modest over-valued currencies (Edwards 1999, p.5). The lesson from the Mexican crisis, that pegged exchange rates are dangerous when they lead to an overvalued currency, seems to be true in the East Asian crisis as well even though the empirical evidence only show modest overvaluation.

Edwards refers to a study⁴ that reaches the following results by using a standard monetary model on the nominal exchange rates; in early 1997 Indonesia, Malaysia and Thailand had overvalued exchange rates, while the ones in Korea and the Philippines were undervalued (1999, p.6). Despite the consensus on the dangers of real exchange rate overvaluation after the Mexican crisis, there was less of an agreement on nominal exchange rate policy. Edwards puts forward the views of several authors⁵ who argue that a short period of rigid exchanged rate should be followed by a crawling pegged. Others⁶ suggest that most emerging markets should adopt a floating exchange rate. After the economic crises in Asia, Russia and Brazil, the extreme positions; complete fixity and floating rates, have gained more popularity (Edwards 1999, p.6). A fixed exchange rate makes it possible for the government to maintain price stability (Feldstein 2002, p.6-7). Furthermore, foreign capital inflows are encouraged and the interest rates can be kept at steady levels since exchange rate instabilities appear to be eliminated. On the other hand there is always the risk for overvaluation and the fear of a following devaluation will scare creditors away. If the currency is allowed to float free, a growing current account deficit will be self-correcting. The floating currency introduces volatility, but the price for this is much lower than the cost of a currency crisis.

⁴ Made by Chinn in 1998

⁵ Dornbusch; Sachs, Tornell and Velasco; and Goldstein

⁶ Wang and Schilling

An important part of vulnerability to a crisis is the government credibility when it comes to defending the currency. Together weak banking systems and low reserves can undermine the authorities' ability to defend the currency (Berg 1999, p. 16). Radelet and Sachs (1998b) argue that the appropriate way to measure reserves is in relation to the domestic stock of money, M2. Berg finds that the countries affected by the Asian crisis all had relatively high levels of M2/reserves (1999, p.16). This confirms Edwards's statement that an important lesson from the Mexican and the East Asian crises is that international reserve management is the key in preventing currency crisis (1999, p.11).

3.3.2 Capital Inflows

One characteristic of financial crisis in emerging markets is an abrupt and significant shift from net capital inflow to net capital outflow in a short period of time. Sachs and Woo state that an economic crisis develops through a three stages process (1999, p. 2-3). The first stage is an overvaluation of the exchange rate caused by internal and external macroeconomic events. In the second stage, the Central Bank's foreign exchange reserves are drained when they try to defend the exchange rate. In the last stage the depletion of reserves, in combination with devaluation, triggers a panic causing foreign creditors to abandon the market. This outflow of short-term capital leads to a macroeconomic collapse characterized by sharp economic downturn, increased interest rates, and a plummeting currency.

It would be wrong to say that the crisis in East Asia was a crisis of failure since the affected countries all had high economic growth and large capital inflows; only successful economies are able to attract that much foreign capital (Sachs & Woo 1999, p.6). In the six-year period preceding the Asian crisis, all affected countries had a ratio of capital inflows to GDP of over 6 percent (Radelet & Sachs 1998a, p.14). Central banks maintained exchange rates and thereby absorbed the risks of exchange rate movements on behalf of investors. This encouraged capital inflows, short-term in particular. Radelet and Sachs give five reasons explaining the large capital inflows to the East Asian countries prior to the crisis (1998b, p.15). Foreign investors had confidence in the economies since they had high economic growth, and the financial liberalization made it easier to finance domestic investments with foreign capital. The lack of supervision encouraged foreign borrowing with high risks. The

foreign borrowing was further encouraged by special incentives by the governments. Finally, higher capital inflows were induced by the predictable exchange rates.

Edwards refers to different studies⁷ arguing that there are three problems for policy makers regarding capital inflows (1999, p.10). Real exchange rate appreciation is induced by capital inflows. Second, capital inflows are not intermediated efficiently and resources are misallocated. Thirdly, a sudden reversal in the flows may lead to a crisis. The East Asian crisis came as a surprise as the region had high domestic savings and investment rates, which suggested that growth would continue despite a slowdown in capital flows (Radelet and Sachs 1998b, p.22). If investors suddenly withdraw their capital from emerging markets, the economies face unexpected demands for repayment of their outstanding loans (Radelet & Sachs 1998a, p.3). In that case, it is crucial that the Central Bank has sufficient levels of foreign exchange reserves in order to act as a lender of last resort (Sachs & Woo 1999, p. 3).

3.3.3 Current Account

Edwards points out that the consensus view on the Mexican economic crisis is that a large current account deficit mattered for the development of the crisis (1999, p.7). Large capital inflows made it possible for Mexico to finance a significant current account deficit for several years. When analysts pointed out that the deficits were too large, the Mexican authorities argued that fiscal accounts were under control; current account deficits are dangerous only when there are large fiscal imbalances. However, IMF analysts were of the opinion that large current account deficits are likely to be unsustainable regardless of the underlying factors. Current account deficits may be dangerous when financed by the sale of domestic securities to foreigners (Edwards 1999, p.7).

Feldstein states that a large and growing current account deficit caused by a fixed exchange rate was the primary cause of the Mexican and East Asian crises (2002, p.4). When a current account is growing, foreign financial market participants will sell the currency in order to protect themselves from a future currency decline. With a floating currency, the deficit will be self-corrected because the value of the currency declines. The overvalued currency instead falls in a sharp and very painful devaluation if the affected country has a fixed exchange rate.

⁷ Calvo, Leiderman and Reinhart

Corsetti, Pesenti and Roubini find that empirical data shows some evidence that the countries affected by the Asian crisis in 1997 were those who had run large current account deficits for several years preceding the crisis (1999, p.311). This implies that the currency crisis was associated with an external competitiveness problem. To see if a large current account deficit leads to a crisis, Radelet and Sachs (1998a) include the ratio of current account to GDP for the East Asian countries prior to the crisis in their analysis.

In the literature, the concept of sustainable current account deficit is put forward. As long as a country can generate sufficient trade surpluses in the future, it can still run large current account deficits (Corsetti et al 1999, p.312). With Goldman-Sachs' model it is possible to estimate the sustainable level of current account deficits for emerging economies. Empirical evidence show that Malaysia and Thailand had current account deficits larger than sustainable, but not too large; while Indonesia, Korea and the Philippines had current account deficits below sustainable (Edwards 1999, p.8).

Edwards (1999) argues that current account ratios have limited usefulness in determining a country's financial health and that control on capital inflows as a tool for reducing external vulnerability comes from a misreading of history of external crisis. Relying of current account ratios can be highly misleading. Current account dynamics will affect real exchange rate behaviour. If foreigners' demand for the country's liabilities decline, the required current account compression will also overshoot. In the short-run, this forces the country through a severe adjustment process even if it in the long-run only implies a modest decline of the equilibrium current account (Edwards 1999, p.21). Although it can be misleading, Edwards does not say that the current account is a totally irrelevant variable. If the country's economic structure is very rigid a large current account deficit can lead to dislocations which can evolve to a vicious circle.

3.3.4 Investments, Savings and Consumption

During the 1980s, the East Asian countries experienced high growth rates and tended to save 25-30 percent of their GDP (Sachs & Woo 1999). The investments were of similar amount and relied little on foreign borrowing. In the early 1990s the financial markets were liberalized which made it possible for domestic banks and corporations to borrow from abroad. This lead to increasing investment rates with 5 percent of GDP or more financed by

foreign loans. The inflowing capital was in many cases invested badly, but it is not a sufficient explanation for the abrupt economic crisis. More important for explaining the collapse was the fact the investments were financed by short-term loans under conditions of pegged exchange rates (Sachs & Woo 1999, p.6).

Edwards stresses that there, in addition to the financial factors, are other complications that emerging economies face. An example is the presence of fiscal imbalances; to close the gap between government revenues and expenditures, the government is forced either to print money or to attract foreign funds. Both are short-term solutions and are not sustainable in the longer run. Fiscal imbalances have been thought of as required elements of crisis, but this is not at all the case. Throughout history, there have been several currency crises in countries with good control over public sector finances (Edwards 1999, p.15). In addition to excessive capital inflows and unsustainable current account deficits, Tornell (1999) identifies high government consumption as a determinant of currency crisis. He measures each concept in two ways, average ratio to GDP and real percentage change. In the end, Tornell finds government consumption significant only indirectly through its impact on real exchange rate and domestic credit expansion (1999, p.24).

Berg is of the opinion that the lack of widespread macroeconomic problems prior to the crisis is a distinguishing feature of the East Asian crisis (1999, p.5). He sums up the macroeconomic situation at the end of 1996 and finds that there were troubling aspects in some countries but no clear evidence of widespread macroeconomic problems.

3.3.5 Financial Institutions and Market Liberalization

Radelet and Sachs suggest that inherent instability in international lending is an explanation for an economic crisis (1998a, p.5). Their basic idea is that international loan markets are inclined to self-fulfilling crisis. Prior to the East Asian crisis domestic bank lending increased and was financed largely by banks borrowing off-shore (Radelet & Sachs 1998a, p.15). The authors discuss if foreign investors operated under the expectation that they would receive bailouts or that the success in the Asian economies would continue. In lending data, there are some small signs of a shift away from manufacturing activities to construction, finance, real estate, and services. This implies that the lending was used to finance more risky projects. An indicator of loan quality is the share of NPLs to total loans. However, a dramatic deterioration

does not show up in the data for the East Asian crisis countries (Radelet & Sachs 1998a, p.21-22).

When trying to measure the weakness of the banking system the best way would be to look at the ratio of NPLs to total outstanding loans (Tornell 1999, p.13). However, he finds this impossible as the problems associated with the data are too large. The data is not available on a timely basis, it is not cross-country comparable and the banks have incentives to manipulate the figures. Instead, Tornell measures the annual real lending from the banking system to the private sector and state-owned enterprises. It should be expected that the greater the increase in loans is during a short span of time the greater the share of bad loans would be. An increase in lending weakens the banking system even if a country is experiencing a sharp increase in output.

From the history of economic crisis, it is agreed upon one conclusion; that supervision of banks is essential. In the process of liberalizing an emerging economy, a weak banking sector can generate tremendous damage. Edwards points out that even if the authorities understand the importance of bank supervision, establishing a new system takes a long time (1999, p.14). Many emerging markets lack the regulatory legal framework to support highly liberalized banking transactions and the lender of last resort capacity to handle sudden shifts in depositor confidence; these are arguments against premature financial liberalization in such markets (Radelet & Sachs 1998a, p.11-12).

The financial reforms in the East Asian economies in the early 1990s aimed at upgrading financial institutions but had the opposite outcome; the economies were left exposed to the instabilities of the international financial markets (Radelet & Sachs 1998a). The authors put forward the major hypothesis that the crisis was brought on by weaknesses in economic management. The East Asian countries had initiated, but not yet completed the process of financial sector liberalization. This random, impartial financial liberalization together with pegged exchange rates worsened the allocation of investments within the economy. The reforms lead to increasingly fragile financial systems with growing short-term foreign debt, rapidly expanding bank credit and insufficient regulations and supervision of financial institutions. Evidence of the fragile conditions and weak financial institutions made foreign creditors withdraw their capital. The exchange rates came under intense pressure and the self-reinforcing spiral quickly evolved into a panic.

In their analysis Radelet and Sachs find that Mexico and Argentina were illiquid, in the sense that short-term liabilities to foreigners exceeded short-term assets (1998a, p.9). To measure this, they compare the short-term debts owed by each economy to the international

banks with the foreign exchange reserves held by the central bank. The East Asian economies also experienced a rising share of foreign borrowing that was short-term (Radelet & Sachs 1998a, p.15). The authors explain that a ratio of short-term debt to foreign exchange reserves greater than one is not sufficient to spark a crisis, but indicates that the economy is vulnerable to a crisis. These imbalances were centred in the private sector; governments kept their budgets in surplus, kept inflation rates below 10%, and maintained overall money growth at prudent levels. The foreign debts of the governments actually declined during the 1990s.

In Mexico the creditor run was on the government, while in Argentina it was on the banking system (Radelet & Sachs 1998a, p.5). A similar variety is found in the Asian economies. A borrower who does not have the net worth to repay his debts out of future earnings is insolvent. An illiquid borrower does not have the ready cash to repay current debt obligations, even though he has the net worth to repay them in the long-run. When a solvent but illiquid borrower is unable to borrow fresh funds from the capital market to stay current on debts servicing obligations a liquidity crisis occurs. This is a way of explaining herd behaviour in financial markets.

Advanced economies have introduced mechanisms and institutions as lenders of last resort to limit the onset of self-fulfilling panics within the domestic economy (Radelet & Sachs 1998a, p.9-10). The central bank can freely issue credits as needed to illiquid but solvent financial institutions to overcome panics. Outright default is prevented by providing liquidity on an elastic basis, and self-fulfilling panic can be eliminated if depositors/creditors believe that the lender of last resort will provide the credits needed to forestall a banking collapse. The ability of the lender of last resort to issue sufficient credit is critical for the mechanism. If the central bank is pegging the exchange rate it might be unwilling or unable to act as a lender of last resort even though it in principle could issue the needed credits. An institutional and legal mechanism with well defined and relatively transparent system of managing bankruptcies, liquidations and other forms of debt work outs is another way of preventing self-fulfilling panics. This type of system can unfortunately not be used when creditors and debtor are residents of different countries.

Berg also suggests that the domestic financial fragility in the East Asian crisis countries was a result of external vulnerability (1999 p.14-16). The countries had built up high levels of short-term debt relative to reserves. This way of measuring vulnerability captures the possibility of flight from domestic financial assets to foreign services. The rise in these ratios happened due to two reasons; first, financial and external deregulation were made in an order that encouraged accumulations of short-term external debt. Second, intermediate

foreign loans were induced by the fixed exchange rate regime and sterilization of capital inflows.

Sachs and Woo agree that the economic institutions in East Asia were inadequate, but point out that claiming that they reached their breaking point simultaneously and thereby caused the economic crisis is inaccurate (1999, p. 1). However, Edwards argues that the fact that there is lack of transparency and information may worsen the effect of the crisis (1999, p.14-15).

3.3.6 International Market Conditions

Many observers have pointed out weaknesses in the East Asian economies; i.e. poor banking supervision, excessive lending, and cronyism in the allocation of loans. Although these weaknesses are real they do not explain the Asian collapse. The economies of the East Asian countries were not “miracle” economies but they were definitely not disasters waiting to happen. Sachs and Woo mean that they were victims of global panic (1999, p.7). They were in the middle of the world’s major economies when it came to institutional quality, good enough to achieve rapid growth given that they were starting at fairly low levels of income. The crisis in Asia reflects the rapid arrival of global capitalism (Sachs & Woo 1999, p. 1). The world economy is still adjusting to the integration between advanced and developing countries.

The view that the East Asian crisis was caused by shifts in international market conditions stresses the argument that overabundance in labour intensive manufactured exports slowed down export earnings (Radelet & Sachs 1998a, p.19). Terms-of-trade for labour intensive products declined; the kind that fuelled East Asia’s growth in the past generation. The authors point to a closely related hypothesis suggests that China’s liberalization and fast growing share in world trade dramatically shifted export-oriented production away from Southeast Asia. However, they find that China’s rise had at best a modest effect on the Asian economies. Radelet and Sachs conclude that international shocks were not critical contributors to the East Asian financial crisis (1998a, p.20).

3.4 Non-Economic Indicators

That an economic crisis can be caused by other reasons than just economic flaws is broadly discussed in the academic literature. Edwards suggests that political insecurity may worry international investors and at first signs of financial stress they will withdraw from the market(1999, p.16). Political instability combined with vulnerability factors may result in a major run against the currency. Many country risk models tend to ignore the highly complex ways in which these factors interact. The multiplicative nature of these factors is neglected and thereby many early distress signals are missed; history tends to be ignored.

In addition to the economic variables presented in previous sections, Radelet and Sachs include a comparative index of corruption in their analysis (1998a, p.27). However, they find this variable insignificant when it comes to explaining financial crises.

Bussière and Mulder (1999) extend Tornell's regression analysis by including four different political indicators; effective number of political parties, the political cohesion of the government, electoral indecision and election dates. Only the two latter are found to be significant indicating that economic vulnerability increases after elections and when the election has caused a large change in the proportion of seats held by each party. The political climate at the time the crisis erupts is an essential factor determining the dept of economic depression.

By including political variables in the economic model, the power to explain and predict economic crisis is improved. Political variables do not change the impact of economic variables; they reinforce their relevance and help to reduce errors of forecasting (Bussière & Mulder 1999, p.16-17). Political instability has a strong impact on countries with weak economic fundamentals and low reserves. Political constraints can sometimes stop governments from implementing reforms or preventive measures, thus models that only use economic variables will not give entirely satisfying results (Bussière & Mulder 1999, p.3). Furthermore, the authors argue that uncertainty about the political process and its outcome can be a major reason for politically driven vulnerability (Bussière & Mulder 1999, p.7).

3.5 Summary

In this chapter, we have presented two types of economic crises; currency crisis and financial crisis. Furthermore, panics and self-fulfilling crisis have also been discussed. Which type of crisis that might occur, depends on the nature of the underlying factors. If the pegged exchange rate is over-valued and the ratio of M2/reserves is declining as a result of defending the currency, the risk for a currency crisis is immediate. A fixed or pegged exchange rate may lead to a growing current account deficit, as investors sell the currency in order to protect themselves from future currency devaluation. The East Asian economies had run large current account deficits a longer period of time preceding the crisis. A trend like this will therefore indicate vulnerability to a currency crisis.

An economy that faces large capital inflows will face a severe shock if a sudden shift in capital inflow occurs exposing the economy to a financial crisis. If the country has a high share of foreign borrowing and it is suddenly withdrawn, the country must have sufficient reserves to be able to pay back all the outstanding loans. The shift in capital inflows may be a consequence of currency devaluation, but can be triggered by other events; like the dynamics of a self-fulfilling crisis. A weak banking system, unsupervised financial institutions and irresponsible financial liberalization can all make creditors lose confidence in a country's economy, triggering a financial panic. Evidence of weak banking systems and poorly implemented financial reforms can be seen through increasing domestic credit characterized by a lending boom, and a high ratio of NPLs implying that capital is invested poorly. To protect the economy from financial panics, it is important for the country to stay liquid. The ratio of short-term debt to foreign exchange reserves must be low and a mechanism of a lender of last resort is essential.

It is not only the fundamentals of a country that determine if a crisis will occur or not, the increased globalisation makes countries' financial markets increasingly interdependent. Shifts in international market conditions therefore have great impact on a country's economy. In addition, the political situation in a country can have influence on its economic vulnerability. Political instability makes crises more likely to happen.

4 The Current Situation in China

The Chinese success story of a prospering economy with high growth has recently been clouded with concern. China's transition to market economy and its integration into the global market has meant a lot of changes for its economic system. Since 1978, a lot of successful financial reforms have taken place, but there is still a lot to be done. China has emerged as one of the most important markets and trading partners in the world, and has the potential of becoming the largest and most powerful economy of all. However, the question is how long this story of success can continue. Is China in fact on its way towards an economic crisis?

In this chapter, we analyse China's current economic situation in an attempt to establish if the economy is heading for a crisis. We will examine the underlying variable presented in the previous chapter. Trends and obstacles in the Chinese economy and its financial system will be investigated closely.

4.1 Exchange Rate Policy Implications

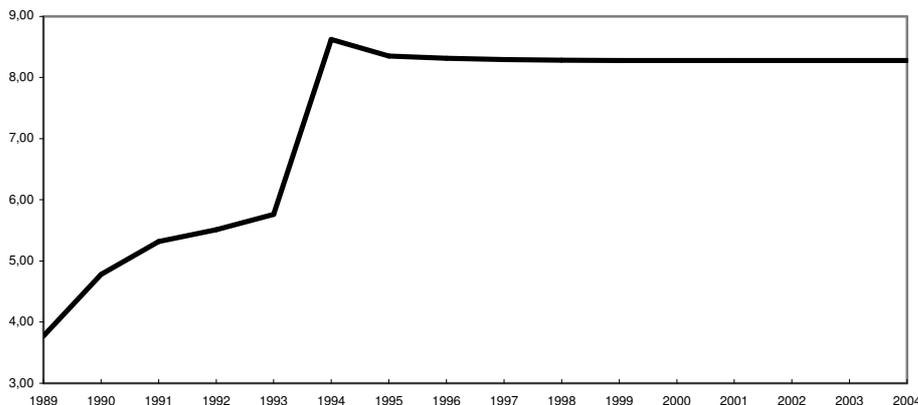
China's exchange rate and currency policy have been strongly criticized by the rest of the world. Accusations have been made that the authorities are manipulating the nominal exchange rate⁸.

In the end of the 1970s, China's official exchange rate was 1.5 renminbi (RMB) per US dollar, but it was not enough to cover export costs (Lin et al. 1996, p.218). Therefore, China adopted a dual exchange rate system in 1981; one internal rate of 2.8 RMB per dollar for commodity trade, and one official rate of 1.53 RMB applied for non-commodity transactions. From 1985 onwards, the RMB was gradually devalued until 1994 when the dual rate system was replaced with a managed floating exchange rate. At the same time, the RMB was devalued significantly from 5.76 to 8.62 RMB for a dollar.

⁸ See for example Goldstein 2004.

A managed floating exchange rate system means that the currency is allowed to fluctuate in a narrow span around a certain US dollar value, but as Goldstein points out the span in China has been almost non-existing (2004, p.46). He means that the Chinese managed floating exchange rate regime is a lot of “management” and little “floating”. In reality, the RMB is pegged to the US dollar at a value of 8.28 to one dollar; a value that has not been changed very much over the last ten years, as can be seen in Figure 1. The value of the RMB in relation to other currencies has developed in line with the US dollar. Due to domestic economic problems in the US, the dollar has weakened over the last three and a half years. China’s economy is stronger and due to the fall in the dollar the RMB is undervalued; the exchange rate does not reflect China’s strong economic growth. The undervalued currency makes Chinese exports very cheap for the rest of the world; leading to a more export oriented economic growth for China.

**Figure 1: China's Real Exchange Rate, 1989-2004
(RMB/\$)**

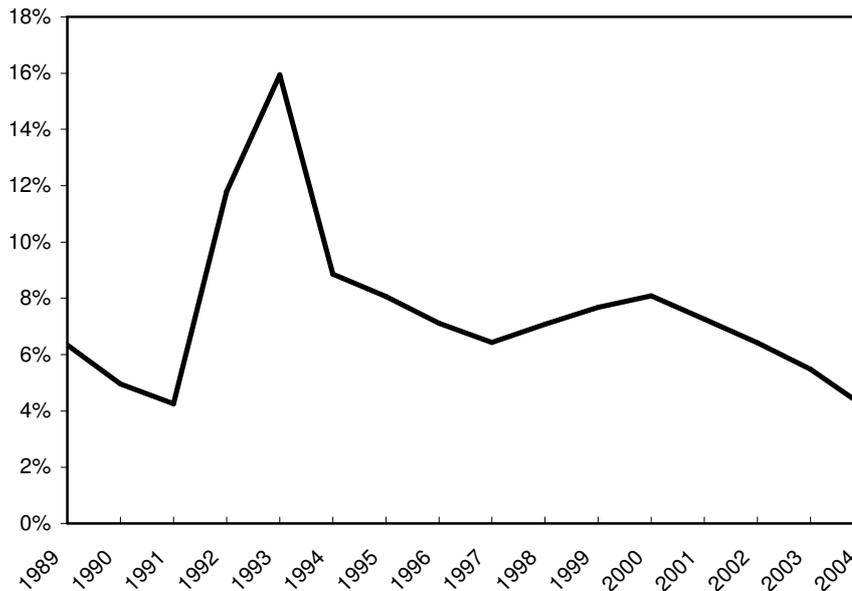


Source: Calculated with statistics provided by International Financial Statistics

Goldstein (2004) calculates the Chinese equilibrium exchange rate by using the “underlying balance approach”. The equilibrium is when “normal” net capital flows are equal to the “underlying” current account (Goldstein 2004, p.4). Using this approach, he estimates that the RMB is undervalued by between 15 and 30 percent. He also uses an approach based on the role the RMB play as a part of adjustments of global payments imbalances. The undervaluation of the RMB is then found to be between 15 to 25 percent (Goldstein 2004, p17).

accumulation of foreign reserves. In Figure 3 we show China's reserves 1989-2004, measured in relation to M2. As can be seen in the figure, the ratio is declining implying an increase in foreign exchange reserves. Goldstein makes the same discovery in his analysis and draws the conclusion that China has been manipulating its exchange rate, in violation of IMF rules (2004, p.18).

Figure 3: China's M2/reserves, 1989-2004



Source: Calculated with statistics provided by International Financial Statistics

The undervalued RMB encourages speculators seeking high returns on their investments to enter the Chinese market. This kind of capital inflow is often referred to as hot-money. Investors act on the expectations of future events and on other investors' behavior. In the case of China, investors expect a revaluation of the RMB in a near future (MaBiCo.com, 2005). According to the World Bank office in Beijing: "Premier Wen Jiabao announced that China would change its exchange rate regime in an unexpected manner and at an unexpected time" (2005, p.7). In the light of this announcement it is easy to understand investors' speculations. Hot money is pouring into the Chinese market, fueling the overheated economy. In the beginning of May this year, Li Yong, China's vice Finance Minister expressed concerns that too much hot money is entering China (China Economic Net, 2005). He urged speculators to be patient and not expect a major revaluation of the RMB anytime soon. He emphasized that China will continue adjusting its macroeconomic policies in an attempt to cool the economy down.

Too much capital flowing in is a factor that can make inflation harder to control. It is important for the Chinese government to maintain their credibility when it comes to anti-inflationary measures, as the inflation rate has the nature of a self-fulfilling prophecy; meaning that an expected future increase in the inflation rate will in fact cause inflation to go up. If the credibility is weakened it spurs this vicious circle. Goldstein argues that the cost of an increased inflation rate is higher than the cost for the revaluation of the RMB and the slowed GDP growth that follows with it (2004, p.33).

An appreciation of the exchange rate would be in China's own interest (Goldstein 2004). An undervalued RMB would have a negative effect on banking reforms, inflation control, possibilities to ensure market access for exports and sustainable economic growth. China is a rather new member of the World Trade Organization (WTO) and can now take advantage of the full participation in the international trading system. To maintain an undervalued real exchange rate may jeopardize the market access for Chinese exports since the rest of the world is threatening to set up trade barriers to force China to appreciate the currency. Since growth is export-led it will decline even though no appreciation is taking place. Goldstein argues further that an appreciation of the exchange rate would force the authorities to focus on the financial reforms to encourage more domestic led growth. A failure to successfully implement the financial reforms will be devastating for the Chinese economy; we will discuss this later in the analysis.

Prasad et al. (2005) argue that an exit from a fixed exchange rate should be undertaken during periods of stability in exchange rate markets, but since these are rare, it should be done when the domestic economy is strong and there is pressure for an appreciation of the currency. The Chinese authorities defend their rigid exchange rate by arguing that the banking system still has too many weaknesses (Prasad et al. 2005, p.3). The authors reject this argument and stress that the time for China is now.

Goldstein argues that the Chinese currency reform should be carried out in a two-stage process (2004, p.46). In the first stage, a revaluation of the RMB must be undertaken along with a pegging of the currency to a currency basket instead of the US dollar and a widening of the currency band. One large revaluation of the RMB of 15 to 25 percent is preferred to a gradual revaluation in smaller steps. An appreciation of 2 percent could be interpreted as a signal that a larger appreciation will come in the future, thereby encouraging more hot money to flow into the economy. The second stage can only be implemented after the Chinese authorities have strengthened the domestic banking system so that a liberalization of capital

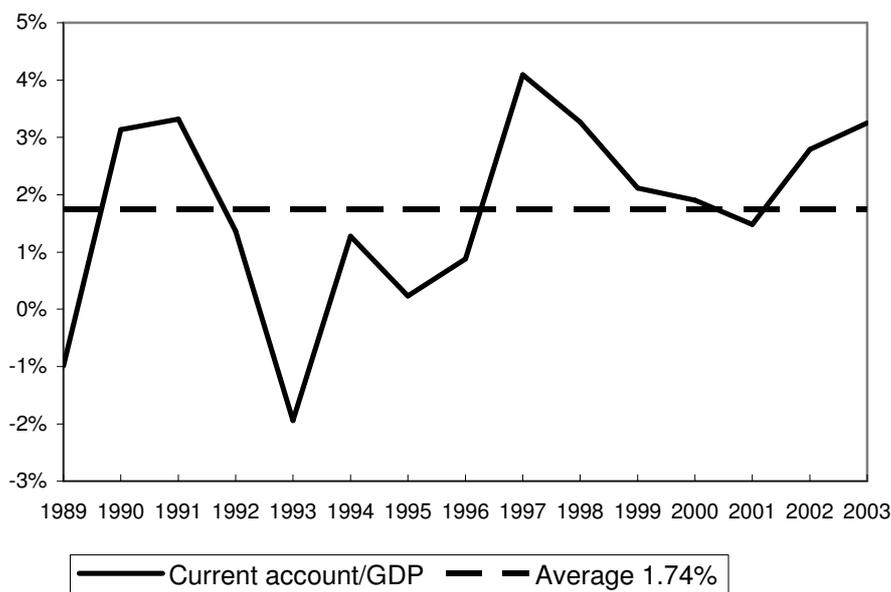
outflows is possible. When that is accomplished, China should adopt a managed floating exchange rate; something they officially already have.

So far, we have assumed in our analysis that China will not lift its restrictions on capital outflow. China's capital flows and their implications will be analyzed in a latter section. We will describe the current situation and the impacts of possible future policy changes, but first we will discuss China's current account.

4.2 Current Account

A history of large current account deficits can be an indicator of a currency crisis. China has, as we show in Figure 4, had an average current account surplus of 1.74 percent of GDP during the period 1989-2003. China has not had a deficit in its current account since 1993 and that year the deficit was roughly just 2 percent. According to Goldman and Sachs' model for estimating long-run current account deficits, China may run a deficit of 11 percent of GDP without it being unsustainable (Edwards 1999, p.18).

Figure 4: China's Current account/GDP, 1989-2003



Source: Calculated with statistics provided by International Financial Statistics

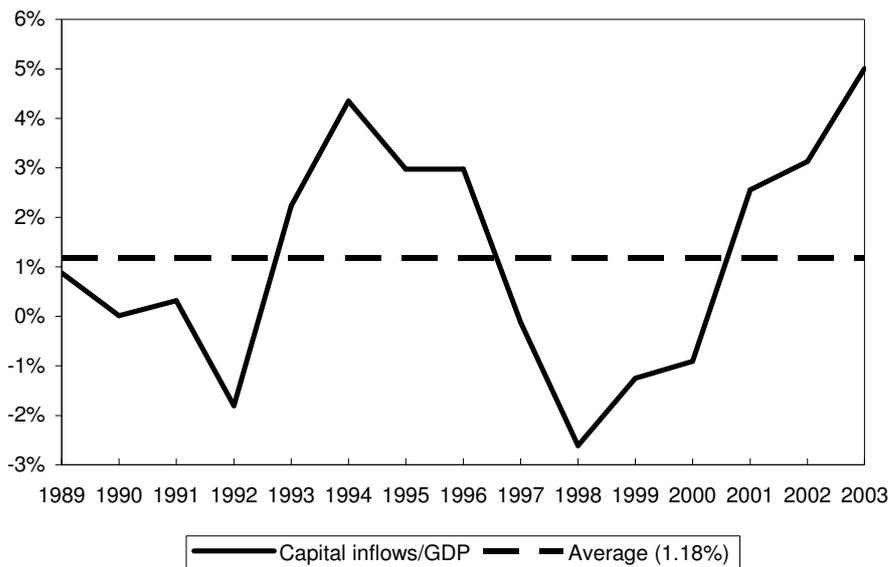
There is no evidence at all of problems in China's current account. The surplus is a result of the export-led GDP growth, and China's export shows no signs of slowing down.

However, a possible future revaluation of the RMB could slow the exports down and decrease the current account surplus. In line with this, capital outflow liberalization might also alter the positive trend. Even if imports exceed exports during some years, we find it very likely that China will be able to sustain its trade surplus in the future. This makes it possible for the country to run current account deficits for several years without it pushing the economy to the edge of a crisis.

4.3 Capital Flows

China's high economic growth has led to large capital inflows. The trend in capital inflows in relation to GDP is shown in Figure 5. We calculate capital inflows by adding current account, capital account, and net errors and omissions. As can be seen, the average capital inflow per year is 1.18 percent of GDP, but in recent years it has increased substantially. Between 1997 and 2000 China had a negative capital inflow; capital was flowing out of the economy. From 1998 to 2003 the ratio of capital inflows to GDP has increased by 7.6 percentage points to a level of 5 percent.

Figure 5: China's Capital Inflows/GDP, 1989-2003



Source: Calculated with statistics provided by International Financial Statistics

The capital inflows for the countries affected by the Asian crisis were over 6 percent in the years preceding the crisis. China's rate is not that high yet, but as mention above

government officials are expressing concerns about the overheated economy, especially the increased inflow of hot money. The higher the ratio of capital inflows to GDP, the more severe would the impact be of a sudden reversal of the capital inflows. If capital inflows in relation to GDP continue to increase, it will make China more vulnerable to a financial crisis.

Like at the onset of the East Asian crisis, investors have high confidence in the strong growing Chinese economy. The economic reforms, beginning in 1978, have made it possible to finance domestic investments with foreign capital. If foreign investors suddenly lose confidence in the Chinese market and thus withdraw their funds, it would mean a slowdown in the economy but not necessary a financial crisis. China's international reserves are roughly 28 percent of GDP⁹, which implies that the central bank has large funds at hand to repay outstanding loans in the case of a widespread creditor run. This implies that a creditor run on China would not spark a major financial crisis.

So far, the analysis has been based on the assumption that the Chinese authorities will not liberalize the restrictions on capital outflows. At present, the outflow of capital from China is strictly regulated. Ordinary people are not allowed to place their assets in foreign markets and enterprises are also objects of restrictions. If these are lifted, the composition of China's investments will probably be altered significantly. According to Goldstein, the household savings deposits in China 2004 were around 100 percent of GDP (2004, p.16). If 5 percent of these deposits were allowed to be placed abroad, it would change or possibly erase the current undervaluation of the RMB.

China's attempt to become a part of the global market through its accession to the WTO comes with a line of commitments for the Chinese government. China has to open up the economy further, allowing for global competition. This implies that they will have to lift the restrictions on capital outflows. When the restrictions are lifted, it must be done cautiously and gradually. Given the already existing weaknesses in China's banking system, a too rapid liberalization of capital outflows could cause serious damage to the economy. In order to avoid a revaluation of the RMB, the Chinese government has started to introduce a number of measures to encourage capital outflows (World Bank 2005, p.7). These include the "go global initiative" allowing domestic insurance companies and pension funds to invest abroad, and giving companies extended freedom to transfer foreign currency assets overseas. However, this has not yet led to a major outflow of capital and it does not necessary have to lead to a slowdown of investments in the overheated economy. It might instead promote an increase in

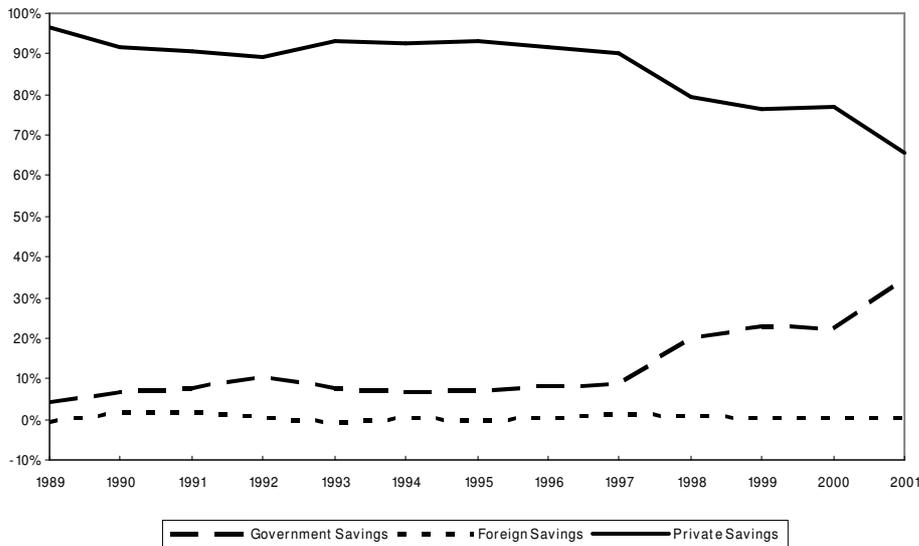
⁹ For 2003, calculated with statistics provided by International Financial Statistics

capital inflows since the investors' risk is reduced by the fact that the money invested now can be withdrawn more easily making the economy more vulnerable for creditor panics and self-fulfilling crises.

4.4 Investments and Sources of Funds

Another indicator that a slowdown in capital inflows might not trigger a crisis in China is the high ratio of domestic savings. China's investment finance can be seen in Figure 6. We have calculated China's total investments 1989-2001, by adding gross fixed capital formation and changes in inventories for each year. Foreign savings are net capital inflows, the counterpart of current account deficits, if there are no changes in reserves. We use the variable balance on goods, service and income to measure foreign savings.

**Figure 6: China's total Investment Finance, 1989-2001
(percentage of total investments)**



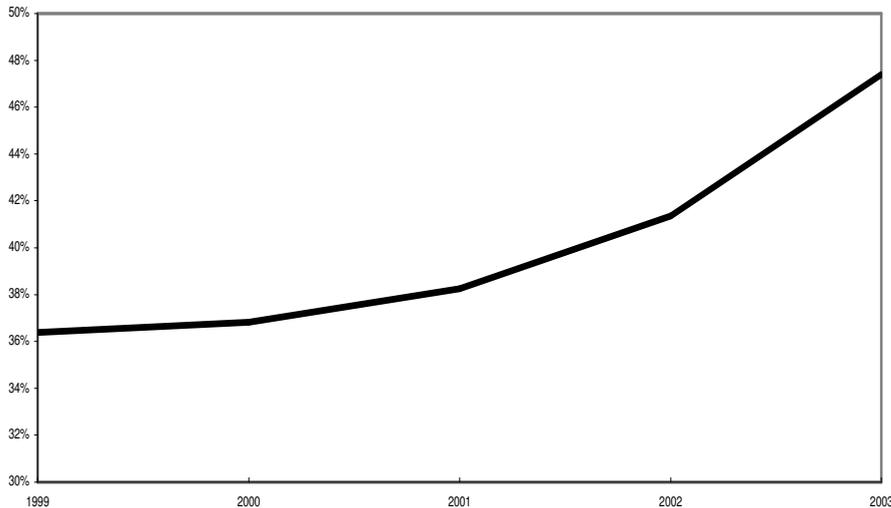
Source: Calculated with statistics provided by International Financial Statistics

As can be seen in the figure, foreign savings constitutes a very small amount of the total investments, almost zero. Government savings have increased substantially from 1997. However, most important for our analysis is that private savings are very high. In 2001 they were 25 percent of GDP, which is a decrease from the peak of 40 percent in 1993 but still a

high ratio¹⁰. This implies that growth rate could remain at a desired level in case of a shift in capital inflows since investments are largely financed by domestic savings.

Total investments are increasing rapidly in China, especially investments in fixed assets. In China's current management system, fixed assets are defined as; investment in capital construction, investment in innovation, investment in real estate development, and other investment in fixed assets. The increase in fixed assets investments is caused by the rise in capital inflows and expanded domestic credit. Total investments in fixed assets in China amounted to 47 percent of GDP in 2003. This is an increase with 21 percentage points from 1999, when the investments were 36 percent of GDP. The trend is shown in Figure 7. The increase is worrying since it is a sign that the economy is overheated.

Figure 7: China's total Investments in Fixed Assets/GDP, 1999-2003



Source: Calculated with statistics provided by National Bureau of Statistic of China 2000, 2002 and 2004

In 2003 the fixed asset investments grew by 10 percentage point more than in the year before. The growth has slowed down marginally the last year, from 27.7 percent to 25.8 percent, as can be seen in Table 2. Forecasts made by the Asian Development Bank (2005) suggest that the increase in fixed asset investments will slow down to 18 percent this year, with a further decrease to 13 percent in 2006-2007. According to World Bank analyses, investments in fixed assets grew slower during the first quarter of 2005 than the year before (2005, p.2). However, the risk of returning to higher growth of investments in fixed assets is immediate. Loosened macroeconomic controls could trigger a return to higher investment

¹⁰ Calculated with statistics provided by International Financial Statistics

growth and over-heating. The banks' growing deposits induce expanded lending and the growing amounts of wealthy people are seeking investment outlets.

Table 2: China's Growth in Total Investments in Fixed Assets, 2000-2006 Unit: %

2000	2001	2002	2003	2004	2005**	2006**
10.3	13.0	16.9	27.7	25.8*	18.0	13.0

Source: Compiled with statistics provided by National Bureau of Statistic of China 2004

* Compiled from statistics presented by Asian Development Bank 2005

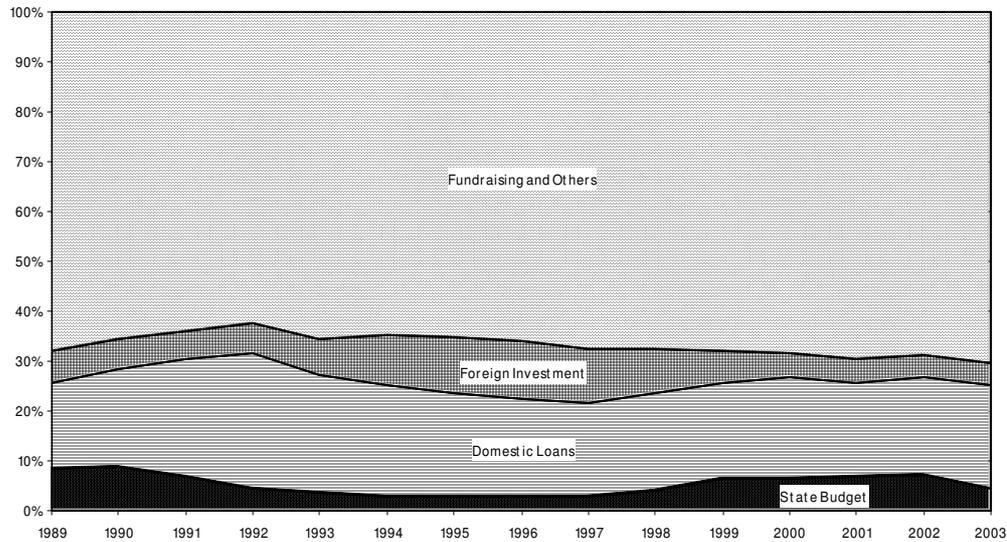
** Forecast made by Asian Development Bank 2005

The Chinese authorities have realised the danger and are trying to restrain investments in overheated sectors. One sector in particular is the real estate sector, in which the nominal investments grew by 26.7 percent (year-over-year) in the first quarter this year (World Bank 2005, p.2). However curbing investments in some industries is difficult, especially the construction sector since there is so much work in progress. Measures taken include restrictions on transfer of arable land to non-agricultural use, and additions of industries to the restricted investment list. These measures also include stricter rules for lending to the overheated sectors. We will discuss this further along with financial institutions in the next section.

The East Asian countries relied heavily on foreign borrowing during the years preceding the crisis. This made the economies especially vulnerable to shift capital inflows as investments grew more and more dependent on foreign capital. China's total investments in fixed assets by source of funds for the period 1989-2003, are shown in Figure 8.

The National Bureau of Statistics of China divides the sources of funds into four categories; state budgetary appropriation, domestic loans, foreign investment, and fundraising and others. The latter category is the largest and contains funds raised from individuals and through donations, capitals raised through issuing bonds by enterprises or financial institutions, and funds transferred from other units (National Bureau of Statistics of China 2004). The different sources of funds have contributed with roughly the same share of investments over the whole period. Most important investments in fixed assets rely little on foreign capital, only 4.4 percent in 2003. Even if foreign investors would abandon the Chinese market, China will be able to keep its high rate of investments in order to sustain its economic growth. A creditor run would thus not be as devastating for China as it was for the East Asian economies.

Figure 8: China's total Investments in Fixed Assest, by Source of Funds, 1989-2003



Source: Compiled with statistics provided by National Bureau of Statistics of China 2004

4.5 Financial Institutions and Market Liberalization

Prior to the financial crisis in East Asia all countries had undergone large reforms liberalizing their financial markets. The reforms were carried out too fast and without proper supervision, making the economies fragile and vulnerable to economic crisis. Domestic credit expansion, weak banking system, and high levels of NPLs eventually lead to a financial collapse. Macroeconomic factors played a smaller part in triggering the crisis than has been seen through the history of economic crisis. Problems in the financial system are emphasized to have contributed to a larger extent. At present, China is undergoing an adjustment process to become a full-fledged part of the global economy. The domestic financial climate is crucial for the future developments of the Chinese economy.

Like in most developing countries, the Chinese banking sector is dominating the financial system. Despite all the efforts made to reform the banking system in China, the Chinese banks and in particular the four state-owned ones can not be characterized as modern or well-functioning financial institutions (Tong 2002, p.27). They have for instance not adopted modern management, loan risk assessment, and loan monitoring.

An indicator of the health of the banking system is the amount of NPLs. A high ratio of NPLs to total outstanding loans indicates that the money borrowed from the banks is invested in risky and badly performing projects. Data on NPLs can be hard to collect and is likely to be unreliable as banks have incentives to manipulate the figures to keep the ratio down. China's four state-owned commercial banks; Bank of China, Industrial and Commercial Bank of China, China Construction Bank, and Agricultural Bank of China, provide the biggest part of total loans in the country, 77.6 percent in 1996 (Tong 2002, p.55). In Table 3 we present the banks' proportion of NPLs, found in their respective annual reports. In 1999 China adopted the same asset classification system as the rest of the world. The old Chinese system tended to underestimate the amount of NPLs, and we therefore choose not to present data prior to 1999.

The high amounts of NPLs originate in 40 years of centrally planned economy where the state-owned enterprises (SOEs) were financed directly from the state budget (Ernst & Young 2003). This is not the case anymore, so the SOEs have to rely on loans for finance. This has resulted in loans from the state-owned commercial banks being heavily biased towards SOEs, and a large amount of the loans are financing low-profit activities. Furthermore, the banks' poor management and supervision is resulting in poor monitoring of borrowers.

Table 3: Non-Performing Loans (proportion of total loans), 1999-2003 Unit: %

	1999	2000	2001	2002	2003
Bank of China	37.42	27.2	27.51	23.37	16.29
Industrial and Commercial Bank of China	n.a.	34.43	29.78	25.41	21.24
China Construction Bank	n.a.	20.27	19.35	15.17**	9.12**
Agricultural Bank of China	n.a.	n.a.	n.a.	32.57*	30.77

Source: Compiled from statistics presented in annual reports from each bank respectively

*calculated from percentage change presented in annual report

** calculated from absolute numbers presented in annual report

Dwight refers to estimations from the Organisation for Economic Co-operation and Development, suggesting that 29 percent of China's GDP would be required to reduce the ratio of NPLs to a level of 10 percent and raise capital adequacy to 8 percent (2004 p.2). However, the cost can turn out to be as high as 58 percent of GDP if, as expected, the actual amount of NPLs is higher than reported.

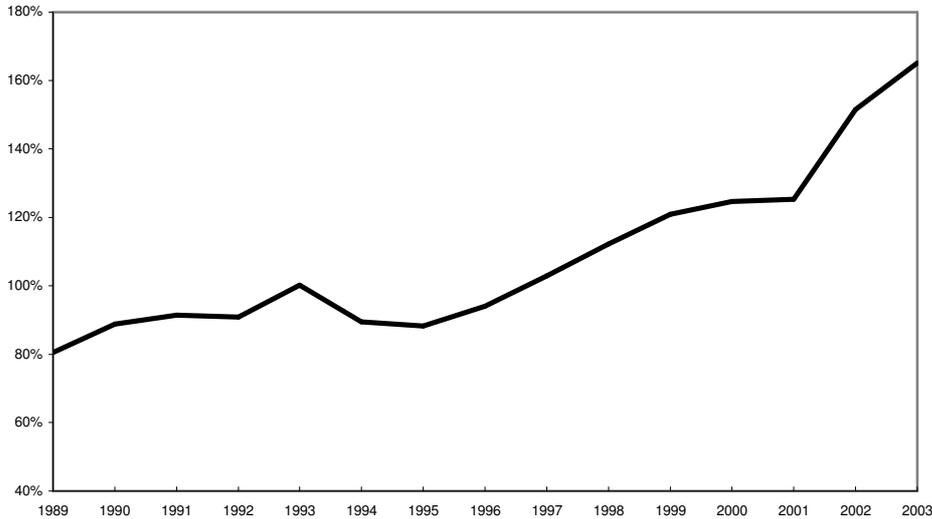
As we can see in Table 3, the proportion of NPLs is declining. However, the problems associated with NPLs are far from solved. Chinese authorities are very concerned about the high rates of NPLs. To reduce the burden of the state owned banks, the Chinese authorities introduced four state-funded asset management companies (AMCs) in 1999 (Bank of China 1999, p.42). The AMCs are independent, state-owned, non-bank financial institutions and are sanctioned to purchase NPLs from the banks at face value. The AMCs should try to recover as much as possible of the assets they acquire, e.g. by selling the loans to foreign or Chinese investors. Even though the banks have improved their loan monitoring, the decline in NPLs seen in Table 4.2, is mainly a result of the AMCs buying the bad loans. Implicitly, the government takes over the burden of the bad loans. The declining proportion of NPLs does not necessarily mean that the projects the banks' are lending money to, are less risky. The fact that the bank can sell the NPLs may give less incentive to be selective when issuing loans. The banking system has not changed with the introduction of the AMCs; the fundamental faults are still there. If these faults are not corrected, the banking system will remain weak and exposed to the risk of a collapse.

In trying to collect the NPLs, the Chinese legal system is an obstacle; the borrowers know that they will not have to repay the loans since the lenders are not prepared for the event of the loans having to be collected (Dwight 2004, p.4). The Chinese authorities have established the China Banking Regulatory Commission to strengthen the supervision of the banking system (Asian Development Bank 2004). The commission has taken over the function of regulating and supervising the banks from the PBOC, the central bank. The main task is to improve the management of the four state-owned commercial banks and ensure that they are taking appropriate measures to reduce NPLs. If the attempts to handle the NPL problems fail and the ratios remain high, the burden of the NPLs will undermine the banks' abilities to function. This will increase China's vulnerability since healthy banks are an essential factor in avoiding financial crisis.

The credit given to private sector and state-owned enterprises in China has increased significantly since 1995. In 1998 the credit quota system, the powerful tool for controlling money supply, and allocate credit to SOEs and prioritized sectors, was removed (Tong 2002, p.165). This allowed banks to issue credits on market demand instead of government direction. Figure 9 shows the annual lending from the Chinese banking system to private sector and state-owned enterprises in relation to GDP. The trend shows a modest increase during the early 1990s but since 1995, there has been a considerable expansion in lending with a ratio reaching 165 percent of GDP in 2003. This increase in lending has been possible

and can continue further due to the build up of the banks' excess reserves (Lardy 2004). A rapid build up in bank credit suggests that the country has a more fragile banking system, a greater quantity of bad loans and therefore is more vulnerable to a crisis.

Figure 9: China's Annual Lending/GDP, 1989-2003



Source: Calculated with statistics provided by International Financial Statistics

We show in Table 4 that the growth rate in annual real lending has slowed down from 27.9 percent in 2001 to 17.3 percent in 2002. However, since lending is still increasing, the Chinese authorities have taken measures to curb it. These measures include increasing the reserve requirements of the commercial banks from 6 to 7.5 percent and removing the ceiling on most commercial lending rates (Asian Development Bank 2005). The efforts have been concentrated to restrain the boom in real estate lending and investments. To slow down lending to real estate projects, banks now demand that developers provide 30 percent of the capital themselves. Furthermore, loans for investments in second houses will be more costly and mortgage loans are not granted for unfinished properties.

Table 4: China's Growth Rate in Annual Real Lending, 1995-2002 Unit: %

1995	1996	1997	1998	1999	2000	2001	2002
31.6	24.0	18.7	11.5	9.2	8.8	27.9	17.3

Source: Calculated with statistics provided by International Financial Statistics

The increase in lending should mean that the amount of NPLs is increasing as well. The probability of an increase of NPLs in the future, despite the government's effort to reduce them, is very high. When SOEs are reformed further, to become more profit-oriented, it might result in more bankruptcies and this in turn will bring about more NPLs. The fact that the new loans issued have longer maturity is further problematic; it will take longer to find out if the loans are performing or not (ChinaBiz 2005).

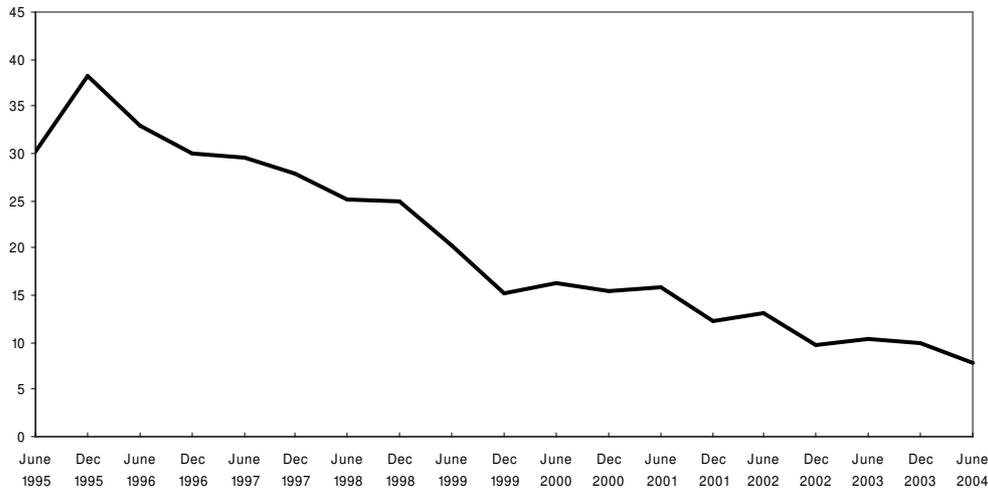
In China, it is not possible for ordinary people to borrow money from banks abroad until 2006, when the Chinese authorities are obliged to, according to the commitments made with the WTO accession, open up the financial market to foreign competitors (Asian Development Bank 2005). All geographic and customer restrictions on foreign banks have to be removed. This means that the Chinese state-owned banks have to improve their performance; i.e. increase their capital and reduce their NPLs, otherwise much of their deposit base might move to their competitors, which in turn will put further strain on them. The trend¹¹ indicates that Chinese people have an increased demand for borrowing and the option to borrow from more stable and reliable banks offshore may be tempting.

Prior to the East Asian crisis, domestic bank lending increased and was financed largely by banks borrowing offshore, and an increasing part of this borrowing was short term. There were not enough reserves to pay off the short-term debts. Thus, a high ratio of short-term debt to foreign exchange reserves predicts that an economy is more vulnerable to a crisis. In Figure 10, we show the trend for China from 1995 to 2004. The decline in the ratio is a result of the rapid build up of reserves due to the undervalued Chinese exchange rate. China's reserves are very large and therefore China's vulnerability to a financial crisis, due to inability to pay back short-term debts, is low.

In the event of a liquidity crisis for the banks, People's Bank of China will act as a lender of last resort. If the banks cannot pay back outstanding foreign loans, the reserves of the central bank will be used to cover this. The central bank has recapitalized the four state-owned commercial banks at several occasions since 1998, and in the light of China's history of central planning; it is very likely that the state will come to the banks' rescue in the event of a crisis. If creditors and depositors see the People's Bank of China as a credible lender of last resort in the case of a banking collapse, it can eliminate the risk of a self-fulfilling crisis.

¹¹ See Figure 9

**Figure 10: China's Short-term Debt/International Reserve Assets,
1995-2004
(millions US dollar)**



Source: Compiled with statistics provided by Bank of International Settlements

4.6 International Market Conditions

A more integrated and interdependent global economy has put more strains on already vulnerable economies. The closer the countries' economies are linked to each other the more a sudden shift in one country affects the others. In 2001, China entered the WTO and took a big step towards further integration with the rest of the global economy. The former planned economy of China has much structural adjustments to do, in order to fully enjoy the benefits of full membership in the international economy. With the accession, China is obliged to liberalize and open up the regulated markets and adopt international trade rules. It is crucial that these changes are implemented in a careful and well-planned manner. To rush it will be devastating; the economy will be exposed to risks and become increasingly vulnerable.

The East Asian crisis teaches us the lesson that too fast and careless market liberalizations increase the likelihood of a crisis. So far, the Chinese authorities have been successful in implementing economic reforms. However, it is crucial that the policy changes made from now on are carried out cautiously, since China's membership in the WTO has made China's economy more dependent on other economies and thus more vulnerable to shifts in international market conditions. Moreover, China is a big economy and its

performance has great impact on the rest of the world. An economic collapse in China would have devastating consequences for most economies.

China is a favoured nation of investment despite its low interest rate. The investors come for the large labour force and the extremely low wages. It is impossible to compete with China's low wages; nowhere in the world is production as cheap as in China. However, this might change in the future. India is emerging as a potential challenger; its large and fast growing population will in the near future exceed that of China. The question is if this will result in a shift of low-wage production from China to India, in the same way as production moved away from other East Asian countries to China not so many years ago. In that case, it could lead to a slowdown in the Chinese export-led GDP growth, as the terms-of-trade for labour intensive products decline.

USA and the European Union are expressing concerns about the cheap Chinese exports, especially textiles. They accuse China of abusing its exchange rate system as the undervaluation of the RMB is making the exports even cheaper. A lot of job opportunities are lost in Europe and USA due to the incredibly cheap Chinese production. Therefore they threaten to impose new trade barriers in order to restrain imports from China. If Chinese exports' market access is reduced, the export-led growth will decline. The trade barriers, if imposed, could in the long run give companies incentives to move their production away from China to other low-wage countries. Through the right policy changes, it could be possible for China to shift away from being so dependent on export-led growth and instead rely more on domestic-led growth and still sustain high economic growth rates. Although China's economic growth rate is much higher than most of the western countries', the country has still not reached full capacity. A policy shift like this would be a way to make the country less vulnerable to the shifts in international market conditions that could trigger economic crises.

4.7 Non-Economic Indicators

Political instability is found by some analysts¹² to increase a countries vulnerability to economic crisis. The political situation in China is unique, to say the least. Since the formation of the People's Republic of China in 1949, the country has been under a strict communistic rule. Even if the country now has liberalized the planned economy, there are still

¹² See Bussière and Mulder 1999

no signs of democratic reforms and recognition of human rights. The government controls all media and extensive censorship is taking place, including blocking anti-Chinese sites on the internet. The Communist Party of China is the only political party allowed, and thus no elections are taking place. Political opposition is silenced with very rough methods, one of the worst examples being the massacre on Tiananmen Square in 1989.

It can be expected that the fast growing economy, the improving standard of living, and the increasing contact with the rest of the world will lead to increased domestic demand for democratic reforms. The fact that China's leaders have recognised the benefits of economic cooperation with the rest of the world has risen outside demands for democracy as well. A number of human rights organizations are already expressing concerns about China's violations of the human rights. The Chinese authorities' reactions to further domestic and foreign demand for democracy could induce political instability. A far too brutal response can have devastating consequences not only because peoples' lives are lost, but because of the reactions from the rest of the world. Foreign confidence in the Chinese market might be lost and in turn spark an economic crisis. A boycott of Chinese products can in a short period of time alter the country's situation significantly; the economic growth would slow down to too low levels. Political instability can also be triggered by reduced employment in the export-sector due to a decrease in exports. The fact that many of the SOEs are ineffective and non-profitable is problematic too. When these are reformed, unemployment is also likely to increase. Discontent among the Chinese people will destabilize the political society and the critique of the government might increase.

An additional non-economic factor that will influence a successful implementation of future economic reforms is the wide spread corruption. Corruption was not found to be significant for the eruption of the East Asian crisis in 1997 and the fact that China is a dictatorship makes it impossible to estimate the extent of the corruption. We will therefore not deeper analyze the economic implications of corruption in our thesis. Nevertheless, it is necessary to mention this phenomena as it might induce problems in the future. It is well known that corruption reduce the effectiveness of the financial system and implementation of reforms.

5 Is China Heading for an Economic Crisis?

In the previous chapter we analyzed the current situation in the Chinese economy. The trends in the underlying variables and obstacles in the financial system were discussed and we will now try to evaluate the signs. Is China heading for an economic crisis?

An economy is likely to be hit by a currency crisis if it has a pegged or fixed exchange rate regime and the currency is overvalued. When defending the value of the exchange rate a country runs down its reserves. An increasing ratio of M2 to reserves is an indicator of this depletion. Empirical evidence from the Mexican and East Asian crises shows that the risk for a currency crisis increases further if the country has run current account deficits for several years.

In China, the pegged exchange rate regime has led to a 15 to 25 percent undervaluation of the currency, not an overvaluation. The undervaluation of the currency implies an accumulation of reserves and thus China's reserves are large and the ratio of M2 to reserves is declining. Since 1993, China has not had a deficit in its current account. Even if imports might exceed exports during some years, we find it very likely that China will be able to sustain its trade surplus in the future. China is according to these indicators, not in the danger-zone for a currency crisis.

Even if a currency crisis is unlikely, the incorrect value of the currency can cause problems for China in other ways. China maintains the low exchange rate to boost exports and to keep the export-led growth. The undervalued RMB encourages speculators seeking high returns on their investments to enter the Chinese market. The inflow of hot-money will be bad for the economy as inflation is likely to rise. An increased inflow of hot-money will put further strains on the already weak Chinese banks. An appreciation of the RMB by 15 to 25 percent would be possible without it decreasing the growth rate in the economy to an undesired level. Furthermore, a revaluation of the currency would be in China's own interest as it would force reforms towards a more sustainable, domestic-led economic growth.

Having discharged the likelihood of a currency crisis we now look into the risk of China facing a financial crisis in the near future. Factors indicating a financial crisis are weak

banks, unsupervised financial institutions, and irresponsible financial liberalization. These factors can make creditors lose confidence in the economy leading to a sudden shift in capital inflows. Furthermore, an economy vulnerable to a financial crisis has a weak banking system characterized by expanded lending with a high share of the loans being non-performing. If a country relies heavily on foreign borrowing and much of those loans are short-term, it is crucial that the country has a reliable lender of last resort in order to avoid a crisis; i.e. the country's short-term debts to foreign exchange reserves must be low. In a globalized world countries become more dependent on each other and shifts in international markets might trigger a financial crisis.

Like at the onset of the East Asian crisis, investors have high confidence in the strong growing Chinese economy and the capital inflows are increasing. If capital inflows in relation to GDP continue to increase, it will make China more vulnerable to a financial crisis since a shift in capital inflows will have a more severe impact. However, China's international reserves are large which implies that the central bank has large funds at hand to repay outstanding loans in the case of a widespread creditor run. This implies that a creditor run on China would not spark a major financial crisis. However, the situation may be altered when restrictions on capital outflows are lifted. The capital outflow liberalization must be done cautiously and gradually. Given the already existing weaknesses in China's banking system, a too rapid liberalization of capital outflows could cause serious damage to the economy. With unrestricted capital outflows, the money invested can be withdrawn more easily making the economy more vulnerable to creditor panics and self-fulfilling crises. The Chinese authorities must pay close attention to this and make the right policy decisions, in order to avoid a future financial crisis.

Another indicator that a slowdown in capital inflows might not trigger a crisis in China is the high ratio of domestic savings. It implies that growth rates could remain at a desired level in case of a shift in capital inflows since investments are largely financed by domestic savings. Investments are increasing rapidly in China, especially investments in fixed assets. Forecasts suggest that the increase in fixed asset investments will slow down in the years to come. However, the risk of returning to high growth rates of fixed asset investments is immediate. Loosened macroeconomic controls could trigger a return to higher investment growth and over-heating in some sectors of the economy. In China, investments in fixed assets rely little on foreign capital. Even if foreign investors would abandon the Chinese market, China will be able to keep its high rate of investments in order to sustain the

economic growth. A creditor run would thus not cause a financial crisis in China as it did in the East Asian economies.

The domestic financial climate is crucial for the future developments of the Chinese economy. The real danger that could trigger a financial crisis lies in the poorly regulated and very weak banking system. At present, high shares of NPLs heavily burden the Chinese banks. The process to reduce the NPLs will be costly for the Chinese economy. The banking system has not changed with the introduction of the asset management companies; the fundamental faults are still there. The AMC's have lowered the banks rates of NPLs to total outstanding loans, but it does not necessarily mean that the projects the banks' are lending money to, are less risky. The fact that the bank can sell the NPLs may give less incentive to be selective when issuing loans. If these faults are not corrected, the banking system will remain weak and exposed to the risk of a collapse. If the attempts to handle the NPL problems fail and the ratios remain high, the burden of the NPLs will undermine the banks' abilities to function. This will increase China's vulnerability since healthy banks are an essential factor in avoiding financial crisis.

A rapid build up in bank credit suggests that the country has a more fragile banking system, a greater quantity of bad loans and therefore is more vulnerable to a crisis. In China, the credit given to private sector and state-owned enterprises has increased significantly since 1995. This increase should mean that the amount of NPLs is increasing as well, further weakening the banking system and putting the country at risk for a financial crisis. Additional strains will be put on the Chinese state-owned banks when the financial market is liberalized in accordance with China's WTO accession commitments. Banks have to improve their performance; i.e. increase their capital and reduce their NPLs, otherwise much of their deposit base might move to their foreign competitors.

China's reserves are very large and therefore China's vulnerability to a financial crisis, due to inability to pay back short-term debts, is low. The People's Bank of China is therefore a credible lender of last resort. If creditors and depositors recognize this, in the case of a banking collapse, it can eliminate the risk of a self-fulfilling crisis.

When China entered the WTO the country agreed to implement liberalization of its regulated markets and adopt international trade rules. The East Asian financial crisis teaches us that it is crucial that the changes are implemented in a careful and well-planned manner. To rush it will be devastating; the economy will be exposed to risks and become increasingly vulnerable to financial crisis. So far, the Chinese authorities have been successful in implementing economic reforms. Therefore it is of high importance that policy decisions

taken from now on are well planned in order to avoid pushing the economy to the edge of a crisis.

A future development on the international market that could challenge China's economy is that low-wage production might shift away from China to India, in the same way as production moved away from other East Asian countries to China not so many years ago. China is highly dependent on the export sector, since the high economic growth is export-led. Many countries fear cheap imports from China. Chinese exports' market access is thus threatened through new trade barriers that might be imposed by USA and the European Union. Through the right policy changes, it could be possible for China to shift away from being dependent on export-led growth to rely more on domestic-led growth, and still sustain high economic growth rates. Although China's economic growth rate is much higher than most of the western countries', the country has still not reached full capacity. A policy shift in the right direction would be a way to reduce the China's vulnerability to possible declines in demand for its exports that could trigger economic crises.

In addition to the economic factors discussed above, there are political aspects that can have an impact on the economic situation of China. Even if the country now has liberalized the planned economy, there are still no signs of democratic reforms and recognition of human rights. It can be expected that calls for democratic reforms increase as the standard of living and the economic situation improves. If Chinese authorities react inappropriate to this, it could induce political instability. Foreign confidence in the Chinese market might be lost and in turn spark an economic crisis.

To conclude, in a broad perspective China's economy as a whole is in a healthy state, and the prospects of sustained economic growth are good. The future looks bright, at the moment the country is neither at the edge of a currency crisis nor a financial crisis. However, there are serious flaws in the banking system clouding the sky. The problems need to be resolved immediately, or else they could very well trigger a financial crisis. The Chinese government's policy decisions in the near future will determine the destiny not just for China, but also for the world as a whole.

6 References

Agricultural Bank of China, 2003. *Annual Report 2003*,

<http://www.abchina.com.hk/main/annual-report-eng.html>, 20050421

Asian Development Bank, 2004. *Asian Development Outlook 2004*,

<http://www.adb.org/Documents/Books/ADO/2004/prc.asp>, 20050517

Asian Development Bank, 2005. *Asian Development Outlook 2005*,

<http://www.adb.org/Documents/Books/ADO/2005/prc.asp>, 20050517

Bank of China, 1999. *Annual Report 1999*, [http://www.bank-of-](http://www.bank-of-china.com/en/static/information.html)

[china.com/en/static/information.html](http://www.bank-of-china.com/en/static/information.html) > annual report > 1999, 20050421

Bank of China, 2001. *Annual Report 2001*, [http://www.bank-of-](http://www.bank-of-china.com/en/static/information.html)

[china.com/en/static/information.html](http://www.bank-of-china.com/en/static/information.html) > annual report > 2001, 20050421

Bank of China, 2003. *Annual Report 2003*, [http://www.bank-of-](http://www.bank-of-china.com/en/static/information.html)

[china.com/en/static/information.html](http://www.bank-of-china.com/en/static/information.html) > annual report > 2003, 20050421

Bank of International Settlements. *Joint BIS-IMF-OECD-World Bank statistics on external debt*,

http://www.oecd.org/document/10/0,2340,en_21571361_31596493_31601098_1_1_1_1,00.html, 20050418

Berg, Andrew, 1999. "The Asia Crisis: Causes, Policy Responses, and Outcomes", *IMF Working Paper*, WP/99/138.

Berg, Andrew – Pattillo, Chaterine, 1999. “Predicting currency crises: The indicators approach and an alternative”, *Journal of International Money and Finance*, vol. 18, pp. 561-586.

Bussière, Matthieu – Mulder, Christian, 1999. “Political Instability and Economic Vulnerability”, *IMF Working Paper*, WB/99/46.

ChinaBiz, 2005. *Bad loans chronicle headache but*,
<http://www.cbiz.cn/news/showarticle.asp?id=2126>, 20050510

China Construction Bank, 1999. *Annual Report 1999*,
<http://www.ccb.cn/portal/en/about/ccb301.shtml>, 20050421

China Construction Bank, 2001. *Annual Report 2001*,
<http://www.ccb.cn/portal/en/about/ccb301.shtml>, 20050421

China Construction Bank, 2003. *Annual Report 2003*,
<http://www.ccb.cn/portal/en/about/ccb301.shtml>, 20050421

China Economic Net, 2005. *Do not expect a 40% rise in yuan value*,
http://en.ce.cn/Business/Macro-economic/200505/08/t20050508_3771598.shtml, 20050510

Central Intelligence Agency (CIA), 2005. *The World Factbook 2005*.
<http://www.cia.gov/cia/publications/factbook/geos/ch.html>, 20050523

Corsetti, Giancarlo – Pesenti, Paolo – Roubini, Nouriel, 1999. “What caused the Asian currency and financial crisis?”, *Japan and the World Economy*, vol.11, pp.305-373.

Dana, Leo Paul, 2002. *When Economies Change Paths*. Singapore: World Scientific Publishing.

Dwight, Lawrence, 2004. *The role of Non-Performing Loans in China: A Public Finance Approach*, http://emlab.berkeley.edu/users/webfac/auerbach/e231_f04/dwight.pdf, 20050422

Edwards, Sebastian, 1999. "On Crisis Prevention: Lessons from Mexico and East Asia", *NBER Working Paper*, No.7233.

Ernst & Young, 2003. "Non-Performing Loans in China", *2003 Annual Review*,
[http://www.ey.com/global/download.nsf/China_E/NPL_Report_2003Oct14/\\$file/China%20NPL%20Report%202003%20-%20FINAL.pdf](http://www.ey.com/global/download.nsf/China_E/NPL_Report_2003Oct14/$file/China%20NPL%20Report%202003%20-%20FINAL.pdf), 20040528

Feldstein, Martin, 2002. "Economic and Financial Crises in Emerging Market Economies: Overview of Prevention and Management", *NBER Working Paper*, No. 8837.

Goldstein, Morris, 2004. "Adjusting China's Exchange Rate Policies", *IIE Working Paper*, No. 04-1.

Industrial and Commercial Bank of China, 2001. *Annual Report 2001*,
http://www.icbc.com.cn/e_icbcmodule/thirdindex.jsp?column=About%2BUs%3EAnnual%2BReport, 20050421

Industrial and Commercial Bank of China, 2003. *Annual Report 2003*,
http://www.icbc.com.cn/e_icbcmodule/thirdindex.jsp?column=About%2BUs%3EAnnual%2BReport, 20050421

International Financial Statistics Online, International Monetary Fund
<http://www.imf.org/external/pubs/cat/longres.cfm?sk=397.0>, 20050425

International Financial Statistics CD-ROM, International Monetary Fund, March 2002.

Krugman, Paul, 1998. *What happened to Asia?*
<http://web.mit.edu/krugman/www/DISINTER.html>, 20050407

Lardy, Nicholas R, 2004. "Race to the Brink", *Business Review Weekly* (Australia) January 29, 2004.

Lin, Justin Yify – Cai, Fang – Li, Zhou, 1996. "The lessons of China's transition to a market economy", *Cato Journal*, Vol. 16, No.2, pp.201-231.

MaBiCo.com, 2005. *China warns on effects of Yuan revaluation: report*,
<http://www.mabico.com/en/news/indicators/articlep22461/index.html>, 20050510

Mishkin, Frederic S, 2001. “Financial Policies and the Prevention of Financial Crises in Emerging Market Countries”, *NBER Working Paper*, No. 8087.

National Bureau of Statistics of China, 2000. *China Statistical Yearbook 2000*,
<http://www.stats.gov.cn/english/statisticaldata/yearlydata/>, 20050510

National Bureau of Statistics of China, 2002. *China Statistical Yearbook 2002*,
<http://www.stats.gov.cn/english/statisticaldata/yearlydata/>, 20050510

National Bureau of Statistics of China, 2004. *China Statistical Yearbook 2004*,
<http://www.stats.gov.cn/english/statisticaldata/yearlydata/>, 20050510

Perkins, Dwight 1994. “Completing China’s move to the Market”, *Journal of Economic Perspectives*, Vol.8, No.2 1994, pp.23-46.

Prasad, Eswar – Rumbaugh, Thomas – Wang, Qing, 2005. “Putting the Cart Before the Horse? Capital Account Liberalization and Exchange Rate Flexibility in China”, *IMF Policy Discussion Paper*, PDP/05/1.

Radelet, Steven – Sachs, Jeffrey D, 1998a. “The East Asian Financial Crisis: Diagnosis, Remedies, Prospects”, *Brookings Papers on Economic Activity*, Iss.1 1998, pp.1-90

Radelet, Steven – Sachs, Jeffrey D, 1998b. “The Onset of the East Asian Financial Crisis”, *NBER Working Paper*, No. 6680.

Sachs, Jeffrey D – Tornell, Andrew – Velasco, Andres, 1996. “Financial Crises in Emerging Markets: The Lessons from 1995”, *Brookings Papers on economic Activity*, Iss.1 1996, pp.147-215.

Sachs, Jeffrey D. – Woo, Wing Thye, 1999. *The Asian Financial Crisis: What Happened, and What is to be done*, <http://www.econ.ucdavis.edu/faculty/woo/davossum.html>, 20050405

Tong, Donald D, 2002. *The Heart of Economic Reform*. Haunts: Ashgate.

Tornell, Aaron, 1999. “Common Fundamentals in the Tequila and Asian Crises”, *NBER Working Paper*, No. 7139.

Wong, Y. C. Richard – Wong, M.L. Sonia, 2001. “Competition in China’s domestic banking industry”, *Cato Journal*, Vol.21, No.1, pp.19-41.

World Bank, Office Beijing 2005. *China Quarterly Update April 2005*, <http://www.worldbank.org.cn/English/Content/cqu04-05-en.pdf>, 20050517

Appendix

In this appendix, we present the data series used in our analysis. When using data collected from International Financial Statistics (IFS), the data from 1989-1998 is obtained from the CD-ROM and the data from the years after 1998 is obtained from the Online version.

Exchange Rate: The exchange rate is obtained from IFS; series Principal rate, pd. average, 924..WF.ZF...

Ratio of M2 to Reserves: is used to measure the size of China's reserves. M2 is obtained from IFS and calculated by adding the series Money, 92434...ZF... and Quasi-money, 92435...ZF... The reserves are obtained from IFS series International Reserves, 924.1L.DZF...

Ratio of Current Account to GDP: Current account is obtained from IFS series Current account, n.i.e., 92478ALDZF... and Gross domestic product is obtained from series Gross Domestic Product (GDP), 92499B..ZF... This GDP is used in the rest of the analysis unless specified otherwise.

Capital inflows: Capital inflows are obtained from IFS by adding the series; Capital account, n.i.e., 92478BCDZF... Financial account, n.i.e., 92478BJDZF... and Net errors and omissions, 92478CADZF... Prior to 1997 there is no data available for capital account, but since the values are relatively low we choose to use the data available from 1997 and onwards.

Investment Finance: is used to illustrate how total investments are financed. Total investments are calculated by adding the series Gross fixed capital formation, 92493E..ZF... and Changes in inventories, 92493I..ZF... Foreign savings are defined as the series Balance on goods serv. & inc., 92478AIDZF... Government savings are obtained from series Claims on central govt. (net), 92432AN.ZF... The residual is private savings. All data is obtained from IFS.

Total Investments in Fixed Assets: All the data is obtained from China Statistical Yearbook provided by the National Bureau of Statistics of China. Total investments in fixed assets are found in chapter 6-1. GDP is obtained from chapter 3-1. Investments in fixed assets by source of funds is obtained from chapter 6-3.

Ratio of Annual Lending to GDP: The annual lending is obtained from IFS by subtracting series Claims on central govt. (net), 92432AN.ZF... from Domestic credit 92432...ZF... For real annual lending we adjusted for price changes using the series Changes in consumer prices, 92464..XZF...

Ratio of Short-Term Debts to International Reserve Assets: The data is obtained from Joint BIS-IMF-OECD-World Bank statistics on external debt. Short-term debt are calculated by adding series Liabilities to banks, G; Debt securities issued abroad, H; and Non-bank trade credits, I. International reserve assets is obtained from series International reserve assets, N.

The data in Table 1 is compiled from China Statistical Yearbook 2004 provided by National Bureau of Statistics of China. The data is obtained from chapters 3-1, 3-2, 3-3, 9-2, and 18-3.